

Cambridge Language Surveys

The Afroasiatic Languages

Edited by Zygmunt Frajzyngier
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THE AFROASIATIC LANGUAGES

Afroasiatic languages are spoken by some 300 million people in Northern, Central, and Eastern Africa and the Middle East. This book is the first typological study of these languages, which are comprised of around 375 living and extinct varieties. They are an important object of study because of their typological diversity in the areas of phonology (some have tone, others do not), morphology (some have extensive inflectional systems, others do not), position of the verb in the clause (some are verb-initial, some are verb-medial, and some are verb-final), and in the semantic functions they encode. This book documents this typological diversity and the typological similarities across the languages and includes information on endangered and little-known languages. Requiring no previous knowledge of the specific language families, it will be welcomed by linguists interested in linguistic theory, typology, historical linguistics, and endangered languages, as well as scholars of Africa and the Middle East.

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Edited by

ZYGMUNT FRAJZYNGIER

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ABBREVIATIONS

The list below contains abbreviations used in various chapters of the volume. In some cases, the same symbol may refer to different categories, or the same category may be indicated by more than one symbol, in different chapters. Also, abbreviations may use either upper- or lower-case letters, depending on which chapter they appear in.

`	low tone	ADJ	adjective
´	high tone	ADJP	adjectival phrase
∅	zero marked (unmarked)	ADVST	adversative
#	word boundary (in chapter 3)	AFF	affected (Chadic)
=	clitic boundary	AFF	affirmative (Omoti)
\$	syllable boundary (in chapter 3)	Akk	Akkadian
1	first person	ALL	allative
2	second person	ANAPH	anaphora
3	third person	ANN	annex
3MSG	third-person masculine singular	ANNEX	annexed state
3FSG	third-person feminine singular	AOR	aurist
A	Akhmimic (Coptic dialect)	APPL	applicative
A	aurist	Ar.	Arabic
A	class a of verbs (Ts’amakko, Dhaasanac)	ASSC	associative
ABL	ablative	ASSOC	associative
ABS	‘absolutive’ = unmarked case	AT	‘at’
ACC	accusative	ATR	Advanced Tongue Root
AD	preverbal particle <i>ad</i> ‘NON-REALIZED’	ATT	attributive
		AUX	auxiliary
		AWAY	motion away (verbal extension)
		B	Bohairic (Coptic dialect)
		B	class b of verbs (Ts’amakko, Dhaasanac)
		BCKG	background

BGND	background	DIR	directional
C	consonant	DIST	distal deixis
C ₁	first consonant	DO	direct object
CAUS	causative	DP	determiner phrase
C _F	final consonant	DS	different subject
CN	connector	DST	distal (demonstrative)
CNTQW	content question word	dtrm	determinate
CNV	converb	DU	dual
COLL	collective	DUR	durational
COM	comitative	EI	habitual past (Dahalo)
COM	comment clause marker	EA	annexed state (<i>état d'annexion</i>)
com	common	EE	end-of-event marker
COMP	complementizer	EL	free state (<i>état libre</i>)
COMPL	complementizer	EMPH	emphasis
COMPL	completive	EP	epenthetic
COMT	comitative	ES	Ethiopian Semitic
CON	construct case	EXCL	exclusive
CON	converb	EXPEC	expectational
CONJ	conjunction	EXT	existential
CONS	consecutive	EXT	extension
CONST	construct-state	F	Faiyumic (Coptic dialect)
COORD	coordinative	F	feminine
COP	copula	FEM	feminine
D	demonstrative	fgenc	foregrounding-enclitic
D	dependent	FIN	final
D.PROG	dependent progressive	FM	focus marker
D.PVG	distal point of view of goal (Chadic)	FOC	focus
DAT	dative	FOR	'for'
DEC	declarative	FREQ	frequentative
DECL	declarative	FROM	'from'
DED	deduced referent	FUT	future
DEF	definite	GEN	genitive
DEF.ART	definite article	GER	gerund
DEM	demonstrative	GO	goal
DEM1	first degree of distance (proximal) demonstrative	gr	grade (Hausa)
DEP	dependent	H	high tone
DEST	destination	H	Huehnergard (1997) (in chapter 4)
DEST	destinative extension	HAB	habitual
DET	determiner	Hebr.	Hebrew
DF	definite		

HEC	Highland East Cushitic	IRR	irrealis
HON	honorific	ITER	iterative extension
HUM	unspecified human subject	JUSS	jussive
HYP	hypothetical	L	low tone
I	imperfective	L	Lycopocitan (Coptic dialect)
ICAUS	indirect causative	Late Eg.	Late Egyptian
ICP	Intransitive Copy Pronoun	LOC	locative
IDEO	ideophone	LOG	logophoric pronoun
IMP	imperative	M	masculine
IMPER	imperative	MAN	Mood-Aspect-Negation
imperf	imperfect	MASC	masculine
IMPERS	impersonal	MED	medial (function similar to that of ‘converb’)
IMPF	Imperfective	MED	middle voice
IMPFV	imperfective	MID	middle
IMPS	impersonal	MOD	modifier
IMPT	imperative	MR	multiple reference
IMPTV	imperative	MSA	Modern South Arabian
IN	‘in’	N	neuter = plural
IN	negative imperfective	N	nominal form
INC	inceptive	NEG	negative
INCEPT	inceptive	negenc	negative-enclitic
INCL	inclusive	NFS	non-factual stem
INCLU	inclusive	NMZ	nominalizer
IND	indicative	NOM	nominalizing marker
INDEF	indefinite	NOM	nominative
INDEF.ART	indefinite article	NONDEF	non-definite pronoun
INDEP	independent	NORM	normative
INF	infinitive	NP	noun phrase
INN	inner space (verbal extension)	NUM	number
INST	instrumental	O	object
INT	intensive	OBJ	object
INTENS	intensifier	obl	oblique
INTER	interrogative	old Eg.	Old Egyptian
INTERJ	interjection	OPT	optative
INTJ	interjection	OSA	Old South Arabian
INV	inverse	OUT	movement out extension
IO	indirect object	P	Perfective (Berber)
IPF	imperfective	P	person
IPS	impersonal	P, (P)	plural (of gender)

P	predicate	PST	past
P2	secondary perfective (Berber)	PTC	participle
PART	participle	PURP	purpose
PART	partitive	PVG	point of view of goal
PAS	passive	Q	question
PASS	passive	QUANT	quantifier
PAST	past	QUES	question
PCPL	participle	R	remote deixis
PER	perfect	R	verbal root
PERF	perfect	RDP	reduplication
PF	perfective	REAS	reason
PL	plural	REC.PAST	recent past
PLUR	plural	RECIP	reciprocal
PN	Negative Perfective (Berber)	REF	referential
PN	personal name	REFL	reflexive
PNCT	punctual	REL	relative
PNG	person/number/gender	REM	remote deixis
PO	potential	S	Sahidic
POL	polite	S	singular
POS	point of view of the subject	S	subject
POS	possessive	S3	third-person subject
POSS	possessive	SBJ	subject
PRE..PRO	prepronominal marker	SBJN	subjunctive
PRED	(locative) predicator (Chadic)	SCL	subject clitic
PRED	predicative	Sem.	Semitic
PRED	predicative particle <i>d</i> (Berber)	SENT	sentence marker (Ts'amakko)
PREP	preposition	SEQ	sequential
PRES	present	SEQUEN	sequential
PRET	preterite	SET	setting
PRF	perfective	SFX	suffix
PRO	(independent)-pronoun	SG	singular
PROG	progressive	SGLTV	singulative
PROH	prohibitive	SH	short (Omoti)
PRON	pronoun	SING	singular
PROSP	prospective	SO	source/subject orientation
PROX	proximal	SPEC	specified
		SS	same subject
		STAT	stative
		STR	strong
		SUBJ	subject

SUBJ	subjunctive (Chadic)	UH	unspecified human
T	target		subject
T	tense	UNM	unmarked tense
TAM	tense, aspect, or mood marker	UP	(Ts'amakko) movement upward
TEMP	temporal		extension
TENT	tentative extension	v	verb
TO	'to'	v	vowel
TOG	'together'	V ₁	first vowel
TOP	topic	VEN	ventive
TOT	totality extension	VN	verbal noun
TQ	question about truth	VOC	vocative

Introduction

Zygmunt Frajzyngier and Erin Shay

1.1 The goal of the present work

Afroasiatic is the fourth largest linguistic phylum in the world, with about 375 living languages spoken by some 300 million speakers (www.ethnologue.org). In the view of the contributors to this volume, this number may well be an overestimation. For the Chadic family alone Ethnologue estimates over 190 languages, while most linguists working in the area estimate the number to be between 140 and 160 languages. The differences boil down to decisions regarding what is a language and what is a dialect. Given the absence of clear-cut criteria for this distinction we leave the question of the actual number of languages open.

This book provides the first-ever typological survey of each of the language families belonging to the Afroasiatic phylum as well as a typological outline of the entire phylum.

The book is addressed to a general linguistic audience, some of whom may be unfamiliar with Afroasiatic linguistics, as well as to linguists who have worked on Afroasiatic languages and would like information about languages from other branches and about the characteristics of the whole phylum.

The approach taken in this book is typological rather than historical, taking for granted the existence of the Afroasiatic family, as confirmed by comparative historical studies. This is because a number of phenomena in contemporary languages can best be explained by the internal structure of the grammatical systems rather than by their origin in an ancestral proto-language. There exist a fair number of studies, chief among them Diakonoff (1988), that take a historical rather than a typological approach to selected issues.

We adhere to the common usage in referring to Afroasiatic as a phylum, rather than a family, on the grounds of the remoteness of the relationships among its various branches (Diakonoff 1988). We also take it as given that the phylum is composed of six language families (from west to east), namely Berber, Chadic, Egyptian, Cushitic, Omotic, and Semitic, even though the internal structure of the phylum remains somewhat

controversial and further internal subgroupings within the phylum cannot be ruled out (for recent proposals based on different criteria, see Diakonoff (1998), Zaborski (2005a), and Ehret (2005)).

The Afroasiatic languages are an important object of study, not only because of their widespread usage but also because of their great typological diversity. It has been claimed that the Chadic family alone is more typologically diverse than the entire Indo-European language family (Diakonoff 1988). The Afroasiatic phylum exhibits great variation with respect to traditional typological criteria such as the position of the predicate in the clause, the structure of the noun phrase, and the structure of the verb. As a result, the question ‘What is a typical Afroasiatic language?’ cannot, at this stage, be answered. The material in this book is intended, among other things, to document this typological diversity.

The Afroasiatic languages are also an important object of study because the languages and the cultures they embody have been instrumental in shaping Judeo-Christian culture, Islamic culture, and much of what has come to be referred to as Western civilization. Speakers of Semitic languages, which belong to the Afroasiatic phylum, developed the alphabetic writing system which, with numerous modifications, is now used in thousands of languages throughout the world. The development of the alphabetical writing system may have been facilitated by the underlying structure of verbal roots and derived nominal forms in Semitic languages, where the consonantal structure alone conveyed a great deal of semantic information.

While some Afroasiatic languages are widely spoken and robust, many languages of the phylum are endangered and may disappear within a few generations. Although a decline in the use of a given language is usually a result of various social forces, sometimes including speakers’ choice, such a loss also means the loss of the most complex intellectual product of those who speak the language. We hope that this book will be a stimulus and a useful tool for scholars to undertake the task of working on hitherto-undescribed or under-described languages.

Although the focus of the book is typological, individual chapters also provide information on the history of the language family; geographical distribution; historical writing systems, if any; and, in some instances, diachronic changes within the family. While the information included in a single volume cannot be exhaustive, we hope that it will serve as a starting point for a more extensive and intensive typological, and eventually historical, study of the families composing the Afroasiatic phylum. The book includes a bibliography of sources and materials for further reading. Since the scholarship on many languages is new, and since there is no agreed-upon standard for many language names, the spelling of language names on the maps and in various chapters may differ.

1.2 History of the recognition of the phylum

The term ‘Afroasiatic’ was coined by Delafosse in 1914 (cited in Newman 1980) and was reintroduced by Greenberg in 1960. The term captures the fact that this is the only phylum whose member families include languages spoken in Africa and languages spoken in Asia. The phylum has also been called Hamito-Semitic (since F. Müller 1876), Semito-Hamitic (chiefly in the older Russian sources), Afrasian (Diakonoff 1988), Erythraean (Tucker and Bryan 1966; Tucker 1975), and Lisramic (Hodge 1972). The term ‘Afrasian’ is an Anglicization of the Russian *afrazijskije*, a variation on the term ‘Afroasiatic’. The term ‘Erythraean’ refers to a core geographical area of the family. The term ‘Lisramic’ is based on the Proto-Asiatic **lis* ‘language’ and the Proto-Egyptian **rāmāč* ‘people’. Appellations for the phylum have been the object of vigorous discussion among linguists, and a special session of the Hamito-Semitic conference held in London (Bynon and Bynon 1975) was devoted to naming the phylum. In contemporary writing by various scholars, the most frequently used terms are ‘Afroasiatic’, ‘Hamito-Semitic’, and ‘Semito-Hamitic’ (see later sections concerning the history of the phylum).

1.3 Evidence for genetic relationships within the phylum

The typical evidence for genetic relationships within the phylum includes numerous comparative word lists showing etymologies across the Afroasiatic families. Some of these lists propose sound correspondences, while others simply provide the presumed cognates. The first of such comparisons was Marcel Cohen (1947), followed by Greenberg (1963), Hodge (1966, 1967), and a number of more recent studies dealing with the whole phylum, two or more families of the phylum, or a single family within the phylum. These include Skinner (1984); Belova *et al.* (1994–7), representing the work of Diakonoff’s team; Orel and Stolbova (1995); Naït-Zerrad (1998); Takács (2005 and other works); Ehret (1995); Dolgopolsky (1999); Militarev and Kogan (2000); and Rössler’s and Vycichl’s numerous studies on Egyptian–Semitic relations. Militarev (2000) uses glottochronology as a means of calculating when the phylum split into various families. The largest of the comparative studies are Belova *et al.* (1994–7), Orel and Stolbova (1995), and Ehret (1995). The larger etymological studies have been criticized for the choice of items taken for comparison and often for the validity of postulated cognates. The cumulative effect of these studies, that of reconfirming the genetic unity of the phylum, is not in doubt.

Another piece of evidence for the genetic relationship of Afroasiatic languages comes from morphology. Across the phylum there are morphemes with similar phonological structures and similar functions. Many of these have long been known for their

occurrence in Egyptian, Semitic, Berber, and Cushitic languages, but it was Greenberg (1963) who demonstrated that the same morphemes also occur in various Chadic languages. Hodge (1969a, first presented in 1965) describes the evolution (what we would call today the ‘grammaticalization’) of determiners in Afroasiatic languages in a way that leaves no doubt as to the genetic relationship of the phylum. David Cohen (2005: 17ff.) provides extensive evidence for the alternation between *a* and non-*a* vowels in the verbal systems of Afroasiatic languages. This is another piece of evidence for the genetic relationship of the six families.

Sasse (1984a) and Blažek (2006) are devoted to the study of case and (mainly locative) prepositions. These studies are driven by the aims of historical linguistics and do not deal with functions of the reconstructed elements within the grammatical systems of the various languages.

Some linguists have claimed that there is a genetic relationship between Afroasiatic and Indo-European languages. Hodge, who called the proposed super-phylum ‘Lislakh’, argued for this relationship in a number of publications (Hodge 1978, 1979, 1981). Proponents of Nostratic theory (Dolgopolsky 1998) include Afroasiatic as a member of the Nostratic family. The Nostratic hypothesis is highly controversial and has very few supporters among specialists in Afroasiatic languages.

Debate as to the internal division within the phylum involves the status of Omotic as a separate family and the question of whether there may be further subdivision within the phylum. With respect to Omotic, the question is whether it is a separate family or whether it should be incorporated within the Cushitic family. The history of Omotic as a family within the Afroasiatic phylum is described in detail in [chapter 7](#) of this volume.

1.4 A snapshot of the history of scholarship

The awareness of relationships among languages within Afroasiatic goes back at least to the ninth century, when Judah ben Quraysh of Morocco, a physician to the emir of Fez, wrote of lexical and phonological similarities between Berber and the Semitic languages Biblical Hebrew, Aramaic, and Arabic (Becker 1984, reviewed by Wansbrough 1986). Hayward (2000) reports that the French orientalist Postel (1538) also pointed out resemblances among Hebrew, Arabic, and Aramaic. To these languages, Ludolf (1702) added Amharic and Ge’ez (Hayward 2000). In 1781, von Schläözer gave the grouping the name ‘Semitic’, based on the biblical Sem, son of Noah (Genesis 5:32). Müller (1876) followed the pattern in naming the Hamitic branch, assumed at that time to consist of Egyptian and Berber. Müller also created the term ‘Hamito-Semitic’ for the larger language family, reflecting the assumption that the phylum could be split into two branches, the Hamitic languages and the Semitic languages. The selection of languages in Meinhof’s 1912 *Die Sprachen der Hamiten* was based on a mixture of

anthropological and linguistic typological criteria and included languages that are now not part of the Afroasiatic family.

Marcel Cohen (1924) was the first to reject a division of the phylum into Hamitic and Semitic branches. He stated emphatically that there is no trait shared by the Libico-Berber (now Berber), Cushitic, and Egyptian languages that would group them together and set them apart from the Semitic languages. However, he retained the term ‘Hamito-Semitic’ as a purely conventional label. A few linguists still interpret the term in the sense in which it was originally coined, as implying two branches within the phylum. Diakonoff (1998) points out that the use of the term ‘Hamito-Semitic’ by Orel and Stolbova (1995) wrongly implies a division into two branches. The term ‘Hamito-Semitic’ is still used in French, Italian, Russian, German, and English writings.

According to Sasse (1981a: 132), some of the languages now classified as Cushitic, such as Beja, Somali, Galla, and Harari, were considered, as of the mid nineteenth century, to belong to the same family as Egyptian, Semitic, and Berber. Sasse cites Lepsius (1844), Beke (1845), d’Abbadie (1845), and Lottner (1860–1) as among those who speculated about the existence of the larger linguistic family. We may add to this list Burton (1856), who stated that ‘the Harari appears, like the Galla, the Dankali, and the Somali, its sisters, to be a Semitic graft inserted into an indigenous stock’ (Burton 1987 (1856): 153).

The Chadic family was the last to be added to the phylum. Marcel Cohen (1924) did not include Chadic languages in his study of the Hamito-Semitic languages. In Cohen (1947), a comparative study of 500 lexical items, he does include Hausa along with Egyptian, Semitic, Berber, and Cushitic. Although the inclusion of Hausa in the comparative study may be construed as a tentative inclusion of Chadic within the phylum, Cohen does not mention Chadic as a family. As late as 1970 he was reluctant to recognize Chadic as a member of the Afroasiatic phylum: ‘Si le tchadien doit réellement nous être adjoint (je crois qu’il doit nous être adjoint mais non pas incorporé) la question se pose aussi: comment le tchadien s’est-il formé?’ (Cohen 1970 (1937): 24). The unequivocal inclusion of Chadic in the Afroasiatic phylum is due to Greenberg (1950b).

Fleming (1969, 1974) proposed placing a group of languages previously classified as West Cushitic in a separate branch of Afroasiatic, which he called the Omotic branch. This separation has been accepted by some but rejected by others.

Inclusion of Omotic in the Cushitic family, and by implication in the Afroasiatic phylum, is strongly supported by Cerulli’s (1951) study of Kafa (once considered part of West Cushitic, now classified as Omotic). Cerulli provides numerous regular phonological and morphological correspondences between Kafa and the Cushitic languages of the western Sidamo province as well as the Central Cushitic Agau. As

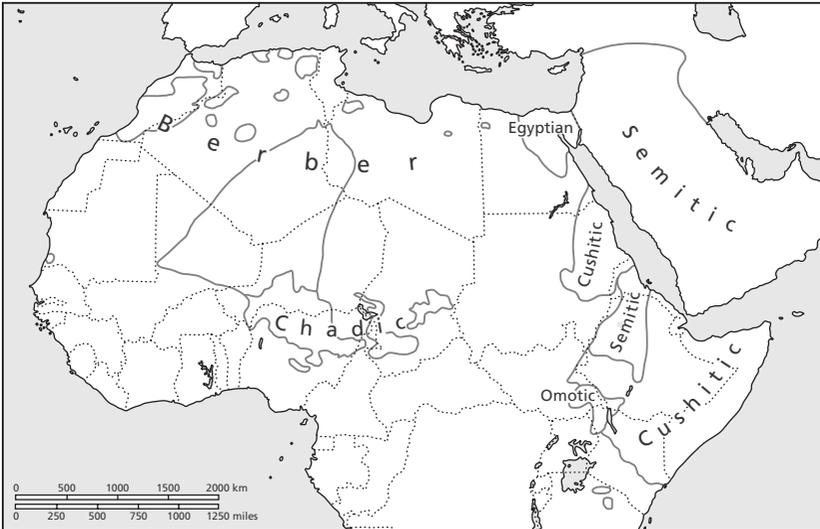
described in [chapter 7](#) in the present volume, the position of these languages within the Afroasiatic phylum remains one of the most controversial issues in Afroasiatic classification. The discipline still lacks a systematic study of regular sound correspondences and of common retentions and innovations that would allow subclassification.

For succinct histories of the concept of the Afroasiatic phylum, the reader is referred to Newman (1980), Diakonoff (1988), and Hayward (2000).

1.5 Geographical range of the Afroasiatic phylum

Afroasiatic languages are spoken in Northern Africa, Central Africa, the Horn of Africa, the Arabian Peninsula, and even in Central Asia (Arabic). Berber languages are spoken in isolated pockets in Mauritania and in Morocco, Algeria, Mali, Niger, Libya, Tunisia, Burkina Faso, as well as in the Siwa oasis in Egypt. The Chadic family, the largest of the phylum, comprises between 140 and 160 languages (estimates vary) spoken in northern Nigeria, southern Niger, northern Cameroon, and southern Chad Republic. Hausa, the Chadic language with the greatest number of speakers, is a vehicular language in West Africa and the official language of Nigeria, and there are pockets of Hausa speakers to be found over large areas of West and Central Africa. Egyptian was the language of ancient Egypt, and its descendant, Coptic, remains the liturgical language of the Coptic Church in Egypt. Cushitic languages are spoken in Eritrea, Ethiopia, Somalia, and northern Kenya, Sudan (Beja) and in isolated pockets in Tanzania. Some Cushitic languages are official in different federal regions of Ethiopia. Somali, also a member of the Cushitic family, is the official language of the Somali Republic. Omotic languages are spoken in southwest Ethiopia. Among the Semitic languages, Hebrew is one of the official languages of Israel, Amharic is one of the official languages of Ethiopia, and Tigre and Tigrinya are the official languages of Eritrea. Arabic, spoken throughout North Africa, the Arabian Peninsula, and in areas outside of Africa, is the official language, or one of the official languages, of Mauritania, Morocco, Algeria, Tunisia, Libya, Egypt, and Chad in Africa, and of Israel, Lebanon, Jordan, Syria, Iraq, Saudi Arabia, United Arab Emirates, Oman, Bahrain, Qatar, and Yemen in the Arabian Peninsula, and in other countries with significant Arabic diaspora. For a map of dialects of Arabic, see Kaye and Rosenhouse (1997: 264). Maltese (Semitic) is one of the official languages of Malta. Despite the wide geographic range of the families of the phylum, and the fact that a number of those languages are the official languages in various countries, many Afroasiatic languages are threatened with extinction because they are spoken by a small number of people in economically and politically unstable environments.

All languages of the Afroasiatic phylum have had extended contact with other Afroasiatic languages and with languages belonging to other families. The Semitic languages



Map 1.1 *Afroasiatic phylum*

of Ethiopia (Ethiosemitic) have been in contact with Cushitic and Omotic languages, and some of the Ethiosemitic languages share a number of typological features with Cushitic and Omotic languages that they do not share with other Afroasiatic languages. Akkadian, an East Semitic language, has been in contact with Sumerian, and North-Eastern Neo-Aramaic has been in extensive contact with Kurdish. Berber languages have been in contact with Arabic and Chadic languages and with Nilo-Saharan languages. Chadic languages have been in contact with Niger-Congo, Nilo-Saharan, Semitic, and Berber languages. Such contacts have no doubt induced changes in Afroasiatic languages. The clause-final position of the verb in Amharic and Tigrinya (Ethiosemitic) languages, for example, is attributed to contact with Cushitic and Omotic languages, and the clause-final position of the verb in Akkadian is attributed to contact with Sumerian. Given the absence of systematic phonological, morphological, and syntactic reconstructions, in most instances we are unable to state categorically which typological features are due to language contact.

1.6 State of the art in Afroasiatic scholarship

A few Afroasiatic languages, including Egyptian, Hebrew, Arabic, and Aramaic, have been the objects of study for more than 200 years, and the amount of literature on these languages is very large indeed. As might be expected, the longer the history of scholarship on a given language or family, the more publications are available. Yet even

for language families with the longest scholarly tradition there are fundamental gaps in the scholarship. Izre'el (2002) and Khan (2002) acknowledge the fact that traditional Semitic scholarship seldom dealt with syntax. Even such fundamental components of grammar as the aspectual and tense systems in Semitic languages remain poorly studied (Izre'el 2002). For the state of the art in Semitic studies, see Izre'el (2002) and [chapter 4](#) of the present volume.

Tosco (1994a) and (1994b) represent typological studies of the syntax of East Cushitic languages. Dolgopolsky (1973) is a massive reconstruction of lexical roots in Cushitic languages. The languages classified now as Omotic are included in Dolgopolsky's study as West Cushitic. Zaborski (1975) is a study of the verbal forms in Cushitic languages. Bender (2000) is a comparative study of Omotic morphology. For a compendium of literature on individual families, the reader is referred to the bibliography at the end of the volume.

Very little scholarship has been devoted to the typology of the Afroasiatic phylum as a whole. The most recent and most complete surveys of Afroasiatic languages are Diakonoff (1988) and Petráček (1989). The latter, a two-volume publication in Czech, is a textbook for students of Semitic, Egyptian, and African languages. The work is conceived as an exhaustive review of the literature on the Afroasiatic phylum and individual families; the history of classification; theoretical issues in genetic classification; sociolinguistic issues; and areal linguistics. The list of references, which ends with 1987, takes up eighty pages. Only ten pages of the two-volume work are devoted to typology, the focus of the present volume.

With the exception of Egyptian and Semitic, there have been no typological studies of any single branch of the Afroasiatic phylum. For most of the branches, and for the phylum itself, there have been no comparative studies of phonological processes, of the syntax of simple or complex sentences, of semantic categories encoded, of reference systems, or of any of the other functional domains that comprise a complete grammar of a language.

Hodge (1971, a reprint of Hodge 1970) is a collection of essays on various Afroasiatic families. These essays, some written by the most eminent scholars of the time, are very brief. Most list the important references for the family surveyed and provide some information about the phonological system and bits and pieces of morphology. None of the essays offers a picture of the grammatical system of any of the families surveyed. Since Hodge (1971), there have been many collections of papers published on Afroasiatic linguistics, e.g. Perrot *et al.* (1981), Lecarme *et al.* (2000), Zaborski (2001), Bender *et al.* (2003), Lecarme (2003), Fronzaroli and Marassini (2005), Lonnet and Mettouchi (2005), and Mettouchi and Lonnet (2006). Studies in these volumes are devoted to single topics in individual languages and do not pretend to offer a survey of any of the families, much less of the entire phylum. The only

work that attempts to look at a large number of issues in Afroasiatic languages remains Diakonoff (1988).

1.6.1 Phonological reconstruction

Most of the work conducted so far on Proto-Afroasiatic reconstruction has dealt with the sound inventory and the lexicon. Diakonoff and his collaborators have worked for many years on reconstructing the Afroasiatic consonants, vowels, tones, and vocabulary. Their results have been published in instalments, first in Russian and then in English (Diakonoff *et al.* 1992; Belova *et al.* 1993; Belova *et al.* 1994–97). Diakonoff (1988) reconstructed a consonantal system involving four manners of articulation for obstruents: voiceless, emphatic, and voiced stops and voiceless continuants. He postulated labial, dental, and palatalized fricatives and affricates, and labial, velar, labialized-velar, post-velar, labialized post-velar, pharyngeal, and laryngeal places of articulation. Diakonoff also postulates two nasals, *m* and *n*; two liquids, *r* and *l*; and palatal and labial glides. He does not include the prenasalized stop *mb*, posited in Greenberg (1965) as a Proto-Afroasiatic phoneme.

Orel and Stolbova (1995) is an attempt to reconstruct 2,672 lexical items. The book is subtitled ‘Materials for a Reconstruction’. The authors postulate a Proto-Afroasiatic consonantal system consisting of voiced, voiceless, and emphatic stops and fricatives. They also postulate seven places of articulation: labial, dental, lateral, velar, post-velar, pharyngeal, and laryngeal. Unlike Diakonoff, Orel and Stolbova do not postulate the labialized velar consonants *k^w*, *g^w*, and *q^w*. They postulate a six-vowel system consisting of *i*, *ü*, *e*, *a*, *o*, and *u*. The Orel and Stolbova reconstruction focuses on lexical items rather than on the phonological system. It does not deal with constraints on syllable structure or with phonological processes such as vowel or consonant harmony.

Ehret (1995) reconstructs about forty consonantal phonemes, with three manners of articulation (voiceless, voiced, and emphatic). As places of articulation he posits labial, dental, velar and labiovelar; alveolar and palatal; nasal; and laryngeal. He also postulates glides, an *r*, and four laterals: *l*, *dl* (corresponding to the *ḫ* of Jungraithmayr and Shimizu’s Proto-Chadic reconstruction (1981)), *lʰ*, and *ɬ*. He retains the labial consonants postulated by Greenberg (1958) but explicitly rejects the notion, advocated in Greenberg (1965), of prenasalized stops in Proto-Afroasiatic. Ehret further postulates, albeit tentatively, the existence of tone in Proto-Afroasiatic, basing his conclusion on the analysis of tones in Ngizim (West Chadic) and Mocha (Omoti) and on the fact that tones are attested in Cushitic, Omotic, and Chadic languages. Unlike Orel and Stolbova, Ehret takes phonological constraints into consideration. He takes the emergence of phonological constraints as evidence for innovations that are the basis of his subclassification.

With respect to the consonantal system, most reconstructions agree that Proto-Afroasiatic had three series of obstruents and that the only continuants were voiceless. Note, however, Ehret's reconstruction of the voiced lateral continuant. Diakonoff and his associates postulate a series of labiovelar consonants, while Orel and Stolbova (1995) claim that labial velars derive from 'velar consonants followed by the sequence *au*'. While such sequences often result in a labiovelar and eventually a labial stop (Frajzyngier 1989a), there are also labial velar consonants that cannot be explained as deriving from the sequence velar-*a-u*. The evidence that some labial velar stops may, in fact, be underlying is provided by languages where such stops occur in word-final position and where there is no rule of final *a* deletion. This is the case in Hdi (Central Chadic), e.g., the noun *màrkw* 'wife' (Frajzyngier with Shay 2002).

The posited reconstructions show much greater variation with respect to the number of vowels in Proto-Afroasiatic. Diakonoff (1980) considers the possibility that there were only two vowels, the low vowel *a* and a high vowel realized as *i*, *u* or a central vowel. Ehret reconstructs five short and five long vowels for Proto-Afroasiatic: *a*, *aa*, *e*, *ee*, *i*, *ii*, *o*, *oo*, *u*, and *uu*. For a critique of reconstructions in Orel and Stolbova (1995), see Diakonoff (1998), and for a critique of methodologies in Orel and Stolbova (1995) and Ehret (1995), see Ratcliffe (n.d.).

1.6.2 Reconstruction of morphology and syntax

Little work has been done on reconstructing the Proto-Afroasiatic morphological system, and most of this work has been devoted to the morphology of the verb (Diakonoff 1988). Greenberg (1955) described the use of *a*, in the place of a different vowel, as the marker of nominal plurality, and also described the suffix *-en* as a marker of plurality. Greenberg (1952) and (1953) dealt with verbal forms involving gemination, which he analysed as coding present tense. Greenberg (1960) dealt with gender and number agreement, citing *t* as the Afroasiatic marker of feminine gender and citing a contrast between *k* as the marker of masculine gender and *t* as the feminine marker. Greenberg also stresses similarities among pronominal systems, in particular possessive pronouns, among various families of the phylum. Greenberg (1963), which presented a revised classification of African languages, posited a number of Proto-Afroasiatic grammatical morphemes, including pronouns; the causative *-s* (although subsequent studies have shown that this suffix does not occur in Chadic (Frajzyngier 1985a)); the prefix *m-* as a marker of place names, instrument, and agent; and the internal *a*-plural. The internal *a*-plurals occurring in all Afroasiatic languages constitute a strong morphological argument in favour of a genetic relationship among Afroasiatic languages. Greenberg also postulates a variety of other morphemes, all of which have been shown by subsequent studies to be the product of grammaticalization processes whose original source was the same as that posited

by Greenberg (1963) for pronouns. Among these morphemes are the gender markers *k* ‘masculine’ and *t* ‘feminine’; *n* used as a genitive linker; and plurals involving the marker *n*.

Diakonoff (1965; revised 1988) was the first attempt to reconstruct not only the phonological system of the Afroasiatic phylum but also elements of the grammatical system, including morphology and syntax. Given that this reconstruction has more elements of the grammatical system in its scope than other works, we devote more space to it than to other reconstructions that are much narrower in scope. Diakonoff explicitly based his reconstruction of the root and word structure of Afroasiatic on the Semitic languages ‘of the Ancient and Middle stages’ (Diakonoff 1988: 43). The premise is that the old Semitic languages such as Akkadian, Eblait, and Old Hebrew represent older stages of Afroasiatic and thus preserve much of the inflectional morphology that has been lost in many modern languages. In this approach, the ways in which other languages differ from the old Semitic languages must represent innovations. There is no theoretical basis for this claim or empirical evidence that languages with the oldest written records necessarily represent the oldest forms and functions. The only way information regarding the oldest forms can be obtained is through a reconstruction of the grammatical system. No such reconstruction is available for any language family in the Afroasiatic phylum, where scores of languages remain undescribed, and such a reconstruction is a very remote prospect. Given the biases of Diakonoff’s approach, the reliability of his reconstructions for the whole phylum is very much in doubt. However, there are some reconstructions for which Diakonoff provides evidence from at least three branches of Afroasiatic, and we list some of these here. We also mention some hypotheses for which there is no support, or very weak support, but that touch on the totality of the grammatical system or are otherwise interesting.

Diakonoff postulates that no syllable in Proto-Afroasiatic (which he calls ‘Common Afrasian’) may begin with a vowel and that no syllable may have more than one consonant in the coda (‘Auslaut’ in his terminology). The first of these generalizations appears to be based on Semitic word structures. In fact, vowel-initial syllables are allowed in many Chadic languages, although they appear mainly in morphemes belonging to closed sets. Some Chadic languages also exhibit syllable- and word-final consonantal clusters (e.g. Hdi), while others do not allow consonant-final words in isolation (e.g. Wandala).

Diakonoff also postulates a sequence of lexicalizations whereby nominal roots were lexicalized first and verbal roots came into being later. This generalization is not supported with any argumentation. The postulated roots had two consonants or two consonants plus a glide that could be realized as a consonant or a vowel. Diakonoff also posits tone in Proto-Afroasiatic. The primary argument for the reconstruction of tone is the postulated existence of numerous identical reconstructed roots. Tone is thus postulated as a phonological means of differentiating lexical items. Interestingly, in many

contemporary Chadic, Cushitic, and Omotic languages, tone has mainly a grammatical function. Because tonal distinctions among lexical items are not frequent, there is no basis for postulating that tone was originally a means of differentiating among lexical elements. Ehret (1995) postulates tone in Proto-Afroasiatic on the more plausible grounds that tone is preserved in three out of the six branches.

Diakonoff postulates nouns, adjectives, and numerals as the nominal categories of Proto-Afroasiatic, but he also states that adjectives are distinguished from nouns through syntactic means. Diakonoff also postulates a two-gender system that was originally marked by a palatal or labial glide for the masculine gender and a glottal continuant or palatal glide, with different stress, for the feminine gender. In his analysis, this marking system evolved further, with *t* replacing the glottal continuant as the marker of feminine gender. Diakonoff proposes that Proto-Afroasiatic had three nominal numbers: singular, dual, and plural. These are attested in Semitic and, he claims, through traces in Cushitic and Chadic.

With respect to the verb, Diakonoff proposes the interesting hypothesis that the primary distinction with respect to verbal categories in Proto-Afroasiatic was between ‘action’ and ‘state’, with the distinction between transitive and intransitive verbs emerging later. David Cohen’s (2005) comments on apophony in Afroasiatic also postulate the distinction between action and state.

Among the morphological means that were recognized early on as widespread characteristics of Afroasiatic are gemination and reduplication. Diakonoff (1988) rightly points out that these means code a variety of functions, including intensive, iterative, causative, and, in his view, habitual aspect. (Recall that Greenberg proposed that gemination codes present tense, a category that overlaps with habitual aspect.) As shown in [chapter 8](#) of the present volume, gemination and reduplication have an even wider range of functions. Although both of these processes are widespread in Afroasiatic, we are reluctant to claim that they are defining characteristics of the Afroasiatic phylum, since both gemination and reduplication also occur in other language families of Africa, where these means often carry the same functions as they do in Afroasiatic.

In all Afroasiatic families, albeit not in all languages, verbal forms carry inflectional markers coding aspectual and mood distinctions. The alternation between *a* and non-*a* vowels is exploited for a variety of related functions coding aspectual distinctions, stative versus dynamic predications, and intransitive versus transitive predications. This alternation, called apophony or ablaut in Semitic, Cushitic, and Berber languages (D. Cohen 2005), results in Chadic languages from vowel suffixation (Frajzyngier 2004, 1981). In several families, verbal forms also code plurality of the verb, spatial orientation, voice, manner, and point of view. Reconstructions so far have focused on categories attested in Semitic languages, such as aspect, voice, and person. Ehret (1995) proposes that, in addition to these categories, Proto-Afroasiatic also had verbal extensions coding a variety of functions. In his analysis, these extensions later became a third consonant

of the verbal root. This hypothesis has been criticized on the grounds that the thirty-seven extensions postulated by Ehret are too many (Zaborski (1991), as quoted in Kaye (1996)). In view of the fact that some contemporary Chadic languages of the Central branch have a dozen or more extensions each, the test of the validity of the hypothesis should be whether the postulated forms are morphologically distinct and whether they indeed carry the functions ascribed to them.

Diakonoff (1988) postulates VSO as the word order of Proto-Afroasiatic. Verb-initial word order is indeed found in most Semitic languages, in Egyptian, and in some Berber languages. It has also been reconstructed for Proto-Chadic (Frajzyngier 1983). In the Omotic and Cushitic languages, however, the verb occurs in clause-final position. The question of the Proto-Afroasiatic default word order should be revisited. If an assumption is made that Proto-Afroasiatic had the verb in clause-initial position, an explanation should be found for why Cushitic and Omotic languages acquired verb-final default order.

A reconstruction of any lexical entry or grammatical form is a hypothesis that needs to be either confirmed or refuted. All comparative studies of Afroasiatic, including attempts at reconstructing phonological systems, morphology and parts of the grammatical system, have engendered criticism regarding their choice of sources, their methodology, and, not surprisingly, their conclusions. While many criticisms are valid, they should not overshadow the pioneering nature of the work done, the important questions raised by comparative studies, and, most important, the posing of numerous hypotheses regarding the reconstruction of lexical items.

1.7 Where did the Afroasiatic languages come from?

The issue of the origin of Afroasiatic languages is a subject of continuing debate. Two places of origin have been proposed: the Middle East (see Diamond and Bellwood 2003) and Africa (for a recent discussion, see Ehret *et al.* (2004)). The two hypotheses are based on different sets of criteria. Diamond and Bellwood (2003) use mainly archaeological and botanical criteria, with only marginal reference to linguistic criteria. Most linguists, using linguistic data only, would postulate Africa as the home of Proto-Afroasiatic (Ehret *et al.* 2004). Diakonoff (1975, 1988) places Proto-Afrasian in the southeastern Sahara, between the Tibesti mountains in northern Chad and Darfur. He postulates that the first group to break away from the place of origin were speakers of Egyptian, who moved north in about the eighth millennium BC. These were followed soon after by speakers of Proto-Chadic, who moved south and merged with the 'Negroid' (i.e. non-Afroasiatic) substratum. Later, speakers of Omotic moved southeast. Around the seventh millennium BC, in Diakonoff's account, the speakers of various Cushitic dialects moved to the east. He further argues that the speakers of Proto-Semitic separated from the speakers of Proto-Berbero-Libyan around the sixth to the fifth millennium BC, taking a path into

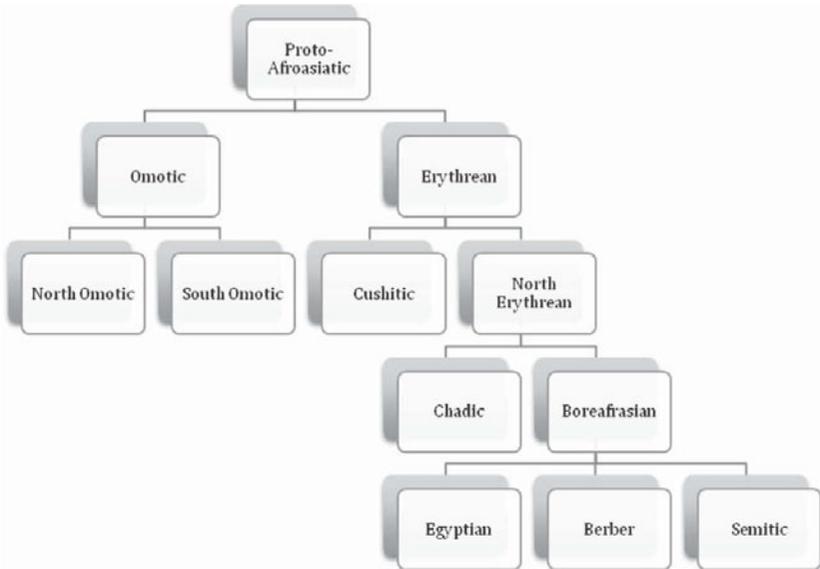


Figure 1.1 *Afroasiatic classification, based on Ehret (1995).*

Asia through the Nile Valley and over the Suez isthmus. The argument for this separation, states Diakonoff, is provided by the fact that the Semitic language in Asia had already divided into various dialects by the fourth millennium BC.

Diakonoff (1998) departs from the notion of a single homeland for Proto-Afroasiatic, positing a different place of origin for each of his major linguistic subgroups. In Diakonoff's view, the distinguishing feature of one of these groups, 'East-West Afrasian', composed of Semitic, Cushitic, and Omotic, is the presence of verbs conjugated by subject prefixes. Verbal prefixes, however, can emerge at a relatively shallow time depth, given the proper phonological conditions. This is the case in Gidar (Central Chadic), where subject pronouns have recently become prefixes in some dialects (Frajzyngier 2008).

Militarev is one of the few proponents of the notion that Afroasiatic originated in the Middle East (see Militarev and Shnirelman 1984). The argument in favour of this hypothesis is that the names of animals and plants reconstructed for Proto-Afroasiatic are of Middle Eastern rather than African origin. Vycichl (1987) also argues for the Asian origin of Afroasiatic.

In 1995, Ehret published a reconstruction of the Afroasiatic vowels, tone, and consonants, a vocabulary of 1,000 roots, and a reconstruction of derivational morphology. Appropriately taking common phonological innovations as a determining criterion for linguistic subclassification, Ehret proposes the classification in figure 1.1.

1.8 A preview of the book

The present work takes for granted the genetic relationships within the Afroasiatic phylum that have been established by the most widely accepted historical studies. It also takes for granted the internal classification of the phylum into six families and the status of Omotic as a separate family, although this classification remains controversial. For a list of features that argue for treating Omotic as a separate branch of Afroasiatic, see Hayward (2000). The goal of the book is to provide a survey of the phonetics, phonology, morphology, and syntax of Afroasiatic languages and to provide up-to-date information for each language family, along with a synthesis of similarities and differences among language families. Each chapter highlights those characteristics that are particularly important from a typological point of view and characteristics that make the family interesting and worthy of further study.

The organization of each chapter follows the same general outline, but the chapters differ significantly because the grammatical structures of the languages involved are quite different and because the state of knowledge for different language families varies widely. The Semitic scholarly tradition is more than 1,000 years old, and most of the Semitic languages have been described. In contrast, barely one-third of the Chadic languages have been described, and the scholarly tradition is not yet 100 years old. Moreover, with the exception of Hausa, Munjuk, and Ouldeme, each Chadic language description so far has been the work of just one scholar, so the critical discussion of hypotheses and argumentation that has characterized the Semitic scholarly tradition has not been available for Chadic languages. The same is true, to a lesser degree, of the Cushitic and Omotic languages.

Each of the next six chapters includes information on the following categories and topics, to the extent that such information is available. For some languages, there is no information available on some of the categories mentioned below, and in some languages the categories listed may not even exist. In some cases, the categories themselves are controversial in linguistic theory, but the fact that they are attested in Afroasiatic languages is part of what makes this phylum worthy of further study.

Phonology

- Segmental and suprasegmental units (phonemic and phonetic)

- Major phonological processes

Lexical categories attested

- Presence and characteristics of the major lexical categories noun, verb, adjective, adverb

- Presence and characteristics of adpositions, ideophones, or other lexical categories

Derivational morphology

Means and direction of derivation

Inflectional morphology

Inflectional morphology of verbs

Functional domains coded by verbal morphology

Inflectional morphology of nouns and pronouns (including case, number, and gender)

Inflectional morphology of other lexical categories, including adpositions

Structure of noun phrases

Possession

Modification

Other types of relationships between nouns

Position of the predicate

In the verbal clause (clause-initial, clause-final, clause-internal)

In verbless clauses

Major functional domains

Relations between predicate and noun phrases

Voice distinctions

Epistemic modality

Deontic modality

Negation

Polar questions

Content questions

Pragmatic functions, including topicalization, focus, and backgrounding

Categories of the complex sentence

Paratactic constructions

Clausal complementation and clausal order

Number and functions of complementizers

Subordinating constructions

The final chapter of the present book is a typological outline whose aim is to establish which coding means and functions are common to the six Afroasiatic families and which characterize a single family or a selection of families. In some cases, the chapter proposes reasons for these typological similarities and differences. For each of the topics and categories listed above, this chapter attempts to answer the following questions:

- What coding means and functions are shared by all language families in the phylum?

- What coding means and functions are unique to one language family or to a subset of language families?
- What coding means and functions, if any, are attested only within one or more subgroups of a single family?
- What are the cross-phylum correlations, if any, between the presence of a given coding means (e.g., position of the verb in the clause) and other coding means?
- What are the cross-phylum correlations, if any, between the presence of a given grammatical function and other grammatical functions?
- Are there correlations between certain form–function relationships (e.g. the coding of mood on auxiliary verbs) and the presence or nature of other form–function relationships?

When a characteristic is present in only one family or subset of families within the Afroasiatic phylum, the question may legitimately be asked whether this characteristic represents an innovation or a retention from Proto-Afroasiatic. Though references are made to historical reconstructions in some of the chapters on individual language families, we do not attempt to answer such questions for the phylum as a whole. The present volume is only one of the prerequisites for a historical reconstruction of the complete grammatical system of Proto-Afroasiatic.

The chapters in this volume were written between 2006 and 2011, with some chapters being submitted earlier than others. Understandably, the authors were not able to take into account all of the literature that has been published after their chapters were submitted.

Berber

Maarten Kossmann

2.1 Introduction

Berber languages are spoken in North Africa, in a discontinuous region stretching from the Atlantic Ocean in the west to the Siwa oasis in Egypt in the east, and from the Mediterranean in the north to Burkina Faso in the south. The languages are quite similar to one another, and many Berberologists prefer to consider Berber one language with many dialects (e.g. Chaker 1995: 7ff.). This seems to be exaggerated, as linguistic variation inside Berber is roughly comparable to that found inside the Germanic or the Romance language families. The following list contains the best-known Berber languages and variants:

MAURITANIA: southwest: Zenaga;

MOROCCO: southwest: Tashelhiyt (also known as Chleuh, Shilha); central and southeast: Central Moroccan Berber (also called Middle Atlas Berber, Tamazight); north: Riffian (also Tarifiyt); northeast: Eastern Riffian (Beni Iznasen); northern Sahara: Figuig;

ALGERIA: northwest: Beni Snous, Chenoua; northeast: Kabyle, Chaouia; northern Sahara: Ouargla, Mzab, Gourara, Touat (now extinct);

TUNISIA: Djerba;

LIBYA: northwest: Djebel Nefusa; Libyan Sahara: Ghadames, Awdjilah, Elfoqaha (now extinct), Sokna (now extinct);

EGYPT: western Egyptian Sahara: Siwa;

TUAREG: Algeria, Libya: Ahaggar; Niger: Ayer, Iwellemmeden; Mali: Adagh des Ifoghas; Burkina Faso: Oudalan.

Subclassification inside the family is extremely difficult, as much of Berber is a kind of discontinuous dialect continuum – i.e., it seems to form a continuum, even though there

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Map 2.1 *Berber family*

are sometimes large stretches of Arabic-speaking regions in between different dialects. A few smaller groups, however, are clearly discernible, such as the Tuareg group and the continuum between Tashelhiyt and Central Moroccan Berber. More difficult to prove, but still a reasonable hypothesis, is the existence of the so-called Zenatic subgroup, which would comprise a large number of dialects in the north-central part of Berber, such as the Eastern dialects of Central Moroccan Berber, Riffian, sedentary Northern Sahara Berber (Figuig, Mzab, Ouargla), Chaouia and probably Djerba. On the other hand, the languages of Libya and Egypt do not seem to form one group. Zenaga (Mauritania) is in many points very different from the other Berber languages. While this is partly due to a large number of unique innovations in this language, Zenaga also preserves some very archaic features. Nobody would be surprised if, in a subclassification, Zenaga would surface as the first branching off the Berber family.

Moroccan and Algerian Berber (excluding Tuareg) share a number of typological features, which makes it practical to subsume them under the heading ‘Northern Berber’. For the same reason, Libyan and Egyptian Berber will be called ‘Eastern Berber’. It must be emphasized that these labels by no means represent a historical subclassification.

As noted above, Berber linguistic variation is not very great, and reminds one most of the variation inside Germanic or Romance. Therefore, it is a reasonable guess to place Proto-Berber somewhere in between 1000 BC and the beginning of the first millennium AD. This implies that it has by no means the time depth of other branches of Afroasiatic. If Berber constitutes a primary branch of Afroasiatic, as is generally assumed, it is highly probable that there existed sister languages to Proto-Berber, which have become extinct

in the course of time. One such branch could be Guanche, the language of the Canary Islands. Unfortunately, our limited data on this language, which became extinct in the seventeenth century AD, are so difficult to interpret that any linguistic classification must remain preliminary.

Many Berber groups refer to themselves as *imaziɣən* (singular *amaziɣ* or *maziɣ*). In other groups, this term may refer to a special class inside society. The language is referred to as *t(a)maziɣt*. By means of regular sound changes and assimilation rules, the well-known Tuareg denominations *tāmahāq* (Ahaggar Tuareg), *tāmažəq* (Niger Tuareg), and *tāmašəq* (Mali Tuareg) go back to the same term. Some Berber activists object to the name ‘Berber’, which they associate with ‘Barbarian’, and prefer terms such as ‘the Amazigh language’. As most Berberologists, including some who are very active in Berber culture and politics, continue to use the term ‘Berber’ in scientific publications, this will be done here too.

2.1.1 Historical records and writing systems

The earliest attestations of Berber (or a sister branch) are found in the so-called ‘Libyan’ (or Libyco-Berber; the term has no direct relation to the present republic of Libya) inscriptions, which are written in an alphabetic script of their own and date from around 800 BC to the first centuries AD (Pichler 2007). Inscriptions in this script are found all over Northern Africa, including the Canary Islands, but the largest number comes from present-day Tunisia. In spite of the enormous quantity of inscriptions, the linguistic materials they contain are quite few, as most of them are very short and consist predominantly of names and titles. Therefore, the exact linguistic classification of the language(s) written in this script is not certain, although some link with Berber is obvious. The Libyco-Berber script has been lost in most of Northern Africa, but an offshoot of it is still used by the Tuaregs, who call it *tifinaɣ* (see below).

From the eleventh century AD on (possibly even earlier), southern Moroccan Berber has been written in Arabic script (van den Boogert 2000). Early attestations include a large Arabic-Berber vocabulary from the twelfth century and a number of smaller textual fragments. Southern Morocco has had a continuous tradition of writing Berber in Arabic script up to modern times. Long texts from the sixteenth century AD onwards provide much information about pre-modern stages of Tashelhiyt (cf. van den Boogert 1997).

Modern Berber languages are written in one of three scripts: Latin script, Arabic script, or *tifinaɣ*. Latin script is preponderantly used in scientific publications and constitutes the standard choice in Kabylia (Algeria), one of the great centres of Berber linguistic planning and activity. A new Arabic orthography, which is independent from earlier scriptural traditions, has met with some success in Morocco, especially in the Tashelhiyt-speaking southern part of the country. Tuaregs traditionally use a script of

their own, based on the ancient Libyco-Berber script, which they call *tifinay*. In spite of official language policy, which has long favoured Latin orthographies in the Sahel countries, *tifinay* remains the most-used script among the Tuaregs. In recent years, a new version of *tifinay* has been created by Berber activists in Algeria and Morocco. Although *tifinay* has not been used by Berber groups other than the Tuareg since Roman times, and despite the differences from the traditional Tuareg script, this neo-*tifinay* is presented as the age-old real traditional script of the Berbers. In 2003, it was chosen as the official script for writing Berber in Morocco, and is now being introduced in experimental teaching at the primary-school level.

2.1.2 Sociolinguistics

Until recently, Tuareg was the only officially recognized Berber language (so recognized in Mali, Niger, and Burkina Faso). In Morocco and Algeria, the existence of Berber has traditionally been denied officially. Nowadays, Berber has the status of official language, next to Arabic, in Algeria and in Morocco. Great efforts are made in Morocco to provide the country with a modernized, standardized, and unified version based on the three main Berber languages of Morocco: Tashelhiyt, Central Moroccan Berber, and Riffian. As of 2011, Berber is still vehemently oppressed by the Libyan government; it plays no role in the official discourse of Tunisia, Egypt, and Mauritania.

There exist no reliable figures for the number of Berber speakers, as in Morocco and Algeria language is either not part of the national census questionnaire, or its results remain unpublished. Therefore one can only make an educated guess. About 30 per cent of the Moroccan population speak a Berber language. The percentage in Algeria is much smaller, and may amount to about 20 per cent. Using 2004 population figures, this would mean about 8 million Berber speakers in Morocco and about 7 million Berber speakers in Algeria. One can add about 1 million Tuareg speakers in the Sahel countries. In the other countries, the number of speakers is much smaller, it seems. Thus there may be about 16 million speakers of Berber languages in the world nowadays.

Most Berber languages are alive and well, and only a few of them can be considered strongly endangered. Among these is Mauritanian Zenaga, which has only a few thousand, mostly elderly, speakers. The language situation in the small Berber pockets in Tunisia seems to be difficult too. In the Libyan oases, Berber has been diminishing for a long time, and a number of dialects have died out during the twentieth century (Sokna and Elfoqaha). The present situation of Berber in Ghadames and Awdjilah is unknown.

2.1.3 History of Berber studies

Berber languages have been the object of a large number of studies during the colonial period and since (see Bougchiche 1997). As the subject falls somewhere between

African studies on the one side (which mainly concentrates on sub-Saharan Africa) and oriental studies on the other side (which tends to focus on written languages), Berberology has developed into a separate discipline with its own dynamics and peculiarities. Thus, Berber historical linguistics has been the subject of very few studies (note, however, the great work by Karl-G. Prasse 1972–4), but under the influence of the most important Berberologist of the post-war period, Lionel Galand, Berber studies has developed great interest in syntactic analysis.

Among the more recent descriptive grammars of Berber languages, one may cite Penchoen (Central Moroccan Berber, 1973), Willms (Central Moroccan Berber, 1972), Bentolila (Central Moroccan Berber, 1981), Chaker (Kabyle, 1983), Kossmann (Figuig, 1997; Eastern Riffian, 2000a), Sadiqi (Central Moroccan Berber, 1997), Nait-Zerrad (Kabyle, 2001b), Sudlow (Tuareg, 2001), and Heath (Tuareg, 2005). There exist only a few general overviews of the Berber languages. The most important and complete is Basset (1952). Galand (1988), although focusing on Tashelhiyt, gives so much information on other variants that it amounts to a general introduction to the field of Berber studies.

In the following, an overview of Berber grammar will be given without focus on one particular variant; where necessary, the differences between the languages will be highlighted. It is of course no coincidence that many of the examples have been taken from Berber languages of northern and eastern Morocco, with which the author is most familiar. This overview is not a bibliographical article, and no effort has been made to describe the exact scientific history of certain analyses, nor should references be interpreted as exhaustive. Unless marked otherwise, examples from Riffian are based on personal notes by the author, or taken from the texts published in Kossmann (2003b). Transcriptions have been uniformized throughout the chapter.

Not many linguists have worked on the historical reconstruction of Proto-Berber. For this reason, few explicit references are made to Proto-Berber. Where historical developments are alluded to, the reader should interpret this as a reference to an earlier, reconstructible state of the variant, which may, but not necessarily must, represent Proto-Berber. Historical statements never refer to states of the language earlier than Proto-Berber.

2.2 Phonology

2.2.1 Consonants

Berber consonant systems typically have the contrasting features of voice, pharyngealization, and length. In addition, several languages have labialized consonants. In the northern half of the Berber-speaking territory, there took place a great consonant

Table 2.1 *Consonant system of Ahaggar Tuareg.*

	Labial	Dental	Palatal	Velar	Uvular	Laryngeal
Voiceless plosive		t		k		
		tt		kk	qq	
Voiceless fricative	f	s	(š)		(x)	
	ff	ss	(šš)		(xx)	
Voiced plosive	b	d	g ^y			
	bb	dd	gg ^y			
Voiced fricative		(z)	(ž)		ɣ	
		zz	(žž)			
Pharyngealized voiceless plosive		ṭ				
Pharyngealized voiced plosive		ḍ				
Pharyngealized voiceless fricative		ẓ				
		zẓ				
Nasal	m	n	(ɲ)			
	mm	nn		(ŋŋ)		
Glide	w		y			h
	(ww)		(yy)			(hh)
Rhotic		r				
		rr				
Liquid		l				
		ll				

Rare phonemes are put in parentheses.

Source: Prasse (1972–4; modified).

shift called spirantization, which has profoundly changed the pronunciation of the languages.

Berber consonant systems show great differences. These differences are mainly due to three processes: absence of labialization, spirantization, and the insertion of loan phonemes from Arabic (e.g. Kabyle *ɣ*, *ṭ*, *ṣ̌*, *ẓ̌*, *q*, *x*, *ḥ*, *ʕ*). In tables 2.1 and 2.2, the consonant systems of two of the most widely varying dialects, Ahaggar Tuareg and Kabyle, are given. Double writings such as <tt> refer to long consonants.

2.2.1.1 *Pharyngealized consonants*

Pharyngealization, or ‘emphasis’, as it is sometimes called under influence of Semitic studies, is a central feature in the consonant system of all Berber languages. It has important lowering effects on the pronunciation of the vowels.

Pharyngealization is a prosodic feature that spreads over larger domains than one consonant only. This has led some scholars to consider it a feature on the word level

Table 2.2 *Consonant system of Kabyle.*

	Labial	Interdental	Dental	Pre-palatal	Palatal	Velar	Uvular	Pharyngeal, laryngeal
Voiceless plosive			(t) tt ^s	(čč)		(k) kk	q qq	
Voiceless fricative	f ff	θ	s ss	š šš	ç		x xx	ħ ħħ
Voiced plosive	(b) bb		(d) dd	(ğğ)		(g) gg		
Voiced fricative	β	ð	z zz	ž žž	j		ɣ (ɣɣ)	ʕ ʕʕ
Pharyngealized/ labialized voiceless plosive			(t) tṭ			(k ^w) kk ^w	q ^w qq ^w	
Pharyngealized/ labialized voiceless fricative			ʃ ʃʃ	(š) (šš)	ç ^w		x ^w xx ^w	
Pharyngealized/ labialized voiced plosive	bb ^w		(d)			(g ^w) gg ^w		
Pharyngealized/ labialized voiceless fricative		ð̣	ẓ zẓ	(ẓ̌) (ẓ̌ẓ̌)	j ^w		ɣ ^w (ɣɣ ^w)	
Nasal	m mm		n nn					
Glide	w							h hh
Rhotic			r rr	y				
Pharyngealized rhotic			ɾ ɾɾ					
Liquid			l ll					
Pharyngealized liquid			(l)					

Source: Chaker (1983: 64; modified).

rather than a feature spreading from one consonant. Most Berberologists, however, prefer a segmental analysis, in which pharyngealization is a distinctive feature of some consonants, which spreads to vowels and other consonants. The most obvious reason for doing so is the fact that pharyngealization occurs only in words that include specific consonants. Thus, a word with only the consonants *n* and *g* cannot have pharyngealization, although these consonants may (phonetically) be pharyngealized under the influence of another consonant. In words of Berber origin, only two pharyngealized phonemes are found, *d̤* (long: *tt̤*) and *z̤* (long: *zz̤*). They can constitute the sole consonant of a word. Through borrowing from Arabic and through secondary developments, other pharyngealized consonants have become part of the Berber phoneme inventory.

The domain of pharyngealization spread is an intricate question. At least in some variants of the language, word boundaries are of secondary importance to the spreading of pharyngealization, the make-up of the syllable being much more important (e.g. Tashelhiyt: Boukous 1990). Depending on speech tempo, the domain can be larger or smaller, although it is hardly ever restricted to one segment only.

2.2.1.2 Long consonants

In Berber almost every consonant has a long counterpart. Northern Berber languages are unusual typologically in that long consonants are allowed to occur utterance-initially as well as utterance-finally, and contrast in these positions with short consonants. As there exists an important discussion pertaining to the question of whether these long consonants are mono-phonemic tense consonants (cf. Galand 2002a [1997]: 147–61) or bi-phonemic geminates (e.g. Saïb 1977), the neutral term ‘long’ consonant will be used here. Although length is not necessarily the only or the main feature which differentiates ‘short’ consonants from ‘long’ consonants, it always plays a role in the opposition (see Chaker 1984; Ouakrim 1995: 56–8; Louali and Maddieson 1999) and can therefore be taken as definitory for the class.

The short–long contrast plays an important role in morphology, where both consonant lengthening and consonant shortening processes occur. Compare Figui *ini* ‘say!’ vs *inna* ‘he said’; *ifhəm* ‘he understands’ vs *ifəhhəm* ‘he always understands’; *iɣəlwas* ‘jars’ vs *aɣəllus* ‘jar’. The existence of such pairs allows us to establish two series of consonants, which interact in the morphophonology of the language. With all consonants, phonetic length and phonetic tenseness (Louali and Puech 1994; Ouakrim 1995: 68–75) are among the distinguishing features between the two series. In many consonant pairs these two features are supplemented by other phenomena:

- (1) A voiced short plosive may have a voiceless long consonant as its counterpart. In addition to Pan-Berber *d* - *tt̤*, dialectally other plosives are

devoiced. This may affect all plosives, as is the case in Figuig and in the female pronunciation of Kabyle.

- (2) A fricative short consonant may have a plosive long consonant as its counterpart, as in Pan-Berber γ - qq . In spirantizing dialects (see below), spirantized consonants correspond to plosive long consonants, thus giving correlations such as Kabyle: β - bb , δ - dd , θ - tt , θ - tt^s .
- (3) In most Berber variants, short w has long gg^w as its counterpart.
- (4) A short sibilant may have an affricate long consonant as its synchronic counterpart. This is dialectally attested in a number of Northern languages (e.g. Figuig and Kabyle) in a small number of morphological contexts. In other contexts in these languages the fricative pronunciation is also found in the long consonant.

In most cases there is no difference between lexical long consonants, or those resulting from morphophonological alternations, and long consonants that are products of the conflation of two identical short consonants (e.g. in sandhi). However, when the phonetic differences between long consonants and their short counterparts are very large, there may be a difference between the products of conflation and those found in morphophonology.

A long consonant followed by a short consonant, or the other way round, is not necessarily assimilated to become one long consonant, e.g. Figuig $\xi\theta t' t\theta n$ ([$\xi\theta t^s : t^s \theta n$]) 'they dispersed', Tashelhiyt $t't' tahl n$ [$t : tahl n$] 'they always marry'. A long consonant may function at the same time as the coda of a syllable and the onset of the following syllable. Therefore, in languages which do not permit schwa in open syllables, it is possible to have schwa followed by a long consonant, e.g. Figuig $i\xi\theta t t\theta t$ 'he dispersed'.

2.2.1.3 Labialization

Labialized velars and uvulars are a common feature of Northern Berber phonology (see Chaker 1984: 90–3; Leguil 1981). In Libyan Berber and in Tuareg, labialization is not attested. The most extensive systems of labialization are found in Kabyle, Central Moroccan Berber, and Tashelhiyt. In these languages, any velar or uvular can be labialized. Although minimal pairs are relatively rare, there is no doubt as to the phonological nature of the opposition labialized–non-labialized. Compare Tashelhiyt $ig^w ra$ 'frogs' vs $igra$ 'he threw' (van den Boogert 1997: 243).

While the labialization in gg^w , the tense counterpart of w , is attested in many Berber variants and may very well be reconstructible to Proto-Berber, the labialization of short consonants is probably a secondary development. It has been suggested that it is a remnant of ancient short $*i\tilde{w}$, which became schwa in these dialects but whose labial feature was taken over by neighbouring velars and uvulars (see Kossmann 1999: 42–59).

Table 2.3 *Absence and presence of spirantization in selected languages.*

Ouargla	Kabyle	Temsamane (Rif)	
<i>abrid</i>	<i>aβrið</i>	<i>aβrið</i>	‘road’
<i>idammən</i>	<i>iðammən</i>	<i>iðammən</i>	‘blood’
<i>tala</i>	<i>θala</i>	<i>θaʔa, haʔa</i>	‘well’
<i>aðil</i>	<i>aðil</i>	<i>aðilʔ</i>	‘grape’
<i>yugəm</i>	<i>yujəm</i>	<i>yuyəm</i>	‘he pulled (water)’
<i>kməz</i>	<i>çməz</i>	<i>šməz</i>	‘scratch!’

2.2.1.4 *Spirantization*

In the Berber variants spoken in the northern part of the Berber territory, reaching from Tunisia in the east to the Moroccan Rif in the west, one finds a pervasive phonetic development, namely spirantization. In this historical process, short stops have become fricatives. Moreover (where possible), their place of articulation is fronted with respect to the original stops. Thus, dental stops have become interdental, while velar stops have become pre-palatals. By subsequent changes, some spirantized consonants have merged. Very common is the merger of *j* with *y* and of *ç* with *š*. Table 2.3 lists some examples in Ouargla (no spirantization), Kabyle (spirantization without subsequent mergers), and Temsamane Riffian (spirantization with some subsequent mergers).

In a cross-dialectal perspective, the following hierarchy obtains as to which plosives are spirantized and which are not:

velar > dental > bilabial

This means that in those dialects where *b* is spirantized, the dentals and the velars are also spirantized. On the other hand, spirantization of velars does not necessarily imply spirantization of dentals and bilabials.

In those dialects where all three rows of plosives are spirantized, the effects are enormous. Most words contain at least one spirantized consonant, and in many words all consonants have been spirantized, as for example in Riffian *θçəððβəð* < *tkədbəd* ‘you lied’.

Spirantization is blocked by a preceding liquid or a preceding homorganic nasal, e.g. Riffian *θandint* < *tandint* ‘city’ (not *θandinθ*). In some variants, other preceding consonants have the same effect. Mauritanian Zenaga and the language of the Tunisian island of Djerba have no spirantization in the initial position.

Although originally the result of a regular phonetic process, most spirantized consonants have acquired phonemic status in the affected dialects. This is due to the development of new non-spirantized short consonants, either by the introduction of non-spirantized forms in borrowings or by the irregular shortening of a long consonant. In the

Table 2.4 *Vowel systems in two Berber languages.*

Tashelhiyt	i		u
		a	
Ayer Tuareg	i		u
	e	ə	
		ǣ ¹	o
		a	

following Riffian example, the latter process is attested twice: *itawi-d* ‘he brings’ < **γəttawəy-dd*, where both the Imperfective marker **tt-* and the deictic clitic *dd* have been shortened without being spirantized.

2.2.2 Vowels

Berber languages differ considerably as to their vowel systems. Languages such as Tashelhiyt have only three phonemic vowels, while Tuareg and Ghadames Berber have a seven-vowel system (see table 2.4).

In normal speech, central vowels are pronounced shorter than peripheral vowels (which, in this discussion, include *a*). There exists discussion as to the analysis of the central–peripheral contrast. While phonetic data suggest that the main difference lies in vowel quality (see Louali 2000), Tuareg metrification, which is quantificational, shows that in this language central vowels are treated as shorter segments than peripheral vowels (e.g. Mohamed and Prasse 1989: 11ff.). Most scholars call *ə* and *ǣ* short vowels, whereas the peripheral vowels are referred to as plain vowels. Systems with three plain vowels and one central vowel, *ə*, of questionable phonemic status, are standard in Northern Berber. Eastern Berber and Tuareg systems have more vowel phonemes. Vowel-length oppositions other than the one concerning central vs plain vowels are rare in Berber and are always the result of consonant loss, e.g. in Riffian due to the loss of **r* and in Zenaga of Mauritania due to the loss of **β*. The so-called ‘over-long’ vowels of Tuareg have now been re-analysed as plain vowels under stress (see especially Louali and Philippon (2005) and Heath (2005)).

2.2.2.1 Central vowels

One of the major problems in Berber phonology is the analysis of the central (or short) vowel system. All Berber languages, with the exception of Mauritanian Zenaga, have one or two short central vowels, which cannot be interpreted as simple allophones of plain vowels. Some languages allow central vowels both in closed and in open syllables; in these languages the phonemic status of the central vowels is beyond doubt. In other languages, schwa is only allowed in closed syllables. In these languages the presence

and absence of schwa can be predicted in most cases, and therefore its phonemic status is questionable.

Central vowels in non-final open syllables are attested in Tuareg and in Libyan Berber. In Tashelhiyt, they occur in medieval texts (see van den Boogert 2000) but not from the sixteenth century on. In these dialects the position of the central vowels cannot be predicted from the structure of the word. They can contrast with the absence of a vowel. Compare, for example, Ghadames *i-βōār* 'he mentioned' vs *abōār* 'part of a door', and Iwellemmeden Tuareg *talākat* 'iron ring' and *elāki* 'mattress put behind a saddle' vs *talkit* 'regression'.

A number of varieties which permit central vowels in open syllables present an opposition between two central vowels, *ə* and *ǎ*. This opposition is well documented in Ghadames and in Tuareg. The contrast may be shown by the following Ghadames forms: *βərǧ* 'dream!' vs *aβārǧ* 'beam' (cf. also *ǎβrǧ* 'pulverize!').

Modern Northern Berber languages do not allow central vowels in open syllables. None of these variants has more than one central vowel. In fact, schwa is a problematic segment here, phonetically as well as phonologically. The pronunciation of schwa differs greatly according to context, speech tempo, and dialect. In many dialects, it is basically a short central vowel that undergoes various assimilations to adjacent consonants, especially to semivowels. In some contexts and speech tempos, it is hardly audible, although in many varieties native speakers, when asked, show a clear notion of its presence, even when it seems to be phonetically absent. On the other hand, schwa may be lengthened in the same way as plain vowels in certain intonation types. An alternative formulation states that what is called schwa here is in fact the inherent syllabicity of a consonant, which may have different pronunciations depending on the consonant and on other factors, such as speech tempo. In the following, this 'consonantal syllabicity' will be written by the sign <ə> put before the consonant.

The main issue at stake in the analysis of Northern Berber schwa (or consonantal syllabicity) is the fact that it seems to function as a syllable-building device, i.e., schwa is inserted in order to create well-formed syllables. Following Dell and Elmedlaoui (1985), I will refer to this process as 'syllabification'.

In Northern Berber two types of syllabification are found. In the first type the place of schwa-insertion (or, to put it differently, the choice of the syllabified consonant) is governed by the inherent sonority of the segments in a string. In the second type of syllable building, schwa is inserted from right to left between two consonants. Because in this type only the formal structure of the string plays a role and the nature of the consonant is of no importance, it will be called structure-based insertion or syllabification. In both types, schwa in an open syllable (or, in other terms, two adjacent syllabic segments) is forbidden. In structure-based syllabification, this leads to the preponderance of insertions such as |ccc| > |ccəc|.

Table 2.5 *Sonority-based syllabification, Tashelhiyt examples.*

Underlying	Syllabification	
<i>iɣml</i>	<i>iɣ.məl</i>	'it (M) went mouldy'
<i>isl̩m</i>	<i>i.səl̩m</i>	'it (M) went numb'
<i>tzmt</i>	<i>tzəmt ~ t.zəmt</i>	'it (F) is stifling'
<i>utx=k</i>	<i>u.təxk</i>	'I struck you'
<i>ra tkti</i>	<i>ra.tək.ti</i>	'she will remember'
<i>tftkt</i>	<i>təf.tək.t</i>	'you suffered a sprain'

Source: Dell and Elmedlaoui (1985: 112–13).

In a number of dialects (especially Central Moroccan Berber), the two types are combined. The influence of sonority is restricted to certain segments (vowels, semivowels, liquids and nasals), while the other segments are syllabified according to the second type. Syllabification that is exclusively based on sonority is attested only in Tashelhiyt. Outside of central and southern Morocco, only structure-based syllabification is found.

Sonority-based syllabification In a classic article, Dell and Elmedlaoui (1985) present an analysis of Tashelhiyt syllable-building devices. Their model explains the syllable structure of words and phrases in isolation, but also predicts the situation in larger parts of discourse. The analysis is based on three principles.

- (1) Two syllabic segments cannot be adjacent.
- (2) Segments have an inherent sonority. The inherent sonority depends on the type of segment, and can be represented as a hierarchy. According to Dell and Elmedlaoui, this sonority scale, which is supposed to be universal, is the following: *a* > *i/y*, *u/w* > liquids > nasals > voiced fricatives > voiceless fricatives > voiced stops > voiceless stops.
- (3) Syllabification follows the sonority hierarchy, the first segments to be syllabified in a string being the highest in the hierarchy, the last being the lowest in the hierarchy. Given an appropriate context, any segment may become syllabic.

Compare table 2.5, which illustrates the principles in Tashelhiyt.

According to Dell and Elmedlaoui (1985), there exists no phonemic contrast between the semivowels [w], [y] on the one hand and the high vowels [u], [i] on the other hand. Vocalic realizations are found when the phoneme is in a syllabic position, while the semivowels are found when the phoneme is in a non-syllabic position. This correctly describes most instances of *y*, *w*, *i*, and *u* in Tashelhiyt, but fails to predict what happens

Table 2.6 *Structure-based syllabification, Figuiq examples.*

Underlying form	Phonetic realization	
<i>ils</i>	<i>i.ləs</i>	‘tongue’
<i>šrz</i>	<i>(ə)š.rəz</i>	‘plough!’
<i>tfhm</i>	<i>təf.həm</i>	‘she understands’
<i>itdɣdy</i>	<i>it.dəɣ.dəɣ</i>	‘he breaks to pieces’
<i>bddl</i>	<i>bəd.dəl</i>	** <i>bddəl</i> ‘change!’
<i>tssdrɣl</i>	<i>təs.s.dər.ɣəl</i>	** <i>tsəs.dər.ɣəl</i> ‘she blinded’
<i>iffxs</i>	<i>iff.xəs</i>	** <i>i.fəf.xəs</i> ‘it started to blossom’

Source: Kossmann (1995, 1997).

when two segments of this type are adjacent. In fact, one finds here two different solutions: either the first segment is syllabic, or the second. These solutions are lexically determined, e.g. *abrzzuy* ‘piece of bread or meat’ but *isswi* ‘irrigation’. It may therefore be preferable to differentiate between high vowels and semivowels (van den Boogert 1997: 247–9 and 253).

In languages with sonority-based syllabification, the position of the syllabic peak is entirely predictable. There is no reason to posit a central vowel phoneme (or phonemic consonantal syllabicity) there.

Structure-based syllabification Most analyses of syllable building in the Northern Berber languages in which consonantal sonority does not play a role consider schwa as an instance of regular vowel-insertion procedures. In Berberology, this analysis is proposed by followers of French structuralism (beginning with André Basset), as well as by advocates of non-concatenative phonology (e.g. Bader 1985; Dell and Tangi 1992). It will be called here ‘structure-based syllabification’ in order to distinguish it from ‘sonority-based syllabification’, as treated above. The main rules and restrictions in structure-based syllabification are the following.

- (1) In a string of two consonants, schwa is inserted. Insertion is from right to left.
- (2) Schwa cannot occur in open syllables.
- (3) A long consonant can be ambisyllabic, and cannot be dislocated.

Some Figuiq examples, presented according to the insertion analysis appear in table 2.6.

These insertion rules predict the place of schwa in the great majority of masculine Berber nouns and most verbal forms in the relevant dialects, but there are a number of problematic forms. In the first place, there exist a good number of lexical exceptions

which have |əcc| rimes instead of the expected |cəc| rimes. Most of these are borrowings from Maghribine Arabic, which has different syllabification procedures. A small number of Berber nouns have similar syllabification, e.g. Figuiɣ *adəxs* ‘colostrum’, *amərd* ‘small grasshopper’, *inərz* ‘heel’.

The behaviour of nominal and verbal suffixes poses important problems for a strictly phonetic analysis (see Kossmann 1995). In the languages under investigation, there exist some consonantal suffixes which are syllabified (e.g. imperative masculine plural *-ət*, as in Figuiɣ *šərz-ət* ‘plough!’), while other consonantal suffixes are not syllabified (e.g. nominal feminine singular *-t*, as in Figuiɣ *ta-məsləm-t* ‘Muslim woman’). It is not useful to explain this by positing a difference in the type of boundary between the lexical basis and the suffix. In the first place, there is no reason to assume that verbal inflection would be different in principle from noun inflection. In the second place, the masculine plural suffix of Berber nouns *-ən*, which belongs to the same paradigm as the feminine singular suffix *-t*, does allow for schwa insertion.

As noted by Dell and Tangi (1992: 134), most counter-examples to syllabification rules have a coronal obstruent as their last segment. One should note however, that this is not always the case (e.g. Figuiɣ *ššərh* ‘explication’) and that in the majority of cases final coronal obstruents are not exempted from syllabification (e.g. Figuiɣ *imrəz* ‘he has a head wound’ as opposed to *inərz* ‘heel’). Proposals to treat these segments as extra-prosodic are therefore not helpful.

In order to deal with this situation, Kossmann (1995 and 1997) has proposed the positing of phonemic (‘inherent’) /ə/ in those cases where schwa is not predictable by rule. In addition to this, syllabic structures are obtained by a three-step derivation.

- Rule 1. Base-level insertion: schwa is inserted from right to left into the basis of the word – i.e. the word without affixes – unless this would lead to schwa in an open syllable.
- Rule 2. Word-level resyllabification: when an open syllable with schwa is created due to suffixation, the basis is resyllabified from right to left. If not, the structure remains the same.
- Rule 3. Splitting of three-consonant groups. When, as a result of the two preceding rules, a group of three consonants (or of two consonants, one of which is long) appears, schwa is inserted, unless this would lead to schwa in an open syllable. See table 2.7.

An alternative solution would be to posit underlying schwa everywhere, in addition to vowel metathesis in all bases, a solution favoured by Jilali Saïb (Saïb 1994). According to this analysis, in those cases where the addition of suffixes leads to schwa in an open syllable, schwa is metathesized.

Which analysis is preferred depends of course on the theoretical premises one has. A phonetic interpretation of schwa insertion cannot account for all forms, and some kind

Table 2.7 *The derivation of some Figuig forms according to Kossmann (1995).*

Underlying form	Insertion rule 1	Insertion rule 2	Insertion rule 3	
<i>a-mərd</i>	<i>a-mərd</i>	<i>amərd</i>	<i>amərd</i>	'small grasshopper'
<i>a-slm</i>	<i>a-sləm</i>	<i>asləm</i>	<i>asləm</i>	'fish (M)'
<i>ta-slm-t</i>	<i>ta-sləm-t</i>	<i>tasləmt</i>	<i>tasləmt</i>	'fish (F)'
<i>fhm</i>	<i>fhəm</i>	<i>fhəm</i>	<i>fhəm</i>	'understand (SG)!'
<i>fhm-ət</i>	<i>fhəm-ət</i>	<i>fəhmət</i>	<i>fəhmət</i>	'understand (PL:M)!'
<i>i-slm-an</i>	<i>i-sləm-an</i>	<i>isləman</i>	<i>isləman</i>	'fishes (M)'
<i>t-fhm</i>	<i>t-fhəm</i>	<i>tfhəm</i>	<i>təfhəm</i>	'she understands'
<i>t-fhm-əmt</i>	<i>t-fhəm-əmt</i>	<i>təfhəmət</i>	<i>təfhəmət</i>	'you (PL:F)'

Source: Kossmann (1995).

Table 2.8 *Examples of distinction between Aorist and Perfective by stress.*

	Aorist 3SG:M	Perfective 3SG:M	
Ghadames	<i>y-ákənəf</i>	<i>i-knǎf</i>	'roast'
Djebel Nefusa	(a) <i>y-əfhəm</i>	<i>y-əfhəm</i>	'understand'
Elfoqaha	(a) <i>y-əgzəm</i>	<i>y-əgzəm</i>	'cut'

of ad hoc solution is needed in order to explain the exceptions. The intermediate analysis of Kossmann (1995 and 1997) accounts for all forms but demands a rather complicated set of derivational rules. An analysis according to which schwa is always phonemic is much simpler in rule apparatus but misses important generalizations.

2.2.3 Suprasegmentals

Berber languages have no lexical tones. In addition, it is generally assumed that Northern Berber languages have no lexical stress either. Although it is possible to define some rules for the accentuation of words in isolation, the rules may refer to sentence intonation rather than to lexical stress (see Chaker 1995: 97–116). In the Eastern dialects and in Tuareg, lexical stress plays a more important role, but even in these languages, stress is only rarely used to distinguish lexical items.

The Tuareg system is quite complicated (Louali and Philippson 2005; Heath 2005). Some nouns and verb forms have lexically determined stress on a certain syllable, while in other forms stress falls by default on the ante-penultimate syllable.

Stress plays an important, although not always well understood, role in the grammatical structure of those Berber languages which have it. In the verbal system of Eastern and Central Libyan dialects, for example, stress is used to distinguish between Aorist forms and Perfective forms (see table 2.8).

Table 2.9 Syntactically conditioned stress fronting in Eastern Berber.

	Form in isolation		Stress fronting	
Siwa	<i>agbǝn</i>	‘house’	<i>ǝlɓab n ǝgbǝn</i>	‘the door of the house’
	<i>tasárt</i>	‘mill’	<i>fus n tásart</i>	‘the handle of the mill’
	<i>amán</i>	‘water’	<i>y áman</i>	‘into the water’
Nefusa	<i>uššǝn</i>	‘jackal’	<i>ǝssag n úššǝn</i>	‘the leg of the jackal’
	<i>ɣasrú</i>	‘castle’	<i>izun úššǝn</i> <i>s ɣásru</i>	‘the jackal divided’ ‘from the castle’

Sources: Vycichl (1981 – Siwa) and Brugnatelli (1986 – Djebel Nefusa).

A number of Eastern dialects manifest stress fronting in certain syntactic contexts (Vycichl 1981; Brugnatelli 1986; Louali and Philipsson 2005); see table 2.9.

2.3 Lexical categories

2.3.1 Overview

All Berber languages attest to the following lexical categories: nouns, verbs, pronouns, adverbs, prepositions. Ideophones occur, but are much less prominent than in many other African languages: both in number and in frequency in actual discourse, they are reminiscent of the restricted standard European usage (English *boom!*).

The most problematic lexical category is the adjective. Tuareg lacks this category altogether and uses relative clauses with stative verb forms in contexts involving modification of a noun. A similar situation is found in Tashelhiyt, which has only one adjective, *lʒdid* ‘new’, which is a loanword from Arabic. Other Northern and Eastern Berber languages have nominal forms corresponding to the adjective. These forms have all the morphological characteristics of normal nouns. They can be both heads of an NP and attributes to the NP head. The fact that they can modify a nominal head is the only characteristic which makes them different from normal referential nouns. Therefore, in these languages, adjectives are best considered a sub-category of the noun.

Recently, Catherine Taine-Cheikh (2003) proposed considering the Berber stative conjugation as an adjectival formation. Following this argumentation, one could consider the adjective as a category different from, but close to, the verb.

2.3.2 Derivation of lexical categories

The Berber lexicon is defined by means of abstract ‘roots’, which are unspecified for the lexical category they belong to. The lexical category is determined by the means of derivation. This general statement must be qualified, as there exist many nouns which

have no verbal counterpart and whose roots can therefore be considered inherently nominal. With very few exceptions, verbs always have at least one nominal counterpart, the Verbal Noun (see Galand 2002b).

The abstract roots are mainly consonantal. In the classical analysis of Berber (and Semitic) word formation, consonantal roots receive vowel schemes (as well as consonant lengthening), which contain grammatical information, e.g. aspect. This is illustrated by the following Ayer Tuareg forms: *t-əkrəḍ* (Aorist 3SG:F) and *t-əkrǎḍ*, (Perfective 3SG:F) ‘scrape’. In this example, the vowel scheme of the Aorist is -ə-ə-, while that of the Perfective is -ə-ǎ-.

In order to express an opposition, several different sets of vowel schemes may be used. Thus, in addition to the scheme found in the Tuareg forms *t-əkrəḍ* – *t-əkrǎḍ* above, Tuareg has a different set of vowel schemes for these aspects with verbs of a slightly different structure, e.g. *t-ǎkkǎrǎḍ* (Aorist 3SG:F) and *t-əkkərǎḍ*, (Perfective 3SG:F) ‘force’. In this verb, the vowel scheme is Aorist ǎ-ǎ-ǎ vs Perfective ə-ə-ǎ.

The choice of the set of aspectual schemes is to a large extent ruled by the structure of the verb root, including the number of consonants involved.

A strict analysis with consonantal lexical roots and vocalic grammatical schemes is difficult to maintain for all verbs, however. In a synchronic analysis, assuming that all abstract roots are exclusively consonantal is highly problematic, and one finds many lexical verbs, for instance, which are only differentiated by means of their vowel. This is illustrated by the following verbs in Iwellemmeden Tuareg (Aorist imperative singular forms), which share the consonants *f* and *l*: *əfəl* ‘leave; be covered (by a roof)’; *afəl* ‘be tanned’; *ǎflu* ‘appear suddenly’; *ful-ət* ‘reinforce (a well) with wooden beams’; *fǎllu* ‘count fully on’. Historically, at least some of these verb forms contain consonants no longer present in modern Tuareg (cf. Vycichl 2005: 68–73; Prasse 1972–4; Kossmann 2001b).

The vowels in these different forms may change in other aspects. When the basic structure of the verb, including vowel positions, is known, one can make predictions about the nature of these changes. Due to phonetic developments in Northern Berber (especially the loss of the opposition between ə and ǎ), vowel schemes have collided in many cases, and an analysis featuring grammatical vowel alternations on a more local level (which one might call ‘ablaut’ or ‘apophony’) may be more economical than a vowel scheme analysis. In most cases it is arbitrary to consider one of the vowel schemes basic, and the others derived from this vowel scheme. They constitute instead a pattern of vowel scheme sets without obvious directionality.

There is no regular compounding in Berber. There do exist, however, compound words. These are mainly found in the semantic domains of plant names and, to a lesser extent, body parts, e.g. Eastern Riffian: *a-γəsmir* ‘lower jaw’ (i.e. ‘beard-bone’, compare *iγəss* ‘bone’ and *θ-mar-θ* ‘beard’) and *a-γəzδis* ‘rib’ (i.e. ‘belly-bone’, compare *iγəss*

Table 2.10 Derivation on the basis of the Ayer Tuareg verb root KRZ.

Basis (without derivation)	KRZ
MAN stem (with the Short Perfective vowel scheme ə-ă-)	əkrăz
Inflectional prefix (1PL <i>n</i> -)	nəkrăz
(Extended) basis (with the sibilant causative derivation)	S-KRZ
MAN stem (with the Short Perfective vowel scheme ə-ə-ă-)	əzzəkrăz
Inflectional circumfix (2PL:M <i>t</i> -...-ă <i>m</i>)	təzzəkrăzăm
(Extended) basis (with the middle derivation <i>mm</i> -)	M-KRZ
MAN stem (with the Imperfective vowel scheme <i>a-ă-a</i> + the Imperfective prefix <i>t</i> -)	tamăkrăz
Inflectional suffix (3PL:M -ă <i>n</i>)	tamăkrăzăn

‘bone’ and *a-ŷəddis* ‘belly’). It is uncertain whether these words represent remnants of an earlier regular compounding.

2.4 Verb morphology

2.4.1 General structure of the verb

The structure of the verb can be described by the following derivational account. The lexical part of the verb is constituted by an abstract root (which is not always exclusively consonantal in Berber). This can be extended by one or more derivational prefixes, which add modifications in voice. The ensuing form will be called the (extended) basis. To the basis (whether extended or not), a vowel scheme is applied, which adds information about mood, aspect, and negation (MAN). In addition to the vocalic scheme, some Imperfective forms have a MAN prefix *t(t)*-. The ensuing form will be called the MAN stem. To this MAN stem, inflectional prefixes and/or suffixes are added, which convey information about person, gender, and number. This is a word. This derivation is illustrated in table 2.10 by the following Ayer Tuareg verb forms, based on the abstract root KRZ: *nəkrăz* ‘we obtained’, *təzzəkrăzăm* ‘you (PL:M) made obtain’ and *tamăkrăzăn* ‘they (always) heal (fractured bones)’.

Although it is impossible to decide which aspectual vowel pattern is basic, for the sake of convenience the Aorist form is taken as the citation form.

2.4.2 Derivational prefixes

Berber has several derivational prefixes which may be attached to the verb root. Derived verbs are inflected for all MAN formations, with the possible exception of the passive, which seems to be excluded in the Imperfective in some Berber languages (e.g. Riffian, Cadi 1989–90: 265).

2.4.2.1 The 'factive' prefix *ss-*

The prefix *ss-* is a valency-increasing morpheme. It has the following functions.

- (1) It is sometimes added to nouns to derive verbs. The result may be intransitive or transitive. Some languages also use the prefix *ss-* in order to make verbs from onomatopoeia. E.g. Ouargla: *awal* 'word' > *ss-iwəl* 'speak'.
- (2) It is added to an intransitive or a labile verb (i.e. a verb which may be used as transitive or intransitive without additional marking) to make a transitive verb. E.g. Ouargla: *kkəfkəf* 'foam (verb)' > *ss-kəfkəf* 'make (something) foam'; *kkərdəd* 'be rough' > *ss-kərdəd* 'render (something) rough'; *msəl* 'stop up, be stopped up' > *ss-əmsəl* 'stop up (something)'.
- (3) It is added to transitive or labile verbs to make them causative, e.g. Ouargla: *əmdī* 'taste (something)' > *ss-əmdī* 'make taste (something)'; *qqən* 'attach (something) / be attached' > *ss-əqqən* 'make (somebody) attach (something)'.

The function of transitivizer of an intransitive verb (2) is productive in many (possibly all) Berber languages. Valency increasing with transitive verbs (3) is in many languages restricted to a small number of verbs; in some languages (Tuareg, Ouargla), it is productive.

2.4.2.2 The 'middle' prefix *mm-* ~ *nn-*

This prefix has a number of functions, including the reciprocal, e.g. Central Moroccan Berber: *rdəl* 'fall, make fall' > *m-ərdəl* 'make each other fall'; *rḍəl* 'lend to somebody' > *m-ərdəl* 'lend to each other'. There exists important dialectal variation as to the semantics of this prefix, which can have several other 'middle' connotations and is not everywhere exclusively reciprocal, as it is in Central Moroccan Berber. It is important to note that the *mm-* derivation is only rarely used as a marker of the reflexive, for which a circumlocution is used. In those Eastern Berber variants which lack the passive morpheme *tt-* (etc.), the nasal prefix functions as a passive, e.g. Ghadames *ənn* 'kill' > *əmm-ənn* 'be killed'.

2.4.2.3 The 'passive' prefix *tt-*, *twa-*, etc.

There exists much dialectal variation in the form of the passive prefix. The passive prefix is used in order to make transitive verbs intransitive. In most languages, we are dealing with an 'agent-less' passive: it is not possible to express the agent of the passive by means of an agent-phrase. Figuig Berber makes a distinction between two different passive morphemes. The first morpheme, *twa-* is a true passive where the speaker has the agent in mind. It can be used with an agent phrase. The second morpheme, *tt(u)-*, has been called a medio-passive, as the speaker does not have the agent in mind.

2.4.2.4 Combinations of derivational prefixes

Derivational prefixes can be combined. In Tuareg, there seem to be no morphological restrictions on such combinations, as is illustrated by the following verb forms from Iwellemmeden Tuareg (data from Aghali-Zakara (2001), supplemented by forms from Prasse *et al.* (2003)): *əgru* (understand:A) ‘discern, understand’; *sə-gru* (CAUS-understand:A) ‘make discern, make understand’; *təwə-gru* (PASS-understand:A) ‘be discerned, be understood’; *nā-gru* (MED-understand:A) ‘be wise, be tranquil’; *sə-nnə-gru* (CAUS-MED-understand:A) ‘have discernment, be intelligent, examine attentively’; *təwə-sə-nə-gru* (PASS-CAUS-MED-understand:A) ‘be examined attentively’; *nə-mə-gru* (MED-MED-understand:A) ‘understand each other’; *mə-sə-gru* (MED-CAUS-understand:A) = *mə-sə-sə-gru* (MED-CAUS-CAUS-understand:A) ‘make oneself understood to each other’; *sə-nnə-mə-gru* (CAUS-MED-MED-understand:A) ‘make each other understand, create mutual understanding’; *təwə-sə-ssə-gru* (PASS-CAUS-CAUS-understand:A) ‘be made to understand’; *nə-mə-təwə-sə-ssə-gru* (MED-MED-PASS-CAUS-CAUS-understand:A) ‘make understand each other’. Such freedom of combination is exclusively found in Tuareg. Outside Tuareg, combinations of more than two prefixes are rare. In some languages, certain combinations have been given specific nuances of meaning that do not constitute a simple sum of the semantics of their constituents. Thus, in Figuié the combination *m-s-* is used to express the reciprocal, while Tuareg uses for this purpose the combination *nə-mə-* (< *mə-mə-*).

2.4.3 Reduplication

In addition to verbal stems that have a more or less simple structure, Berber languages have a large number of alternative root formations, which attest to different forms of reduplication. The functions of some of these groups are clear; in other cases, no specific semantics seem to correlate with the use of a certain reduplication pattern. In all languages except Tuareg, these reduplicating-stem types are normally not derived from attested non-reduplicated roots. Tuareg is different from the other languages, as full reduplication is used as a derivational device for expressing pluractional meaning, as shown in the following forms from Iwellemmeden Tuareg (W) and Ahaggar Tuareg (H): *əbəd* ‘make a hole’ > (*b*)*bādbāḍ* ‘make here and there a hole’ (W); *əfrəs* ‘cut’ > *fərəsfərəs* ‘cut in several pieces’ (W); *əbdəy* ‘beat violently’ > *bədəybədəy* ‘beat here and there violently’ (H); *ənḍər* ‘jump repeatedly up and down’ > *nəḍərnəḍər* ‘go up and down (buttocks on camel)’ (H). This type of formation is not found elsewhere in Berber. It is probably due to sub-Saharan influence, either from Hausa or from Songhay, which both have pluractionals derived by reduplication.

Table 2.11 *Aspectual stems of some classes of verbs in selected Berber languages.*

	Figuiğ	Ghadames	Ayer Tuareg	Mali Tuareg
Aorist	<i>əlməd</i> <i>atəf</i>	<i>ālməd</i> <i>atəf</i>	<i>əlməd</i> <i>atəf</i>	<i>əlməd</i> <i>aləm</i>
Imperfective	<i>ləmməd</i> <i>ttatəf</i>	<i>lämmäd</i> <i>ttatäf</i>		<i>lämmäd</i> <i>tiləm</i>
Secondary Imperfective			<i>lämmäd</i> <i>tätäf</i>	<i>lämmäd</i> <i>tíləm</i>
Negative Imperfective	<i>ləmməd</i> <i>ttitəf</i>	<i>ləmməd</i> <i>ttitəf</i>	<i>ləmməd</i> <i>titəf</i>	<i>ləmməd</i> <i>tiləm</i>
Perfective	<i>əlməd</i> <i>utəf</i>	<i>əlmäd</i> <i>utäf</i>	<i>əlmäd</i> <i>otäf</i>	<i>əlmäd</i> <i>oläm</i>
Secondary Perfective			<i>əlmád</i> <i>otäf</i>	<i>əlmád</i> <i>olám</i>
Negative Perfective	<i>əlmid</i> <i>utif</i>	<i>əlmed</i> <i>utef</i>	<i>əlmed</i> <i>otef</i>	<i>əlmed</i> <i>olem</i>
Future		<i>əlmäd</i> <i>utäf</i>		

Sources: Kossmann (1997); Lanfry (1968); Prasse *et al.* (2003); Prasse and ägg Albostañ (1985).

2.4.4 Mood-Aspect-Negation stem formations (MAN stems)

2.4.4.1 *Inventory*

As shown above, MAN stem formation consists of the application of certain vowel schemes to the root. There are different sets of vowel schemes available, which roughly correspond to certain root types; thus most three-consonant verbs without a plain vowel share the same MAN vowel schemes, while four-consonant verbs without a plain vowel have different MAN vowel schemes. Therefore, Berber verbs can be classified according to several formal classes, which are linked to different sets of vowel schemes. Numerically most important is the aforementioned class of three-consonant verbs without a plain vowel. As shown by Prasse (1972–4), it is possible to attach to this class a number of other verbal classes that contain plain vowels and have fewer root consonants. Table 2.11 illustrates two members of these classes in a number of Berber languages, one with three consonants and no plain vowel (LMD ‘learn’), the other with two consonants and an initial plain vowel (vTF ‘enter’, Mali Tuareg vLM ‘open’). Blank boxes refer to aspectual stems that are not attested in the language in question.

The negative MAN stems are exclusively used after a negative particle. It should be emphasized that the choice of the MAN stem is not the only marker of MAN distinctions.

Table 2.12 *Uses of MAN stems in Figuig Berber.*

MAN stem	Example	Main contexts in which the MAN stem is used
Aorist	<i>atəf!</i> <i>y-atəf</i>	imperative consecutive
<i>ad</i> + Aorist	<i>ad y-atəf</i>	non-realized (e.g. irrealis, future)
Perfective	<i>y-utəf</i>	past action state (including resultant state)
<i>ul</i> + Negative Perfective	<i>ul y-utif</i>	negated past action negated state
Imperfective	<i>ttatəf!</i> <i>i-ttatəf</i>	habitual/iterative imperative simultaneous action (e.g. progressive) habitual, iterative, durative
<i>ad</i> + Imperfective	<i>ad i-ttatəf</i>	non-realized habitual/iterative
<i>ul</i> + Imperfective	<i>ul ttatəf!</i>	negated imperative
<i>ul</i> + Negative Imperfective	<i>ul i-ttitəf</i>	negated simultaneous action negated habitual, iterative, durative negated non-realized

Source: Kossmann (1997: 347ff.).

There exist a number of pre-verbal particles that convey MAN distinctions in addition to the expression of MAN in the verbal basis.

The main marker of MAN distinctions is the choice of vocalic pattern. In addition, there is one MAN prefix to the verb, the marker *tt-* for the Imperfective, which is used with certain formally defined verbal classes (e.g. verbs with an initial plain vowel, such as Figuig *atəf* ‘enter’ in table 2.10). This prefix occurs before the derivational prefixes but after prefixal Subject markers. Interestingly, it does not combine with the causative derivation, which may be a hint to the original derivational nature of this prefix (Kossmann 2002).

In table 2.12, the main uses of the MAN stems are given for one language, Figuig Berber, which constitutes a typical Northern Berber system, and arguably constitutes a system similar to that of Proto-Berber. In addition to the MAN stem distinctions, two pre-verbal particles are taken into account, *ad*, which marks a non-realized event (e.g. irrealis and future), and the pre-verbal particle *ul*, which marks negation. The Imperatives have special inflections, while the other forms all share the same inflectional paradigm. In the Imperatives, the examples give the singular form of the verb *atəf* ‘go in’. In the other examples third-person masculine singular forms of this verb are given, which have the 3SG:M prefix *y-* ~ *i*.²

More about the uses of the MAN stems is found below. Different dialects distinguish between different sets of verb stems, as shown in table 2.13.

Table 2.13 *MAN stem inventories in various dialects.*

	Proto-Berber	Kabyle	Figuiq	Ghadames	Mali Tuareg
Aorist	+	+	+	+	+
Imperfective	+	+	+	+	+
Secondary Imperfective	–	–	–	–	+
Negative Imperfective	+	–	+	+	+
Perfective	+	+	+	+	+
Secondary Perfective	–	–	–	–	+
Negative Perfective	+	+	+	+	+
Future	?	–	–	+	–

The differences between the dialects are due to several historical developments:

- Loss of the negative stems. The negative imperfective was lost in many varieties, including Tashelhiyt, Central Moroccan Berber, Kabyle, and Siwa. The negative perfective is more stable. It was lost in a few varieties of Tashelhiyt and in Siwa.
- Aspect stem split. In Tuareg, the Perfective and the Imperfective have undergone a split. In addition to the original Perfective and Imperfective MAN stems, which certainly go back to Proto-Berber, Tuareg has introduced two (historically) secondary stems. These stems are both morphologically derived from the original stems by means of vowel lengthening and the insertion of a fixed accent. In an early stage of Tuareg, this morphological device was probably used for a differentiation between non-simultaneous events (for which the original form was used) and simultaneous events (for which the secondary forms were used) (see Leguil 2000). This division is still present in the Perfective in all Tuareg dialects. The opposition of simultaneity has been blurred in the Imperfective. In Malian Tuareg, traces of it persist, while all other Tuareg dialects have generalized the Secondary Imperfective in all contexts, and lost the original Imperfective formation altogether.
- The existence of a future stem. Ghadames Berber has a unique verbal stem, termed ‘Future’ (Lanfry 1968), which is used only with the particle *d*, the local variant of the pre-verbal particle *ad* ‘NON-REALIZED’. The future stem has unique person, gender, and number marking. In most verbal classes, the vocalization of the Future is homophonous either with the Perfective (e.g. triradical verbs), or with the Aorist (e.g. quadriradical verbs). In some verbal classes it has a unique vocalization, which proves it constitutes a MAN stem on its own. Its history is not fully clear (see Kossmann 2000b).

Table 2.14 *Imperfective stems in Ayt Waryaghel Riffian (verb řmǎð 'learn')*.

Morphological device	Meaning	Example
Gemination	Simultaneous/progressive	řǎmmǎð
Gemination + prefix <i>t-</i>	Habitual	třǎmmǎð
Gemination + prefix <i>t-</i> + vowel insertion	Iterative	třǎmmað

Source: Lafkioui and Kossmann (2009).

Table 2.15 *The Perfective and the Secondary Perfective in Siwa.*

Perfective	Secondary Perfective	
<i>i-γǎðb-ǎn</i> 3PL-be.angry:P-3PL	<i>i-γǎðb-ina</i> 3PL-be.angry:P-3PL:P2	'they are angry'
<i>n-ǎčǎ</i> 1PL-eat:P	<i>n-ǎčǎya</i> 1PL-eat:P:P2	'we ate'
<i>uγ-ǎm=tǎn</i> buy:P-2PL=3PL:DO	<i>uγ-ǎm=tina</i> buy:P-2PL=3PL:DO:P2	'you (PL) bought them'

- In some Riffian dialects, an extensive split-up of the original Imperfective stem has taken place. The exact semantics of the oppositions are not entirely clear, but they seem to consist of differentiations inside the broader semantics expressed by the Imperfective stem in other Berber languages. In some verb types, three different stems have come out of this split, as shown in table 2.14.
- The easternmost Berber languages, Siwa and Awdjilah Berber, oppose a simple Perfective form to a Perfective extended by a partly suffixed, partly inserted element (glossed 'P2'). This morpheme is applied to the inflected verb *plus* its verbal clitics e.g., in Siwa (the marking of the Secondary Perfective is in bold type) (see table 2.15). On the functions of this form, see Leguil (1986).

As a result of the loss of phonological opposition in the central (short) vowel system of Northern Berber, some MAN stems have become homophonous in many verbs. In Riffian Berber, for example, the formal opposition between Aorist and Perfective is seen in only 6 per cent of the verbs (Cadi 1987: 55). This homophony follows formal lines and has no semantic correlates. Thus, in Riffian, if a verb consists of three consonants without a full vowel, Aorist and Perfective are homophonous, while a biradical verb without a full vowel in the Aorist has a different form in the Perfective. In spite of the infrequent incidence of the opposition, there is no reason to assume the system as such is breaking down: with those verbs where there has been no vowel coalescence, because

Table 2.16a *Vowel schemes in Tuareg.*

Type	Aorist	Perfective	Imperfective	
a	ə - ə ³ <i>əlməd</i>	ə - ä <i>əlmäd</i>	(ə) - ä - :ä (also subtypes with <i>tt-</i>) <i>əlämmäd</i>	'learn'
b	← ə <i>kələstəf</i>	← ä <i>äklästäf</i>	(with <i>tt-</i>)	'speak nonsense'
c	← ä <i>äqqätäs</i>	← ə - ä <i>əqqətäs⁴</i>	(with <i>tt-</i>)	'snap (thread)'

Table 2.16b *Vowel schemes in Ghadames.*

Type	Aorist	Perfective	Imperfective	
a	ä - ə <i>ärtək</i>	ə - ä <i>ärtäk</i>	(ə) - ä - :ä (also subtypes with <i>tt-</i>) <i>ärtätäk</i>	'be mixed'
b	← ə <i>əbrənšəl</i>	ä - ə - ä <i>äbrənšäl</i>	(with <i>tt-</i>)	'become adult'

Table 2.16c *Vowel schemes in Zenaga.*

Type	Aorist	Perfective	
a	a - ə <i>azgər</i>	ə - a <i>əzgar</i>	'go out'
b	← ə <i>əddərɣəy</i>	a - ə - a <i>əddərɣay</i>	'become blind'

the stem has a non-central vowel, the opposition is maintained and Aorist and Perfective are never confused.

2.4.4.2 *MAN stem formation*

In the structure of the system of vowel schemes, there exists a basic distinction between the vowel schemes of the Aorist, the Perfective, and (sometimes) the Imperfective. The vowel schemes of the other stems can be considered as derived from these basic vowel schemes. In Tuareg, the pattern of vowel schemes features three major types (see table 2.16a; the arrows indicate that any vowel preceding has the same quality).

In Ghadames, two main types of vowel scheme patterns are found (table 2.16b).

A similar system is found in Zenaga (see D. Cohen and Taine-Cheikh 2000), as seen in table 2.16c.

Table 2.16d *Vowel schemes in Tashelhiyt corresponding to Tuareg type (a).*

Aorist *ǎ - ə	Perfective *ə - ǎ	
<i>ak^wr</i>	<i>ukr</i>	‘steal’
<i>ddu</i>	<i>dda</i>	‘go’

Table 2.16e *Vowel schemes in Figuig, corresponding to Tuareg type (c).*

Aorist * ← ǎ	Perfective * ← ə - ǎ	
<i>llaz</i>	<i>lluz</i>	‘be hungry’
<i>ffad</i>	<i>ffud</i>	‘be thirsty’

Similar patterns are found when the verb contains plain vowels (*a* corresponding to ǎ, all other vowels corresponding to ə). This is often the result of compensatory lengthening because of consonant loss.

In Northern Berber the central vowel (contrast) has been lost, and only forms with plain vowels show traces of the old vowel scheme patterns. Pattern (a) is well attested, e.g. Tashelhiyt (table 2.16d).

The other patterns are less readily recognized in Northern Berber. However, forms such as the Figuig Berber verbs in table 2.16e could represent traces of Tuareg type (c).

Originally, these verbs may have had a four-radical structure *LXZX, in which the last consonant was lost without a trace (in Berber languages other than Figuig, such traces can be found in these verbs), while the loss of the second consonant led to compensatory lengthening, thus preserving the vocalic scheme.

2.4.5 Person-number-gender marking

Marking of person, number, and gender (PNG) of the subject is obligatory in all finite verbs. It takes place by means of prefixes, suffixes, or circumfixes, according to the PNG. An interesting feature of the verbal inflection is the difference it displays in its gender-marking system in comparison with the pronominal system. Although pronouns always distinguish between masculine and feminine in the second person singular, this distinction is not marked on the verb. On the other hand, the differentiation between masculine and feminine in the third person singular, which is absent in parts of the pronominal system, constitutes an integral part of verbal inflections.

In all Berber languages, the imperative has unique person, gender, and number marking. In many languages, one finds in addition a special PNG-marking system in the Perfective of a lexically determined set of verbs of permanent state (stative PNG). One

Table 2.17a *The four PNG-marking sets in Ghadames.*

	Imperative PNG	Normal PNG ⁵	Stative PNG	Future PNG
1SG		___-ǎŋ (< *-ǎŋ)	___-ǎŋ (< *-ǎŋ)	___
2SG	___	t-___-ət (< *-əd)	___-ət (< *-əd)	t-___
3SG:M		y-___	___	y-___
3SG:F		t-___	___-ǎt	t-___
1PL		n-___	___-it	n-___
2PL:M	___-ǎt	t-___-ǎm	___-it	t-___-ǎm
2PL:F	___-mǎt	t-___-mǎt	___-it	t-___-mǎt
3PL:M		___-ǎn	___-it	___-ǎn
3PL:F		___-nǎt	___-it	___-nǎt

Source: Lanfry (1968: 224).

Table 2.17b *Examples of PNG-marking in Ghadames.*

	Imperative PNG	Normal PNG (Perfective)	Stative PNG	Future PNG
1SG		<i>utǎf-ǎŋ</i>	<i>mǎttit-ǎŋ</i>	<i>utǎf</i>
2SG	<i>atəf</i>	<i>t-utǎf-ət</i>	<i>mǎttit-ət</i>	<i>t-utǎf</i>
3SG:M		<i>y-utǎf</i>	<i>mǎttit</i>	<i>y-utǎf</i>
3SG:F		<i>t-utǎf</i>	<i>mǎttit-ǎt</i>	<i>t-utǎf</i>
1PL		<i>n-utǎf</i>	<i>mǎttit-it</i>	<i>n-utǎf</i>
2PL:M	<i>atəf-ǎt</i>	<i>t-utǎf-ǎm</i>	<i>mǎttit-it</i>	<i>t-utǎf-ǎm</i>
2PL:F	<i>atəf-mǎt</i>	<i>t-utǎf-mǎt</i>	<i>mǎttit-it</i>	<i>t-utǎf-mǎt</i>
3PL:M		<i>utǎf-ǎn</i>	<i>mǎttit-it</i>	<i>utǎf-ǎn</i>
3PL:F		<i>utǎf-nǎt</i>	<i>mǎttit-it</i>	<i>utǎf-nǎt</i>

Source: Lanfry (1968: 224).

language, Ghadames Berber, has a fourth set of PNG affixes, used exclusively with the future stem. As an example, the maximal system of four different PNG-marking sets, as attested in Ghadames, is reproduced in tables 2.17a and 2.17b. The verb stem is marked by ___.

Compare the examples (vTF ‘enter’, MTT ‘be small’) in table 2.17b.

Here are some remarks about morphological variation within Berber:

- The first-person suffix in Ghadames, -ǎŋ, is historically derived from *-ǎŋ (or *-əŋ), which is the form found in most other dialects.
- The second-person suffix in Ghadames, -ət, goes back to *-əd as a regularized form of an assimilation with following consonant-initial clitics. The most commonly attested variant is -əd, but a number of languages have a pharyngealized dental instead: Kabyle -əḏ, Siwa -ət, etc. In several Southern Tuareg dialects the second-person singular suffix has been

Table 2.17c *Dialect variations in the stative PNG.*

	Type 1 (Ghadames, Kabyle, Zenaga)	Type 2 (Gourara, Nefusa, etc.)	Type 3 (medieval Tashelhiyt)
3SG:F	-ət	-yət	-ət
PL	-it	-ət	-ət

Source: Kossmann (2009).

Table 2.17d *PNG forms in Siwa.*

	Imperative PNG	Normal PNG	Example of normal PNG (verb 'open')
1SG		___-ax	<i>fətk-ax</i>
2SG	___	___-at	<i>fətk-at</i>
3SG:M		y-___	<i>y-əftək</i>
3SG:F		t-___	<i>t-əftək</i>
1PL		n-___	<i>n-əftək</i>
2PL	___-wət	___-əm	<i>fətk-əm</i>
3PL		y-___-ən	<i>yə-ftk-ən</i>

Source: Vycichl (2005).

replaced by a suffix *-ǎy* or *-ǎ*, introduced from the first-person singular. As a result, in these dialects, the main difference between the two persons lies in the presence or absence of the prefix *t-*, e.g. Ayer Tuareg: *otǎf-ǎ* 'I entered', *t-otǎf-ǎ* 'you entered'.

- In Zenaga the feminine forms of the plural (normal PNG) have the suffixes 2PL:F *-amɲad* (< **-ǎmɲāt*) and 3PL:F *-iɲ ~ -iɲad* (< **-ənɲāt*).
- There is some dialectal variation in the third-person singular feminine and plural forms of the stative (see table 2.17c).

In several languages which still have the stative PNG, the affixes of the normal PNG have been extended to all non-third-person plural forms. This is the case in Tuareg, among others.

If one allows for the already mentioned variations (and some others) and for the fact that the stative and the future PNG sets are not found in all Berber languages, one may say that the great majority of Berber languages have PNG forms similar to those of Ghadames. There is one major exception to this: the Berber language of Siwa, an oasis in western Egypt (see table 2.17d).

Berber languages show interesting variants in the PNG affixes of the first-person non-singular. Most important is the existence in some languages, e.g. Tashelhiyt, of special

Table 2.17e *Dual and plural PNG in cohortative contexts in Tashelhiyt.*

		example with ‘do’
I DUAL (M/F)	___-aɣ	<i>skr-aɣ</i>
I PL:M	___-ataɣ	<i>skr-ataɣ</i>
I PL:F	___-amtay	<i>skr-amtay</i>

Source: Aspinion (1953: 116).

Table 2.17f *First-person non-singular marking in Ghadames.*

		example with ‘sow’ (Aorist)
I DUAL / I PL:EXCL (M/F)	n-___	<i>n-ākɾəz</i>
I PL:INCL:M	n-___-ăt	<i>n-ākɾəz-ăt</i>
I PL:INCL:F	n-___-măt	<i>n-ākɾəz-măt</i>

Source: Lanfry (1968: 327–9).

dual forms in cohortative contexts, which show a category not expressed otherwise in the language (see table 2.17e).

According to Lanfry (1968: 327–9) Ghadames Berber distinguishes between dual/plural and inclusive/exclusive in the first-person plural in all verbal forms, except the imperative (which has no first plural form), and the stative (see table 2.17f).

A distinction between inclusive and exclusive has not been reported for any other Berber language.

2.4.6 The participle

The so-called ‘participle’ is a verb form, exclusively used in relative clauses, whose subject is the head of clause, e.g.:

- (1) *t-waʃun-t* *y-iwy-ən* *a-rgaz*
 EL:F-girl-SG:F PTC-bring:P-PTC EL:M-man
 ‘the girl that married the man’
 (Figuig, Kossmann 1997: 160)

The participle never occurs in other contexts. It is found in almost all Berber languages, the only reported exception being Siwa. Most Berber languages are able to make participial forms of all MAN stems. There exists considerable dialectal variation as to the formal distinctions found in participles (see Drouin 1996, Kossmann 2003a), as shown in table 2.18.

The most elaborate system is illustrated in table 2.19a with forms from Mali Tuareg (Adagh).

Table 2.18 *Formal distinctions in participles in selected languages.*

	Adagh Tuareg	Tashelhiyt	Figuiq	Riffian
SG:M <> SG:F	+	–	–	–
SG <> PL	+	+	–	–
Stative <> non-stative	+	+	–	–
Affirmative <> negative	+	–	+	–

Table 2.19a *Non-stative and stative participle system in Adagh Tuareg.*

	Non-stative		Stative	
	Affirmative	Negative (with the negative particle <i>wər</i>)	Affirmative	Negative (with the negative particle <i>wər</i>)
SG:M	y-___-ǎn	(wər) ǎn y-___	___-ǎn	(wər) ǎn ___
SG:F	t-___-ǎt	(wər) ǎt t-___	___-ǎt	(wər) ǎt ___
PL	___-nen	(wər) ǎn ___	___-nen	(wər) ǎn ___

Source: Prasse and ägg Alboŕtan (1985).

Table 2.19b *Participial forms of a non-stative verb in Adagh Tuareg ('learn', Perfective examples).*

	Affirmative	Negative
SG:M	<i>i-lmǎd-ǎn</i> PTC:SG:M-learn:P-PTC:SG:M	<i>wər ǎn i-lmed</i> NEG PTC:SG:M PTC:SG:M-learn:PN
SG:F	<i>t-ǎlmǎd-ǎt</i> PTC:SG:F-learn:P-PTC:SG:F	<i>wər ǎt t-ǎlmed</i> NEG PTC:SG:F PTC:SG:F-learn:PN
PL	<i>ǎlmǎd-nen</i> learn:P-PTC:PL	<i>wər ǎn ǎlmed</i> NEG PTC:PL learn:PN

Source: Prasse and ägg Alboŕtan (1985).

Compare the forms in the non-stative verb LMD 'learn' and in the stative verb SDD 'be thin' in Adagh Tuareg (tables 2.19b and 2.19c).

On the other end of the spectrum stands Riffian Berber, which has only one form, used in all contexts: y-___-ən.

In languages such as Adagh Tuareg, the participial inflection seems to consist of two parts: the first part, which is always prefixed to the verb, is identical to the prefixal part of third-person verbs. The second part is a suffix in most affirmative contexts. In negative contexts, and in combination with the particle *ad* 'NON-REALIZED', the second part of the participle is fronted to the position before the first part. Note that in several

Table 2.19c *Participial forms of a stative verb in Adagh Tuareg ('be thin').*

	Affirmative	Negative
SG:M	<i>sădid-ăn</i> be.thin:P-PTC:SG:M	<i>wər ăn sădid</i> NEG PTC:SG:M be.thin:PN
SG:F	<i>sădid-ăt</i> be.thin:P-PTC:SG:F	<i>wər ăt sădid</i> NEG PTC:SG:F be.thin:PN
PL	<i>sădid-nen</i> be.thin:P-PTC:PL	<i>wər ăn sădid</i> NEG PTC:PL be.thin:PN

Source: Prasse and ägg Albostan (1985).

languages the first part of the participle is absent when the second part is fronted, as shown in the following participial forms from Figuig (verb *atəf* 'come in'): *y-utf-ən* (affirmative participial form); *un n-utif* (negative participial form with the assimilated negative particle *ul* > *un*). Compare the following examples:

- (2a) *argaz dd y-utf-ən*
man HITHER PTC-enter:P-PTC
'the man that came in' (Figuig)
- (2b) *argaz dd un n-utif*
man HITHER NEG PTC-enter:PN
'the man that did not come in' (Figuig)

The pre-verbal position of the second part of the participial marker in negative contexts is superficially similar to cases of clitic fronting. However, it cannot be analysed as such, as clitic fronting is obligatory in relative clauses; if the second marker of the participle were sensitive to this specific fronting process, one would expect it to be always preposed, as the participle is a form marking subject relatives, and therefore always occurs in relative clauses.

Most Berber languages do not allow for any elements to be put between the pre-verbal second part of the participle and the verb. Thus it is reasonable to assume that the pre-verbal element constitutes a prefix to the verb. In some Berber languages, however, clitics can come between the pre-verbal second part of the participial marker and the verb form. In such variants, this element cannot be analysed as a prefix, e.g. the following Ghadames phrase:

- (3) *w-e wăl ăn ak=t=id=y-äbbe*
DEF:M-PROX:SG NEG PTC:SG:M 2SG:M:IO=3SG:M:DO=PTC:SG:M-bring:PN
'the one that did not bring to you'
(Ghadames, Lanfry 1968: 336)

Table 2.20a *Prefixes with consonant-initial stems in Northern Berber.*

	Prefix vowel <i>a</i> (only singular nouns)		Prefix vowel <i>i</i> (mainly plural nouns)	
	Free State	Annexed State	Free State	Annexed State
Masculine	a-	w(ə)- / u-	i-	y(ə)- / i-
Feminine	ta-	t(ə)-	ti-	t(ə)-

2.5 Nominal inflection

2.5.1 Overview

Berber nouns maximally distinguish three inflectional categories, gender (masculine vs feminine), number (singular vs plural), and state/case. The last category has two members, which will be called, according to general Berberologist practice, Free State (*état libre*, glossed EL) and Annexed State (*état d'annexion*, glossed EA).⁶ The functions of these categories will be explained later.

Most Berber languages distinguish several formal classes of nouns. In most variants one finds an affix class, a non-affix class (with only a few members) and a class of non-integrated Arabic borrowings, which is quantitatively very important. Tuareg is different, as it has two affix classes, one with both prefixes and suffixes, and one with only suffixes (called 'non-prefix class' here). Nouns belonging to the non-affix class and to the borrowed class in other Berber languages typically belong to the non-prefix class in Tuareg.

2.5.2 The affix class

Nouns belonging to the affix class typically consist of an obligatory prefix, where gender, state/case, and number are expressed; a stem, which may undergo vowel changes coding number; and a suffix, in which gender and number are marked. The suffix is typically absent in plural formations characterized by vowel changes.

2.5.2.1 *The structure of the prefix*

The form of the nominal prefix depends on several factors. In the first place, consonant-initial noun stems (which are the most frequent type) have different prefix morphology from vowel-initial noun stems. In the second place, the consonant-initial noun stems distinguish between two prefix vocalizations in Northern Berber and a larger number of vocalizations in Tuareg. Table 2.20a gives the system common in Northern Berber.

The distribution of the variants w(ə)-/u- and y(ə)-/i- depends on the syllabic structure of the noun stem. When the noun stem starts with two adjacent consonants, the variants

Table 2.20b *Prefixes with consonant-initial stems: examples from Eastern Riffian.*

		Free State	Annexed State	
Prefix vowel <i>a</i>	masculine	<i>a-ryaz</i> EL:M-man	<i>wə-ryaz</i> EA:M-man	‘man’
	feminine	<i>θa-funas-θ</i> EL:F-COW-SG:F	<i>θ-funas-θ</i> EA:F-COW-SG:F	‘cow’
Prefix vowel <i>i</i>	masculine	<i>i-ryaz-ən</i> EL:M-man-PL:M	<i>yə-ryaz-ən</i> EA:M-man-PL:M	‘men’
	feminine	<i>θi-funas-in</i> EL:F-COW-PL:F	<i>θ-funas-in</i> EA:F-man-PL:F	‘cows’

Source: Kossmann (2000a: 24ff.).

with a semivowel are used; otherwise the vocalic variants are used. In many dialects, the vocalic variants have been generalized to all noun stems. Table 2.20b provides examples from Eastern Riffian.

Some Northern Berber languages (including Eastern Riffian) also have a vowelless prefix in the Free State. This situation is only (but not regularly) found with nouns that have a stem beginning with a consonant followed by a plain vowel. In masculine nouns, the ensuing zero prefix is paralleled by *u-* in the Annexed State (Free State: *fus* ‘hand’; Annexed State: *u-fus*). In feminine nouns, the Annexed State is always coded by a prefix without a vowel (except schwa); nouns that have a vowelless Free State prefix do not code the opposition between these two cases/states in this class, e.g. *θ-mar-θ* ‘beard’ (Free State = Annexed State).

In Tuareg, the morphology of the prefix is different. First, there is a distinction between three vocalization classes, two of which (*a-*, *e-*) are used with singular nouns and one of which (*i-*) is used with plural nouns. In certain syllabic structures, the plain vowels of the Free State are centralized. The second main distinction is the absence of the semivowels that mark the masculine forms of the Annexed State in Northern Berber. Table 2.20c presents the different prefixes found with consonant-initial stems in Ayer Tuareg (variation due to regular vowel harmony has not been included).

In vowel-initial noun stems, the morphology of the prefix is different. In Berberology, these nouns are normally referred to as nouns with a ‘constant’ vowel, as this vowel is not changed or lost according to case/state (see Basset 1959 [1945]: 83–9). Following Penchoen (1973: 13), the ‘constant’ vowel will be considered part of the noun stem. Feminine nouns with a vowel-initial stem have no overt case distinction. In Tuareg, vowel-initial nouns do not code case distinctions at all. Table 2.21a presents the prefixes

Table 2.20c *Prefixes with consonant-initial stems in Ayer Tuareg.*

	Singular		Plural	
	Free State	Annexed State	Free State	Annexed State
Masculine	a-	ǎ-	i-	ə-
	e-	ǎ-	i-	ə-
	ǎ-	ǎ-	ə-	ə-
Feminine	ta-	tǎ-	ti-	tə-
	te-	tǎ-	ti-	tə-
	tǎ-	tǎ-	tə-	tə-

Source: Prasse *et al.* (2003).

Table 2.21a *Prefixes in Northern Berber vowel-initial nouns.*

	Stems with initial <i>a</i>		Stems with initial <i>i</i>		Stems with initial <i>u</i>	
	Free State	Annexed State	Free State	Annexed State	Free State	Annexed State
Masculine	ø-a	w-a	ø-i	y-i	ø-u	w-u
Feminine	t-a	t-a	t-i	t-i	t-u	t-u

in Northern Berber vowel-initial noun stems. Compare the examples from Eastern Riffian in table 2.21b.

In Eastern Berber dialects, case/state is not coded in the prefix. In these languages, the prefix can be analysed as consisting of a gender marker (zero in the masculine, *t-* in the feminine) followed by a vowel (or zero), which is unrelated to case.

2.5.2.2 *Noun suffixes*

Noun suffixes are portmanteau morphemes expressing gender and number. They are remarkably similar throughout the Berber languages. The forms given in table 2.22 from Figuig Berber and Iwellemmeden Tuareg are typical.

In the masculine plural, the choice of *-ən* (Tuareg *-ǎn*) vs *-an* is lexically determined. In the feminine singular, noun stems which end in a consonant always have the suffix *-t* (or *-ətt*), while stems which end in a vowel have *-t* (or *-tt*) in some words and lack a suffix in other words.

With the exception of Zenaga, in most nouns which code plurality by vowel change, the plural suffixes are absent. However, in many cases the plural suffixes are accompanied by changes in the noun stem. These changes often imply the adjunction of a stem extension and sometimes changes in the vocalization of the noun stem. In the case of some relatively frequent extensions, it is possible to analyse them alternatively as part

Table 2.21b *Prefixes with vowel-initial stems: examples from Eastern Riffian.*

Initial stem vowel		Free State	Annexed State	
<i>a</i>	masculine	<i>anu</i> well	<i>w-anu</i> EA:M-well	'well'
	feminine	<i>θ-aməm-θ</i> F-honey-SG:F	<i>θ-aməm-θ</i> F-honey-SG:F	'honey'
<i>i</i>	masculine	<i>iləs</i> tongue	<i>y-iləs</i> EA:M-tongue	'tongue'
	feminine	<i>θ-ibbi</i> F-malva	<i>θ-ibbi</i> F-malva	'malva'
<i>u</i>	masculine	<i>ul</i> heart	<i>w-ul</i> EA:M-heart	'heart'
	feminine	<i>θ-uššən-t</i> F-jackal-SG:F	<i>θ-uššən-t</i> F-jackal-SG:F	'female jackal'

Source: Kossmann (2000a: 26).

Table 2.22 *Noun suffixes in Figuig Berber and Iwellemmeden Tuareg.*

	Figuig		Iwellemmeden Tuareg	
	Singular	Plural	Singular	Plural
Masculine	<i>no suffix</i>	-ən / -an	<i>no suffix</i>	-än / -an
Feminine	-t / -ətt / <i>no suffix</i>	-in	-t / <i>no suffix</i>	-en

of special plural suffixes. Compare the singular–plural pairs in Burkina Faso Tuareg (table 2.23).

2.5.2.3 *Plural formation by means of the imposition of a vowel scheme*

Many nouns form their plurals by means of the imposition of a special vowel scheme on the stem, which partly replaces the lexical vowels of the noun stem. Plural formation of this type excludes the use of a plural suffix.

The basic vocalic scheme of the plural is HIGH VOWEL – LOW VOWEL. The application of this scheme is as follows:

- (1) In noun stems which end in a vowel, or in a vowel followed by a single consonant, the vowel is changed into *a* (if the vowel already was *a*, it remains *a*), e.g. Eastern Riffian: SG *a-yəzzim*, PL *i-yəzzam* 'hoe'; SG *θa-rži-θ*, PL *θi-rža* 'dream'; SG *a-ɣəlɣul*, PL *i-ɣəlɣal* 'rooster'; SG *a-fərtəttu*, PL *i-fərtətta* 'butterfly'.

Table 2.23 *Plural suffixes with and without changes in the noun stem in Burkina Faso Tuareg.*

Singular	Plural	
<i>a-māqqar</i>	<i>i-māqqar-ān</i>	‘older brother’
<i>ta-māqqar-t</i>	<i>ti-māqqar-en</i>	‘older sister’
<i>e-šen</i>	<i>i-šen-ān</i>	‘tooth’
<i>t-urəf-t</i>	<i>t-urf-en</i>	‘vehicle’
<i>e-lām</i>	<i>i-lāmaw-ān</i>	‘skin’
<i>t-eṭ-ṭ</i>	<i>t-eṭṭaw-en</i>	‘eye’
<i>ta-ləqqe</i>	<i>ti-ləqqaw-en</i>	‘dependent person’
<i>anu</i>	<i>enw-an</i>	‘well’
<i>ā-kos</i>	<i>i-kāss-ān</i>	‘bowl’

Source: Sudlow (2001).

- (2) In noun stems which end in two consonants separated by schwa, the vowel *a* is put in the position between these consonants, e.g. Eastern Riffian: SG *a-məddukəl*, PL *i-məddukal* ‘friend’; SG *θi-yəzzəl-t*, PL *θi-yəzzal* ‘kidney’.
- (3) In noun stems where there is a low vowel in a position not defined under (1) and (2), this low vowel is changed to the high vowel *u* (rarely *i*), e.g. Eastern Riffian: SG *yanim*, PL *i-yanam* ‘reed’; SG *zaylu*, PL *i-zuyla* ‘part of the plough’; SG *θ-naša*, PL *θi-nuša* ‘horse-riding’; SG *θ-xaḏəm-t*, PL *θi-xuḏam* ‘ring’.

In those Berber languages which have retained the opposition between the high central vowel *ə* and the open-mid central vowel *ā*, the application of rule (3) also implies the change of singular *ā* into *ə*, e.g. Ghadames: SG *a-ğālzim*, PL *i-ğəlzam* ‘kind of implement’; SG *ta-lāššən-t*, PL *tə-ləššan* ‘milk bowl’; SG *a-sānβəs*, PL *sənβas* ‘fan’; SG *a-māzwar*, PL *i-məzwar* ‘first’.

When the plural vowel scheme HIGH VOWEL – LOW VOWEL is applied to a stem which has the same vowel pattern in the singular, the vocalization of the plural stem is identical to that of the singular. In such cases, plurality is only marked by changes in the prefix, e.g. Eastern Riffian: SG *a-nəymar*, PL *i-nəymar* ‘hunter’; SG *θa-məzḏiya*, PL *θi-məzḏiya* ‘mosque’.

2.5.2.4 *The borrowed class*

In Northern and Eastern Berber, there exist numerous borrowings from Arabic which have not been integrated into the affix class. As the form of these borrowings does not entirely correspond to their Arabic counterpart, they are best considered a separate formal noun class. Their basic shape is ARTICLE-STEM-(SUFFIX).

Table 2.24a *Plural suffixes of the Tuareg non-prefix class.*

	Masculine	Feminine
Consonant-final stem	-ǎn	-en
Vowel-final stem	-tǎn	-ten

The dialectal Arabic definite article *l-* (which, according to Arabic rules, is assimilated to coronal consonants) is fixed to the noun stem. Unlike in Arabic, there exists no opposition between forms with the article and forms without: the presence or the rare absence of the ‘article’ depends on lexical choices. There is only one suffix: feminine singular *-ət*, which occurs in those cases where the Arabic original has feminine singular *-a* (so-called *tā’ marbūtah*). Note that the Berber form of the suffix is formally identical to the so-called ‘construct’ (pre-genitive) forms of dialectal Arabic. There cannot have been direct borrowing from these construct forms, because construct forms and the use of the article are mutually exclusive in Arabic. In spite of the superficial similarity between feminine singular *-ət* and the feminine singular suffix *-t* of the Berber affix class, these cannot be identified with each other, as their behaviour in syllabification is different.

Plural formation in the borrowed class follows the rules and exceptions of dialectal Arabic plural formation. Compare the following examples from Eastern Riffian: SG *ssuq*, PL *lǝswaq* ‘market’; SG *zzənq-əθ*, PL *zznaqi* ‘street’.

In a number of Northern Berber dialects (e.g. Figuig, Riffian, Kabyle), one finds an interesting interaction between the affix class and the borrowed class. In borrowed nouns, collectives belong to the borrowed class, while the corresponding count nouns have feminine affix-class morphology, e.g. Eastern Riffian: collective (borrowed class) *lbaçur* ‘figs (in general)’ vs unity noun (affix class) *θ-baçur-θ* ‘a fig, the (specific) fig’.

2.5.2.5 *The non-affix class*

A small number of nouns do not belong to either of the two main classes outlined above. As they do not display any affixes, they will be called the non-affix class. In Northern Berber, their plurals are normally formed by suppletion (e.g. Figuig *yəlli* ‘my daughter’, *yəssi* ‘my daughters’).

2.5.2.6 *The Tuareg non-prefix class*

Tuareg, which lacks the borrowed class, attests to a slightly different situation. In this language, most borrowings, as well as the words that in other dialects belong to the non-affix class, are united in a class that will be called here the ‘non-prefix class’. This class allows for suffixing of the plural markers in table 2.24a.

Compare the examples in Table 2.24b.

Table 2.24b Examples of the non-prefix class in Iwellemmeden Tuareg

Singular	Plural		
<i>āḡḡa</i>	<i>āḡḡa-tān</i>	‘(my) collateral cousin’	
<i>anna</i>	<i>anna-ten</i>	‘(my) mother’	
<i>ābduga</i>	<i>ābduga-tān</i>	‘cotton cloth’	< Hausa
<i>batu</i>	<i>batu-ten</i>	‘chat’	< Hausa
<i>ālḡārar</i>	<i>ālḡārar-ān</i>	‘risk’	< Arabic
<i>fəḍək</i>	<i>fəḍək-en</i>	‘bird species’	

Source: Prasse *et al.* (2003).

2.5.3 Nominal derivations

There exist a number of derivational devices with nouns. Most important among these is the formation of the verbal noun. Other derivations include instrumental nouns, locative nouns, and agent nouns.

2.5.3.1 Verbal nouns

Verbal nouns are nouns that refer to ‘the fact of ...-ing’. The term ‘infinitive’ which has sometimes been used to describe these nouns is not fully adequate, as these forms are entirely nominal and have no verbal characteristics. In most Berber languages, the verbal noun can be used as a cognate object with a finite verb in order to convey more emphasis to the statement, as in the following example:

- (4) *y-əçrəs=iθ* *θ* *a-çras*
 3SG:M-tie:P=3SG:M:DO PRED EL:M-tying
 ‘He tied it up very well.’
 (Kabyle, Naït-Zerrad 2001a)

The formation of verbal nouns depends on the formal characteristics of the root. There is much dialectal variation as to the devices used to make them, and there are many exceptional forms. The simplest way of making verbal nouns is by adding the nominal affix(es) to the root, with or without changing vowels. Other devices are, in addition to the application of the nominal affixes, gemination, vowel suffixing, and adding a prefix to the root. The examples in table 2.25 are from Ghadames.

In many dialects, a considerable number of verbal nouns lack the nominal affixes, e.g. Figuig: IMPT *bdu*, VERBAL NOUN *bəḡḡu* ‘divide’; Ouargla: IMPT *mləl*, VERBAL NOUN *təmləl* (also: *imləl*) ‘be white’.

Table 2.25 *Verbal noun formations in Ghadames.*

Imperative	Verbal Noun	Translation of the verb
<i>bəŋǧər</i>	<i>a-bəŋǧər</i>	'be roasted'
<i>zəǧrət</i>	<i>ta-zəǧrāt-t</i>	'be long'
<i>ədmər</i>	<i>a-dəmmər</i>	'repeat'
<i>əmləl</i>	<i>ta-məlli</i>	'be white'
<i>atəf</i>	<i>a-titəf</i>	'enter'

Source: Lanfry (1968).

Table 2.26 *Comparatives in Siwa.*

Basic adjective		Comparative adjective		Etymology
<i>atqil</i>	'heavy'	<i>tqəl</i>	'heavier'	Arabic
<i>agzál</i>	'short'	<i>gzál</i>	'shorter'	Berber
<i>azuwár</i>	'big'	<i>zwər</i>	'bigger'	Berber

Source: Vycichl (2005: 212).

Table 2.27 *Instrumental and agentive derived nouns in Tashelhiyt.*

Derived noun		Cognate verb	
<i>a-sag^wm</i>	'bucket'	<i>ag^wm</i>	'get water (from a well)'
<i>a-sməd</i>	'whetstone'	<i>msd</i>	'sharpen, whet'
<i>a-sks</i>	'place for pasturing'	<i>ks</i>	'graze'
<i>a-mzday</i>	'inhabitant'	<i>zdy</i>	'live in'
<i>a-mksa</i>	'herdsman'	<i>ks</i>	'graze'

2.5.3.2 *Comparatives*

In most Berber languages, comparative and superlative constructions are either prepositional or verbal. In Siwa, the Arabic comparative template (ə)CCəC has been introduced, as shown in [table 2.26](#).

2.5.3.3 *Other nominal derivations*

There exist a number of other nominal derivations, used to form specific types of nouns. The productivity of these devices differs according to the dialects. The most common among these are instrumental and locational nouns in which the stem is extended by a prefix *-s-*, and agent nouns in which the stem is extended by a prefix *-m-* ~ *-n-*, e.g. in Tashelhiyt (see [table 2.27](#)).

Table 2.28 *Pronominal forms in Eastern Riffian Berber.*

	Group 1	Group 2	Group 3		
	Independent pronouns	Direct object clitic	Indirect object clitic	Prepositional suffix	Adnominal suffix
1SG	<i>nəč</i>	<i>əyyi</i>	<i>əyyi</i>	<i>-i</i>	<i>∅</i>
2SG:M	<i>šəkk</i>	<i>š</i>	<i>aç</i>	<i>-(ə)ç</i>	<i>-ç</i>
2SG:F	<i>šəm</i>	<i>šəm</i>	<i>am</i>	<i>-(ə)m</i>	<i>-m</i>
3SG:M	<i>nətta</i>	<i>θ</i>	<i>as</i>	<i>-(ə)s</i>	<i>-s</i>
3SG:F	<i>nəttaθ</i>	<i>təθ</i>	= 3SG:M	= 3SG:M	= 3SG:M
1PL:M	<i>nəč'in</i>	<i>anəɣ</i>	<i>anəɣ</i>	<i>-nəɣ</i>	<i>-θnəɣ</i>
1PL:F	<i>nəč'inti</i>	= 1PL:M	= 1PL:M	= 1PL:M	= 1PL:M
2PL:M	<i>çənniw</i>	<i>çən</i>	<i>awən</i>	<i>-wən</i>	<i>-θwən</i>
2PL:F	<i>çənnimti</i>	<i>çəmt</i>	<i>açəmt</i>	<i>-çəmt</i>	<i>-θçəmt</i>
3PL:M	<i>nəhnin</i>	<i>θən</i>	<i>asən</i>	<i>-sən</i>	<i>-θsən</i>
3PL:F	<i>nəhninti</i>	<i>θənt</i>	<i>asənt</i>	<i>-sənt</i>	<i>-θsənt</i>

Source: Kossmann (2000a: 79ff.).

2.6 Pronouns and cliticization

2.6.1 Overview

Berber languages have independent pronouns and dependent (suffixal and clitic) pronouns (cf. Galand 1966). The subject is obligatorily expressed by affixes on the verb, which have been treated above.

Berber pronouns distinguish between person, gender, and number. Gender is formally distinguished in most second- and third-person pronouns and sometimes also in the first-person plural pronoun. There is no inclusive/exclusive distinction in Berber first plural pronouns.

Morphologically, Berber pronouns can be divided into three basic groups: independent pronouns; direct object clitic pronouns; and, as a group, indirect object clitic pronouns, pronouns used after prepositions, and adnominal pronominal suffixes. Inside these groups there are still more or less important subgroupings to be made. There is much dialectal variation in the forms of the pronouns. The examples in table 2.28 from Eastern Riffian Berber are therefore far from representative for all Berber varieties.

In the verbal clitics, there exists much allomorphy according to the shape of the verb and the placement of the clitics.

2.6.2 Independent pronouns

Berber has only one series of non-clitic non-affixal pronouns, the independent series. It is used in most types of non-verbal sentences, both topicalized (ex. 5b) and not topicalized (ex. 5a), e.g.:

- (5a) *ʃəkk ɔ̄ řməskin*
 you:M PRED poor
 ‘You are a poor person.’ (Riffian)
- (5b) *nətta ɣar-s iʒʒ n t-xaðən-t*
 he with-3SG one of EA:F-ring-SG:F
 ‘He, he had a ring.’ (Riffian)

In verbal sentences, the independent pronouns are mainly found in peripheral (topic) positions, either in left-dislocation (5c) or in right-dislocation (5d), e.g.:

- (5c) *nəššin war n-ətrikk^w iř ʃa*
 we NEG 1PL-flee:IN NEG
 ‘We, we won’t flee.’ (Riffian)
- (5d) *a θ=awy-əɣ nəšš*
 AD 3SG:M:DO=carry:A-1SG I
 ‘I will marry him, me!’ (Riffian)

In non-peripheral positions, they only occur, albeit rarely, after the dative preposition *i* (ex. 6); normally the indirect object clitic would be used, e.g.:

- (6) *θ-əgga řhənni i nəttaθ*
 3SG:F-do:P henna to she
 ‘She put henna on *her*.’ (Riffian)

2.6.3 Clitic pronouns

In non-peripheral positions in verbal sentences (i.e. when not left- or right-dislocated), clitic pronouns are the only option for expressing the pronominal object. There are two series of clitic pronouns: the direct object and the indirect object clitics. Together with the deictic elements *d(d)* ‘hither’ (direction toward the speaker) and *(i)n(n)* ‘thither’ (direction away from the speaker), they constitute a complex which cannot be dislocated by other elements. In almost all Berber languages, the order of the elements is indirect object clitic – direct object clitic – deictic clitic, e.g.:

- (7) *y-əwš=as=θ=ið*
 3SG:M-give:P=3SG:IO=3SG:M:DO=HITHER
 ‘He gave it to him (in this direction).’ (Riffian)

In unmarked sentences, clitics follow the verb. There are, however, many syntactic contexts in which one finds clitic fronting (in Berberologist tradition called ‘attraction’). In clitic fronting, the clitic complex (as well as some other elements, which could be regarded as clitics) is put before the verb. The order of the elements within the clitic complex remains the same. Clitic fronting is found in several circumstances:

- (1) After a number of pre-verbal elements, such as *wəɾ* 'NEG' and *ad* 'NON-REALIZED', e.g.:

(8a) *u das=dd=y-iwiy am-an*
 NEG 3SG:DAT=HITHER=3SG:M-bring:PN water-PL:M
 'He has not brought the water.'
 (Figuig, after Kossmann 1997: 265)

(8b) *a das=dd=y-awəy am-an*
 AD 3SG:DAT=HITHER=3SG:M-bring:A water-PL:M
 'He will bring water.'
 (Figuig, after Kossmann 1997: 265)

- (2) After a number of subordinating particles, e.g.:

(8c) *mi dd=y-iwəd*
 when HITHER=3SG:M-arrive:P
 'when he arrived'
 (Figuig, Kossmann 1997: 265)

- (3) In relative clauses and similar constructions, such as cleft sentences and content questions, e.g.:

(8d) *a-rgaz dd=y-iwq-ən d ppa*
 EL:M-man HITHER = PTC-arrive:P-PTC PRED father
 'The man who has arrived is my father.'
 (Figuig, Kossmann 1997: 265)

(8e) *mani dd=i-ttas*
 where HITHER=3SG:M-be.somewhere:I
 'Where is it?'
 (Figuig, Kossmann 1997: 264)

In a number of dialects, there exists variation as to the elements which are fronted. In some Tunisian and Eastern Algerian dialects (e.g. Chaouia), elements can be left in place when the clitic complex consists of more than one element. Example (9), taken from a Tunisian dialect, has a fronted indirect object clitic, while the direct object clitic has remained in place:

(9) *w ak=uš'i-x=θ iš*
 NEG 2SG:M:IO=give:PN-1SG=3SG:M:DO NEG
 'I have not given it to you.'
 (Tamezrett, Collins 1982: 122)

An interesting construction is found in some Berber varieties, where the deictic clitics are doubled, and occur both before and after the verb – see example (10), which has the deictic clitic *in* twice:

Table 2.29 *Demonstrative pronouns in Figuig.*

	SG:M	SG:F	PL:M	PL:F
Definite; proximal deixis	<i>w-u</i>	<i>t-u</i>	<i>in-u, yin-u</i>	<i>tin-u</i>
Definite; distal deixis	<i>w-ənn</i>	<i>t-ənn</i>	<i>in-ənn, yin-ənn</i>	<i>tin-ənn</i>
Non-definite; no deixis	<i>ay, aw</i>			
Non-definite; proximal deixis	<i>ay-u</i>			
Non-definite; distal deixis	<i>ay-ənn</i>			

Source: Kossmann (1997: 192–5).

- (10) *as in=t-os=in*
 when THITHER=3SG:F-arrive:P=THITHER
 ‘When she had arrived there . . .’
 (Mali Tuareg, Ag Erless 1999: 41, line 25)

In the easternmost variants of Berber, Siwa and Awdjilah, pronominal clitics are never fronted.

2.6.4 Demonstratives

Demonstrative pronouns consist of a pronominal base and a demonstrative element (on which, see below, table 2.34). In most Berber languages, there exist two main types of demonstrative pronouns: those which refer to a particular well-defined entity, and those which have non-definite reference. The pronominal bases of the definite demonstratives have gender/number distinctions, while the non-definite pronoun is unmarked for these categories. When functioning as heads of a clause, the non-definite pronouns regularly appear without deictic elements. Table 2.29 shows the demonstrative pronouns in Figuig.

Compare examples (11a–c):

- (11a) *w-u d a-qbun n w-ulli*
 DEF:SG:M-PROX PRED EL:M-stall of EA:M-sheep
 ‘This is the sheep stall.’
 (Figuig, Kossmann 1997: 193)
- (11b) *qaɣ ay-u d i-damm-ən*
 all NONDEF-PROX PRED EL:M-blood-PL:M
 ‘All this is blood.’
 (Figuig, Kossmann 1997: 194)
- (11c) *ay d a-rgaz*
 NONDEF PRED EL:M-man
 ‘It’s the man.’
 (Figuig, Kossmann 1997: 192)

Demonstrative pronouns play an important role in Berber syntax, as they function in many Berber languages as a linking element between the head and its modifier. This is general in all Berber languages in cleft sentences (which are a sub-type of relativization). In such sentences the clefted element is linked to the rest of the relative clause by one of the demonstrative pronouns, e.g.:

- (12) *zman ay ttuy tək-k-ən middən lxirat*
 formerly NONDEF PAST do:I-3PL:M people good.works
 ‘It was in former times that people used to do good works.’
 (Figuig, Kossmann 1997: 320)

In many Berber languages, this linking function is also found between a head and other types of relative clause. Tuareg makes a three-way distinction between definite deixis, non-definite deixis, and indefinite deixis. Without a modifier, one may express non-definite and definite deixis, e.g. Ayer Tuareg (Prasse *et al.* 2003: 964): *a-žāḍ* (EL:M-donkey) ‘a / the donkey’; *a-žāḍ w-a* (EL:M-donkey DEF:SG:M-PROX) ‘the donkey’.

In this language, an opposition between definite and indefinite deixis is possible in possessive constructions, as shown in examples (13a–b):

- (13a) *e-žāḍ w-a-dā w-a nn ā-nāḍ*
 EL:M-donkey DEF:SG:M-PROX-VERY DEF:SG:M-PROX of EA:M-smith
 ‘This donkey is the one of the smith’s.’
 (Ayer Tuareg, Prasse *et al.* 2003: 964)
- (13b) *e-žāḍ w-a-dā y ənn ā-nāḍ*
 EL:M-donkey DEF:SG:M-PROX-VERY INDEF of EA:M-smith
 ‘This donkey belongs to the smith (is one of the smith’s).’
 (Ayer Tuareg, Prasse *et al.* 2003: 964)

2.7 Morphology of adpositions

2.7.1 Prepositions

Berber languages are almost exclusively prepositional. All Berber languages have single and compound prepositions. Single prepositions may have three different shapes according to their syntactic status:

- (1) the form before a noun – there often exist fused forms if the noun starts with a vowel or a semi-vowel;
- (2) the form before a pronominal suffix;
- (3) the independent form, which is used in preposition fronting in relative clauses.

Table 2.30 *Figuig Berber allomorphy of basic prepositions.*

	Before a consonant-initial noun	Before a pronominal suffix	Independent
Dative	<i>i</i>	[indirect object pronoun]	<i>dəg</i>
Locative	<i>i</i>	<i>di-</i>	<i>dəg</i>
Ablative	<i>si</i>	<i>zzi-</i>	<i>zzəg</i>
Instrumental	<i>s</i>	<i>zzi-</i>	<i>zzəg</i>
Implicative	<i>s</i>	<i>ɣf-</i>	<i>ɣəf</i>
Allative	<i>l</i>	<i>ɣr-</i>	<i>ɣər</i>
Comitative	<i>akəd / d</i>	<i>kid-</i>	<i>kid</i>
Genitive	<i>n</i>	<i>nn-</i>	

Source: Kossmann (1997: 214ff.).

In most varieties, the three forms are clearly cognate, the form before suffixes normally being longer than the other two. In some dialects, however, differences are startling, as illustrated in table 2.30.

Composite prepositional expressions consist of noun phrases (sometimes included in a prepositional phrase themselves) followed by the genitive preposition *n* or by the dative preposition *i*, e.g.:

- (14a) *ammas n ɣɣħra*
middle of desert
'(in) the middle of the desert' (Tashelhiyt)
- (14b) *ɣ w-ammas n w-am-an*
in EA:M-middle of EA:M-water-PL:M
'in the middle of the water' (Tashelhiyt)

Some nouns which appear in such composite prepositional expressions are proper nouns, which can be used independently (e.g. Tashelhiyt *t-ama* 'river bank' / 'next to'); others are not found outside prepositional expressions (e.g. Tashelhiyt *ammas* 'in the middle of'). Historically, all composite prepositions go back to proper nouns. Some basic prepositions are also historically related to nouns, such as Figuig (forms before preposition) *ɣf-* 'implicative' < *ixf* 'head'; *di-* 'locative', compare Tuareg *e-däg* 'place'. In the case of several other basic prepositions there is no reason to assume a nominal origin.

2.7.2 Postpositions

Ghadames and Awdjilah are unique in Berber as they have one adposition which is essentially post-nominal: the locative. The locative adposition is attached to the last

Table 2.31 *Examples of the locative adposition in Ghadames.*

Without locative adposition	With locative adposition	
<i>allún</i>	<i>allún-i</i>	‘(in) the hole’
<i>ɣazār</i>	<i>ɣaz-é-r</i>	‘(in) a trench’
<i>dáʒ ənnāk</i>	<i>dáʒ ənn-é-k</i>	‘(in) your house’
<i>dáʒ n almatfālāt</i>	<i>dáʒ n almatfāl-é-t</i>	‘(in) the house of the youth’
<i>tamáda</i>	<i>tamadá</i>	‘(in) a garden’
<i>almúdu</i>	<i>almudú</i>	‘(in) a mosque’

Source: Lanfry (1968: 366–8).

Table 2.32 *Numerals 1–10 in Mali Tuareg.*

	Masculine	Feminine
1	<i>iyān</i>	<i>iyāt</i>
2	<i>əssin</i>	<i>sānatāt</i>
3	<i>kārad</i>	<i>kāradāt</i>
4	<i>ākkoʒ</i>	<i>ākkoʒāt</i>
5	<i>sāmmos</i>	<i>sāmmosāt</i>
6	<i>səḍis</i>	<i>səḍisāt</i>
7	<i>āssa</i>	<i>āssayāt</i>
8	<i>āttam</i>	<i>āttamāt</i>
9	<i>tāzza</i>	<i>tāzzayāt</i>
10	<i>māraw</i>	<i>mārawāt</i>

Source: Heath (2005: 248 – slightly modified).

element in the noun phrase. In Ghadames, it is sometimes realized as a suffix *i*, sometimes as an infix, and sometimes as a change in stress pattern, as shown in table 2.31.

2.8 Numerals

With numerals, there is an important distinction between numerals which have a Berber background, and numerals which have been borrowed from Arabic. Berber numerals agree in gender with the noun they specify, while Arabic numerals are insensitive to gender. The influence of Arabic has been very large. In many languages, such as Figuig and Kabyle, only the lowest two numerals have a Berber background. In Riffian, all numerals from 2 onwards have been borrowed. The full Berber decade has been attested in a number of varieties – among others Tashelhiyt, Tuareg, Ghadames, Ouargla, and Zenaga: see table 2.32.

2.9 Adverbs

Berber has two morphological types of adverbs:

- particles without nominal morphology
- nouns which are used in circumstantial phrases without a preposition.

Members of both types can take deictic clitics. There are many cases, however, where the form of the deictic clitics in adverbially used locutions does not mirror exactly that of normal nominal deixis. Thus, in Figuig Berber, nominal deixis has a two-way contrast between =*u* (proximal) and =*ənn* (distal/anaphoric), e.g. *argaz=u* ‘this man’, *argaz=ənn* ‘that man, the man we were talking about’. Some adverbial nouns have a three-way distinction: =*u* (proximal), =*ənn* (distal), =*in* (far distal), e.g. *ass=u* ‘today’, *ass=ənn* ‘that day’, *ass=in* ‘in the past’. Spatial adverbs, such as *d-*, have a two-way contrast, as found in nominal deixis, but the deictic part of these adverbs has different forms: *-a* (proximal), *-in* (distal): *d-a* ‘here’, *d-in* ‘there’.

In Northern Berber languages, many adverbial expressions have been borrowed from dialectal Arabic. The borrowing of Arabic phrases has led to the introduction of the dual in Berber, a category absent elsewhere in the grammar, e.g. (Figuig) *ʃam* ‘(during) one year’, *ʃamayən* ‘(during) two years’, both of which are borrowings from Moroccan Arabic.

In a few languages, there exist special morphological ways of making an adverb on the basis of a noun. Thus, Ouargla Berber has a considerable number of (originally Berber) nouns which are changed to manner adverbs by the suffix *-i*, while the nominal prefix is often omitted, e.g. *a-rgaz* ‘man’, *rgaz-i* ‘man-like’; *kukəm* ‘silence’, *kukm-i* ‘silently’; *ta-kur-t* ‘ball’, *takur-i* ‘like a ball (rolling)’; *a-yyul* ‘donkey’, *yywl-i* ‘donkey-like (on four legs)’; *Wargən* ‘Ouargla’, *warg-i* ‘Ouargli-like’.

The possibility of using nouns as circumstantials in adverbial contexts is normally restricted to a small set. Otherwise, prepositional phrases are used. An exception is in Ouargla Berber, where spatial adverbial phrases are often expressed without a preposition (see also Benlakhdar (1998) on Central Moroccan Berber), such as *muɾu* ‘(on) the wall’ in example (15):

- (15) *y-əqqim* *y-əttəddi=t* *muɾu*
 3SG:M-stay:P 3SG:M-pound:T=3SG:M:DO wall
 ‘He kept on knocking (lit. pounding) it on the wall’
 (Delheure 1989: 134)

2.10 The categories expressed in (pro)nominal inflection

As shown above, the main categories expressed by inflection in pronouns and nouns are gender, number, and state/case. Gender/number agreement is the rule with

adjectives, numerals, and the subject markers on the verb (an exception are participles in some languages). There is no state/case agreement between head nouns and adjectives, e.g:

- (16) *n u-rgaz a-məqqran*
 of EA:M-man EL:M-big
 ‘of an old man’
 (Figuiç, Kossmann 1997: 242)

2.10.1 Gender

Berber nouns of the affix class have a derivative gender opposition, that is, most nouns in this class allow for both a feminine and a masculine form. With humans and larger animals, the gender distinction refers to sex. With lower animals and objects for which natural gender is unknown or irrelevant, the gender distinction refers to size, masculine forms referring to larger entities than feminine forms, e.g. Figuiç *a-γənža* (masculine) ‘ladle’, *ta-γənžay-t* (feminine) ‘spoon’. With lower animals, both a natural gender and a size interpretation are possible. For example, in traditional stories, the feminine form of ‘fish’ or ‘louse’ may refer to a lady fish or a lady louse, rather than to a relatively smaller fish or louse.

While it is irrelevant to argue which form is derived from the other in the case of sex distinctions (is a male camel more basic than a female camel?), it is in many cases easy to decide which is the basic gender in the case of objects. It appears that some nouns are basically feminine and other nouns are basically masculine. Thus, for example, in almost every Berber language the word ‘beard’, *t-amar-t*, is feminine in its unmarked meaning, while the masculine form *amar* refers to a very large beard. On the other hand, *a-fus*, ‘hand’, is masculine in its unmarked form, while *ta-fus-t* refers to a baby’s hand. With many other nouns, the question about the basic meaning is irrelevant; thus there is no basis on which to decide whether the feminine spoon, *taγənžayt* ‘spoon’, is more basic than the masculine spoon, *aγənža* ‘ladle’.

With mass nouns, there is no gender opposition. In this category, gender is subject to lexical choice, e.g. *a-yi* ‘buttermilk’ is masculine, while *ta-duf-t* ‘wool’ is feminine.

Gender oppositions also play a role in the distinction between collective nouns and unity nouns. This opposition is mainly found with nouns referring to fruits and vegetables, but to a lesser degree also in other semantic classes. In the framework of this opposition, collective nouns are typically masculine, while unity nouns are typically feminine, as shown in [table 2.33](#).

In some Northern Berber languages, the collective forms may belong to the class of non-integrated Arabic borrowings, while the corresponding unity nouns belong to the affix noun class.

Table 2.33 *Tashelhiyt examples of the opposition collective–unity noun.*

Collective	Unity noun (SG)	
<i>a-zalim</i>	<i>ta-zalim-t</i>	‘onion(s)’
<i>i-fffl</i>	<i>ti-fffl-t</i>	‘pepper(s)’
<i>a-rkkim</i>	<i>ta-rkkim-t</i>	‘turnip(s)’

Source: Aspinion (1953: 66).

While most nouns belonging to the affix class allow for both masculine and feminine forms, gender is lexically determined with members of the other noun classes.

Mauritanian Zenaga has a slightly different functioning of the system, as the language has an operative diminutive marking system, which is not identical with gender marking (for details, see Taine-Cheikh (2002)).

2.10.2 Number

With count nouns, Berber has a singular–plural distinction. Mass nouns may either be singulars or plurals, due to lexical choice, e.g. in Figuig (and elsewhere) the noun *a-yi* ‘buttermilk’ is a singular, while some other nouns referring to liquids, such as *am-an* ‘water’ and *i-damm-ən* ‘blood’, are plurals.

2.10.3 State/case

Northern Berber and Tuareg distinguish two morphological forms connected to the expression of annexion and case. Following standard Berberological practice, these are called ‘Free State’ (*état libre*, EL) and ‘Annexed State’ (*état d’annexion*, EA).⁷ Morphologically, this opposition is expressed in the nominal prefix of nouns belonging to the affix class. There is no opposition between the two states (or cases) in Zenaga and in Eastern Berber. The Free State is used in the following syntactic contexts:

- (1) in isolation, e.g:

(17a) *a-rgaz*
 EL:M-man
 ‘the/a man’ (Tashelhiyt)

- (2) in topicalization position, e.g:

(17b) *ta-mɣar-t(,) t-lla y u-nwal*
 EL:F-woman-SG:F 3SG:F-be:P in EA:F-kitchen
 ‘The woman, (she) is in the kitchen.’
 (Tashelhiyt, Aspinion 1953: 34)

- (3) as a lexical direct object, e.g.:
- (17c) *i-zra a-rgaz*
 3SG:M-see:P EL:M-man
 ‘He saw the man.’ (Tashelhiyt)
- (4) after a small number of prepositions, e.g.:
- (17d) *ar a-ɣaras*
 until EL:M-road
 ‘up to the road’ (Tashelhiyt)
- (5) as a member of a non-verbal sentence, e.g.:
- (17e) *d a-rgaz*
 PRED EL:M-man
 ‘He is a (real) man.’
 (Figuig, Kossmann 1997: 298)

The Annexed State is used in the following syntactic contexts:

- (1) as a lexical subject that is not topicalized (i.e. in post-verbal position), e.g.:
- (18a) *t-lla t-mɣar-t y u-nwal*
 3SG:F-be:P EA:F-woman-SG:F in EA:M-kitchen
 ‘The woman is in the kitchen.’
 (Tashelhiyt, Aspinion 1953: 34)
- (2) after most prepositions, e.g.:
- (18b) *ta-frux-t n t-mɣar-t*
 EL:F-girl-SG:F of EA:F-woman-SG:F
 ‘the little girl of the woman’ (Tashelhiyt)
- (3) after numerals, e.g.:
- (18c) *yan y-ilf*
 one:M EA:M-wild.boar
 ‘one wild boar’ (Tashelhiyt)
- (4) after some pre-nominal elements, e.g.:
- (18d) *ǎrk=ǎ-dǎg*
 bad=EA:M-place
 ‘a bad place’ (Ayer Tuareg)

In Kabyle there exists an additional context in which the Annexed State is used; similar constructions occur in some Riffian varieties (Mena Lafkioui p.c.). In these languages, it is possible to have right-dislocation of lexical direct objects, and subjects of non-verbal sentences. In the case of direct object right-dislocation, pronominal reference to the direct object in the main part of the sentence is obligatory. These right-dislocated nouns are put in the Annexed State. Compare the following sets of phrases from Kabyle (Reesink 1973; Chaker 1983). Examples (19a–b) are equational non-verbal sentences, (20a–b) illustrate prepositional non-verbal sentences, and (21a–b) show verbal sentences with a lexical direct object.

- (19a) *a-qšiš=a* *ð* *əmmi-ç*
 EL:M-child=PROX PRED son-2SG:M
 ‘This child is your son.’
 (Kabyle, Reesink 1973: 173)
- (19b) *ð* *əmmi-ç*, *wə-qšiš=a*
 PRED son-2SG:M EA:M-child=PROX
 ‘It is your son, this child.’
 (Kabyle, Reesink 1973: 173)
- (20a) *ɣur-s* *lhəqq*
 with-3SG reason
 ‘He is right.’ (Kabyle)
- (20b) *ɣur-s* *lhəqq*, *wə-rjaz=ənni*
 with-3SG reason EA:M-man=ANAPH
 ‘He is right, this man.’
 (Kabyle, Chaker 1983: 278)
- (21a) *y-əčča* *a-ɣrum=ənni*
 3SG:M-eat:P EL:M-bread=ANAPH
 ‘He has eaten the bread.’
 (Kabyle, Chaker 1983: 279)
- (21b) *čča-n=θ* *w-arrasš*, *wə-ɣrum=ənni*
 eat:P-3PL:M=3SG:M:DO EA:M-children EA:M-bread=ANAPH
y-əqqim-ən
 PTC-remain:P-PTC
 ‘The children have eaten it, the remaining bread.’
 (Kabyle, Chaker 1983: 278)

while the accusative is the default case. In Berber, the default case would be the Free State ('accusative'), which is used in isolation, in left-dislocation and for direct objects, while the marked case would be the Annexed State ('nominative'), which is used for subjects, and after prepositions and numerals. Following such an analysis, one has to stipulate that prepositions and numerals have fixed case assignment, comparable to the situation in Classical Arabic in which all prepositions are followed by the genitive case. This analysis fits most Berber languages reasonably well, although one may doubt the elegance of the solution for prepositions and numerals. It is less attractive in the case of Kabyle, as the reasons behind the use of the marked case in right-dislocation are not obvious.

2.10.4 Indirect objects

The indirect (or dative) object in Berber is expressed by the preposition *i* if the object is lexical and by a pronominal clitic if the object is pronominal (rarely, one finds *i* followed by an independent pronoun). The pronominal clitics typically have the form *a*-PRONOUN. One could argue that the *a*-element is in fact an allomorph of the preposition *i* and that there is therefore no real 'indirect object'-clitic. This opinion is well founded in morphology, as the pronominal elements in the indirect object clitic are identical with the pronominal affixes which occur after prepositions. Syntactically, the indirect object clitic has different behaviour from prepositions with a pronominal suffix, as it is the first member of the clitic complex, while the pronominalized prepositional phrases always follow the entire clitic complex. The dative object can be an argument of the verb, e.g.:

(23a) θ - $\omega\zeta$ =*as* θ *nayən* *ɖuɾu*
 3SG:F-give:P=3SG:IO two douro
 'She gave him two douro (a coin).' (Riffian)

(23b) θ - $\text{ənn}(a)$ =*as* *yəmma-s*
 3SG:F-say:P=3SG:IO mother-3SG
 'his mother said to him' (Riffian)

It may also function as a non-obligatory element, which expresses that the entity is affected by the action, e.g.:

(23c) *qqim-ənt*=*as* θ *nayən* *n* *t-əmyar-in*
 remain:P-3PL:F=3SG:IO two of EA:F-woman-PL:F
 'There remained for her the two women.' (Riffian)

(23d) *y-ənɣ*=*as* θ *a-myar-θ*=*ənni*
 3SG:M-kill:P=3SG:IO EL:F-woman-SG:F=ANAPH
 'He_i killed (to his_j advance or detriment) the woman.' (Riffian)

A special characteristic of the syntax of indirect objects is that they may be marked twice in the clause, by the clitic pronoun and by a prepositional phrase, whose intonation shows it is not a case of right-dislocation, e.g.:

- (24) *y-əmma=yas* *i yəmma-s*
 3SG:M-say:P=3SG:IO to mother-3SG
 ‘He said (to her) to his mother.’ (Riffian)

2.11 The noun phrase

Berber nouns can be extended by means of three types of elements: genitival pronominal affixes, demonstrative clitics, and a small set of pre-nominal elements.

2.11.1 Pronominal affixes

Most Berber languages use possessive pronominal affixes only with a closed set of kinship terms, e.g. Figuig: *mmi-s* (son-3SG) ‘his son’. This set does not include all kinship terms in the language. Other types of possession are marked by a phrase with the preposition *n* ‘of’.

Different from most Berber languages, in Kabyle, all pronominal possessives are normally expressed by suffixes, regardless of the noun. With kinship terms, the general Berber set of kinship possessives is used. With other nouns, genitival pronouns with an initial element *i* are used, e.g. *a-qšiš-is* (EL:M-boy-3SG:GEN) ‘his boy’.

2.11.2 Demonstrative elements

Demonstrative clitics are always bound to a noun or a pronoun (see also [table 2.29](#)). Dialects differ considerably with respect to the form, function, and system of demonstrative clitics (see Naumann 2001). In order to give some impression of the attested variation, the systems of three different languages will be presented in [table 2.34](#).

The deictic clitics follow possessive suffixes, but precede other noun modifiers such as modifying adjectives, prepositional genitive phrases, and relative clauses, as shown in the following examples:

- (25a) *yəmma-s=ənni*
 mother-3SG=ANAPH
 ‘his (aforementioned) mother’ (Riffian)
- (25b) *a-ħram=ənni a-məzzyan*
 EL:M-boy=ANAPH EL:M-small
 ‘the (aforementioned) young boy’ (Riffian)

Table 2.34 *Deictic systems in a number of Berber dialects.*

	Form	Meaning
Figuig	-u	proximal
	-ənn	distal, anaphoric
Eastern Riffian	-u	proximal
	-in	distal
	-ənni	anaphoric
	-ən	with some types of relative head
Iwellemmeden Tuareg	-a(dǎy)	near the speaker
	-di(dǎy)	near the hearer
	-en(dǎy)	far away
	-naḍ(dǎy)	long ago
	-nin(dǎy)	a short time ago

Sources: Kossmann (1997), (2000a); Prasse *et al.* (2003).

In Ghadames, on the other hand, the deictic elements follow other non-sentential modifiers, e.g.:

- (26) *dǎdda nn-ǎs-e*
 father of-3SG-ANAPH:SG
 ‘his (aforementioned) father’
 (Ghadames, Lanfry 1968: 12)

Different from other Berber languages, Tuareg has two types of demonstrative determination. The first type follows the Pan-Berber system, as the noun is immediately followed by a pronominal clitic, e.g. Iwellemmeden Tuareg *aləs=di* (man=NEAR.HEARER) ‘the man near you’. In the second type, a demonstrative pronoun (with demonstrative clitic) follows the noun, e.g. Iwellemmeden Tuareg *aləs w-a* (man DEF:SG:M-PROX) ‘the man here’. This construction is also possible before a modifier, e.g.:

- (27) *bǎrar w-a n ǎ-mənokāl*
 boy DEF:SG:M-PROX of EA:M-chief
 ‘the son of the chief’ (Ayer Tuareg)

2.11.3 Pre-nominal elements

The small set of pre-nominal elements consists of three different types. The first type consists of only one element, the pluralizer *id-*, which occurs in a lexically determined set of nouns, especially with nouns which are difficult to pluralize for semantic or morphological reasons, e.g. Figuig: *id-w-alli* (PL-EA:M-brain) ‘(several) brains’, the rarely used plural of *alli* ‘brain’.

The second set consists of four items, which can roughly be translated as ‘son of’, ‘daughter of’, ‘sons of’ and ‘daughters of’, which refer to people particularly attached to the main noun of the NP. These elements are extremely common in the denomination of origin and group identity, e.g. Figuig: *Faðna ut-ŷisa* (Fadna daughter-Isa) ‘Fadna of the Isa family’; *at-t-mira* (sons-EA:F-beards) ‘a group of bearded persons’.

In Zenaga, these pre-nominal elements have become specialized for marking the diminutive (Taine-Cheikh 2002), e.g. *aŷ-əgrar-t* (son-ram-SG:F) ‘small ram’ (from *əgrər* ‘ram’).

The third set consists of elements expanding on the meaning of the noun, such as Tuareg *ər̄k* (M/F; F also *tər̄k*) ‘bad’ and Tashelhiyt *war* (M), *tar* (F) ‘lexical negation’, e.g. Iwellemmeden Tuareg *ər̄k=tǎ-yǎra* (bad-EA:F-character) ‘bad character’, and example (28):

- (28) *a-g^wllif=ad* *i-ga* *war=a-gllid*
 EL:M-swarm=PROX 3SG:M-be:P LEXICAL.NEGATION:M=EL:M-king
 ‘This swarm is without a queen.’
 (Tashelhiyt, Stroomer p.c.)

In most cases the main noun following the pre-nominal elements exhibits the Annexed State. On the basis of this, one might consider the pre-nominal elements pronoun-like syntactic heads of the NP.

2.11.4 The structure of the noun phrase

Noun phrases typically consist of a noun or pronoun (with possibly the extensions mentioned above), which may be determined or modified by a number of other elements:

- numerals and numeral phrases (NUM)
- adjectives (if present in the language) (ADJ)
- possessive phrases with the genitive preposition *n* (POSS)
- relative clauses (REL)

In many Berber languages, there exist linking elements (glossed LINKER in the scheme below) between the main noun and its modifiers with numerals (the genitive marker *n*) and with relative clauses (mostly elements identical to or cognate with the non-definite pronouns). For example, in Riffian, the noun phrase has the following maximal structure:

(NUM *n*) – (extended) (PRO)NOUN (POSS) (ADJ) (POSS) (LINKER) (REL)

2.11.4.1 *Numeral constructions*

In Northern Berber, numerals always precede the noun. In Tuareg and in a number of Eastern dialects (Siwa, Awdjilah), numerals may occur on either side of the noun. When the numeral precedes the noun, there exist two manners of junction, depending on the dialect. In the first case, the numeral is joined to the noun without a linker, the noun taking the Annexed State, e.g. Tashelhiyt: *kraḍ w-ag^wmar-n* (three:M EA:M-horse-PL:M) ‘three horses’.

In the second case, the numeral is joined to the noun using the genitive preposition *n*, e.g. Figuig: *tlata n i-rgaz-ən* (three of EA:M-man-PL:M) ‘three men’.

In Tuareg and in the easternmost dialects of Berber, one finds both pre-nominal and post-nominal numerals, e.g.:

- (29a) *e-ləs əyyān y-əla-n tā-bārar-t net*
 EL:M-man one:M PTC:SG:M-have:P-PTC:SG:M EL:F-girl-SG:F of:3SG
 ‘There was a man who had a girl.’
 (Ayer Tuareg, Casajus 1985: 134, corrected transcription courtesy
 Ramada Elghamis)

- (29b) *amera y-əzlāf əyyāt tā-mṭə-t*
 then 3SG:M-marry:P one:F EA:F-woman-SG:F
 ‘Then he married a woman.’
 (Ayer Tuareg, Casajus 1985: 134, corrected transcription courtesy
 Ramada Elghamis)

2.11.4.2 *Possessives*

Berber languages distinguish two possessive constructions. The first construction involves the preposition *n* both with pronominal suffixes and preceding a noun, e.g.:

- (30a) *t-iddar-t nn-əs*
 EL:F-house-SG:F of-3SG
 ‘his house’ (Figuig)
- (30b) *t-iddar-t n Ffaya*
 EL:F-house-SG:F of Mustapha
 ‘the house of Mustapha’ (Figuig)

In Kabyle, a different construction is used with pronominal elements. These are attached to the noun by an element *i*, e.g. *a-qšiš-is* (EL:M-boy-3SG:GEN) ‘his boy’.

The second construction is restricted to a fixed set of head nouns, involving kinship terms (but not all of them) and the nouns ‘master’ and ‘mistress’. In this construction, pronominal suffixes are directly attached to the head noun, without an intervening element, e.g. Figuig: *mmi-s* (son-3SG) ‘his son’.

With nominal possessive phrases, the kinship term takes a third-person pronominal suffix and the possessive is rendered by means of a prepositional phrase with *n*, e.g.:

- (31) *mmi-s n Ffaya*
 son-3SG of Mustapha
 ‘Mustapha’s son’ (Figuiç)

Complement phrases of verbal nouns also use a possessive construction with the genitive preposition *n*. The complement can correspond both to the subject and to the object of the corresponding finite verbal expression. Compare examples (32a–c) from Kabyle (Naït-Zerrad 2001a); example (32a) gives the corresponding verbal sentence, example (32b) a subject complement, and example (32c) an object complement.

- (32a) *y-əčča wə-qšiš a-yrum*
 3SG:M-eat:P EA:M-boy EL:M-bread
 ‘The boy has eaten the bread.’
 (Kabyle, Naït-Zerrad 2001a)
- (32b) *θ-učči-θ n wə-qšiš*
 EL:F-eating-SG:F of EA:M-boy
 ‘the eating by the boy’
 (Kabyle, Naït-Zerrad 2001a)
- (32c) *θ-učči-θ n wə-yrum*
 EL:F-eating-SG:F of EA:M-bread
 ‘the eating of the bread’
 (Kabyle, Naït-Zerrad 2001a)

2.11.4.3 Adjectival modification

In those varieties of Berber where they occur, adjectives are a sub-class of the noun. All adjectives can be used both as head nouns and as modifiers (see Taïfi 2002). When used as modifiers, adjectives always follow the head. Modifying adjectives agree in gender and number, but not in state/case, with their head noun, e.g.:

- (33a) *a-rgaz a-məqqran*
 EL:M-man EL:M-big
 ‘the old man’ (Figuiç)
- (33b) *idžən n u-rgaz a-məqqran*
 one:M of EA:M-man EL:M-big
 ‘an old man’ (Figuiç)

In a number of Northern Berber dialects, different adjectival constructions are used, depending on whether the head noun is definite or indefinite. In the definite construction, the adjective follows the noun without a linking element. In the indefinite construction, the copular particle *d* is needed to link the adjective to the head noun. As definiteness and indefiniteness are not necessarily expressed in the head noun, this difference in construction can be the only overt mark of the distinction, e.g.:

(34a) *i-hram-ən* *i-məzzyan-ən*

EL:M-child-PL:M EL:M-small-PL:M

‘the young children’

(Eastern Riffian, Kossmann 2000a: 155)

(34b) *að gg-ən* *i-qəššuð-ən* *ð* *i-məqq^wran-ən*

AD dO:A-3PL:M EL:M-log-PL:M PRED EL:M-big-PL:M

‘They put large logs of wood.’

(Eastern Riffian, Kossmann 2000a: 156)

2.12 Verbal syntax

This section concerns the expression of mood, aspect, and negation (MAN) and valency. A third important syntactic feature of verbal syntax, clitic movement, has been treated above.

2.12.1 The expression of mood, aspect, and negation

The expression of mood, aspect, and negation uses a number of formal devices:

- (1) choice of a certain MAN stem;
- (2) use of the pre-verbal particles *ad* (and variants) ‘NON-REALIZED’ and *wəɾ* (and variants) ‘NEG’;
- (3) use of auxiliary elements, either auxiliary verbs or auxiliary particles (which are mostly derived from auxiliary verbs).

While the choice of the MAN stem and the use of *ad* and *wəɾ* reflect general Berber usage, the auxiliary elements (device 3) are dialectal developments. The choice of the MAN stem depends to some degree on the use of the pre-verbal particles (device 2); the negative MAN stems (Negative Perfective and Negative Imperfective) are only possible after the element *wəɾ* ‘NEG’, while the element *ad* ‘NON-REALIZED’ is either followed by an Aorist, or by an Imperfective, but never by a Perfective form.

The basic usage of the MAN stems can be summarized as follows (using the presumably archaic Figuig system as a basis of reference):

- The Aorist without a particle is used in imperatives, and as a consecutive form, i.e. the form codes that the aspectual properties of the verb are the same as those of a preceding verb. It is never consecutive to a negative form.
- The Aorist preceded by *ad* is used to express that an event expressed in the verb has not (yet) been realized. This may imply a nuance of irrealis, of uncertainty, or a reference to the future.
- The Perfective is used in two quite different manners. In the first it codes a dynamic event in the past; in the other it refers to a state, which may be, but does not have to be, resultant.
- The Imperfective is used to code simultaneity of events with the moment of speaking (progressive), or with a moment implied by the linguistic context. It is also used to express nuances such as habitual, iterative, durative, and, with stative verbs, inchoative. The affirmative Imperfective form is also used with negative imperatives.
- The Imperfective preceded by *ad* expresses that the imperfective event has not (yet) been realized.
- The Negative Perfective (always preceded by the negative particle) codes the negation of the affirmative Perfective.
- The Negative Imperfective (always preceded by the negative particle) is used to negate the Imperfective, as well as the construction with *ad* + Aorist.

In relative clauses and similar constructions (content questions, clefts), as well as after a large number of conjunctions, the particle *ad* takes a different allomorph in many languages, which is often etymologically unrelated to *ad*. There are many attested forms, which certainly have different historical sources, among others, *ara* ~ *ala* (e.g. Kabyle, Figui), *he* (Tuareg), *ya* (Riffian), *yra* (Central Moroccan Berber), e.g.:

- (35) *wi ss ala n-əškər*
 who 3:SG:M:DO AD PTC-praise:A
 'Who will praise him?'
 (Figui, Kossmann 1997: 278)

There exists important linguistic variation as to the number of MAN stems present in the languages. In addition, there exist differences in the use of the MAN stems, too. Most important among these are the following:

- In many dialects the negation of the imperative and the non-realized/future Perfective is realized by a combination of the particle *ad* 'NON-REALIZED' with a negative particle (*ur* or the like), followed by the Aorist. The use

of the Negative Imperfective in the negated imperative is rare but attested (e.g. in Eastern Riffian). Normally the affirmative form is used in this context, as in Figuig.

- The consecutive use of the Aorist has become restricted to subsequent imperatives or lost altogether in a large number of dialects (cf. Galand 2002a [1987]: 259–72).
- In Tuareg, the functions of the Perfective have been split between simultaneous events (including states and results) and non-simultaneous events. Moreover, different from Figuig and most other Berber languages, the non-stative use of the Perfective is not restricted to past contexts (see below).

There is general consensus in Berberology that the Northern Berber MAN system is basically aspectual (cf. Galand 1977), a position reflected in the terminology used here. In reality, the situation is more complicated. The imperfective nature of the ‘Imperfective’ is evident: it includes progressive, habitual, iterative, and (rarely) prolonged action. The case of what is called here the ‘Perfective’ is less evident. It is mainly used in two contexts: stative situations and non-habitual events in the past. When stative, the Perfective has no specific time reference, although, without context, reference to a present situation is the most likely interpretation. Verbs of knowing and feeling function as stative verbs. In many contexts, the stative use may be interpreted as a resultative; however, it is easy to find examples in which this is not the case (see Chaker 1995: 63–82), e.g.:

- (36) (*i-fəyyəy*.) *dur-n=as* *i-durar*
 (EL:M-Figuig) go.around:P-3PL:M=3SG:IO EA:M-mountains
 ‘As for Figuig, mountains surround [P] it.’
 (Figuig, Kossmann 1997: 352, slightly modified)

When dynamic, the Perfective only refers to past events. As stative is not an aspectual distinction,⁸ and as the aspectual connotation of the dynamic non-habitual past is not really evident, one may conclude that the aspectual nature of the Perfective is far from obvious. Tuareg, on the other hand, has a classic aspectual system. In this language, the dynamic Perfective does not necessarily refer to the past, but is also used in blessings and curses, e.g.:

- (37) *ogăz=kăy* *Măss-inăy*
 [3SG:M]-protect:P=2SG:M:DO Lord-1PL
 ‘May God protect [P] you.’
 (Burkina Faso Tuareg, Sudlow 2001: 91)

The Perfective and the Imperfective have undergone a split during the history of Tuareg (for the formal contrast, see table 2.11). While in the Imperfective the contrast

has either since been lost, or almost entirely grammaticalized, all Tuareg dialects have an opposition between two Perfectives. One of these Perfectives (the Secondary Perfective in the terminology used here), is used for events presented as a whole, which occur simultaneously with something else, either the moment of speaking (which mostly provides a stative or resultative interpretation), or a moment defined by the linguistic context. This is illustrated in examples (38a–c).

- (38a) *əgmád-ǎn ø-ǧáll-ǎn ođá-n*
 go.out:P2–3PL:M EA:M-arm-PL:M fall:P2–3PL:M
 ‘The arms have left [P2] (the sleeves) and have fallen [P2].’
 (Ayer Tuareg, Albaka and Casajus 1992: 125)
- (38b) *əzzáy-ǎy Mǎrkoy*
 live.in:P2–1SG Markoye
 ‘I live [P2] in Markoye.’
 (Burkina Faso Tuareg, Sudlow 2001: 93)
- (38c) *bǎrar-ǎn ozál-ǎn dǎy t-aberǎ-t*
 boy-PL:M run:P2–3PL:M in EA:F-road-SG:F
 ‘The children are running [P2] in the street.’
 (Burkina Faso Tuareg, Sudlow 2001: 93)

The other Tuareg Perfective presents the whole event without suggesting simultaneity. It is therefore often used for the narrative past, e.g.:

- (39) *ənǧǎr-ǎn meddǎn əgmǎy-ǎn a-zǧǎr, əggǎz-ǎn*
 rise:P-3PL:M people search:P-3PL:M EL:M-ox go.in:P-3PL:M
e-dǎg
 EL:M-place
 ‘Some people rose [P] and looked [P] for an ox and came [P] into
 a place . . .’ (Ayer Tuareg)

The use of auxiliary elements other than *wər* and *ad* is a feature found in many varieties of Berber. Some of these elements are associated with only one MAN stem, while others can be combined with any MAN stem. Among the last group are grammaticalized expressions of temporal anteriority, such as the Riffian particle *tuɣa*, e.g.:

- (40a) *a d=y-as*
 AD HITHER=3SG:M-come:A
 ‘He will come.’ (Riffian)
- (40b) *tuɣa a d=y-as*
 PAST AD HITHER=3SG:M-come:A
 ‘He was going to come.’ (Riffian)

- (40c) *i-tas=d*
 3SG:M-come:I=HITHER
 ‘He is coming.’ (Riffian)
- (40d) *tuɣa i-tas=d*
 PAST 3SG:M-come:I=HITHER
 ‘He was coming.’ (Riffian)
- (40e) *y-us=d*
 3SG:M-come:P =HITHER
 ‘He came.’ (Riffian)
- (40f) *tuɣa y-us=d*
 PAST 3SG:M-come:P =HITHER
 ‘He had come.’ (Riffian)

Other particles are exclusively found with one or several specific MAN stems, and convey nuances inside the more general meaning of that stem. Thus, for example, in Figui, in addition to the *ad* + Aorist/Imperfective construction, there exists a construction with the particle *sad* followed by an Aorist or an Imperfective. The particle *sad* codes more insistence on the non-realized event than more neutral *ad*, e.g.: *a dd=y-as* (AD HITHER=3SG:M-come:A) ‘He will come / He may come’, *sa dd=y-as* (FUT HITHER=3SG:M-come:A) ‘He will certainly come / He should really come’.

Subsequently, sometimes the construction without a particle becomes obsolete, and the innovated construction is generalized to all contexts the old construction had. Thus, for example, in Tashelhiyt, the particle *ar* associated with the Imperfective probably started as an indicator of simultaneity (e.g. in progressives), as opposed to habitual and iterative usages of the Imperfective. Nowadays, the use of *ar* has been extended also to habitual and iterative usage, and the marker has in most contexts become an obligatory accompaniment to the Imperfective, e.g. Tashelhiyt: *ar i-ttawi* (AUX 3SG:M-bring:1) ‘He is bringing / He always brings’.

2.12.2 Valency

Syntactically, all verbs have a subject (see, however, the section on pseudo-verbal particles); many verbs allow for an object, and/or an indirect object. Three-place verbs with subject, direct object, and indirect object are perfectly possible, and occur in the same type of semantic classes as in standard European languages. Three-place verbs with two direct objects are rare, but not impossible. A special class, found at least in some languages, is the class of verbs which obligatorily take a clausal complement. This clausal complement (often, but not necessarily, a non-verbal proposition) cannot be

- *šəttət* (stative use of a labile verb) ‘be dispersed’. Only the situation is described; there is no reason to assume that the dispersion has been caused by an internal or external agent. One may think, for example, of oases dispersed over a region.
- *mm-šəttət* (middle prefix *mm-*) ‘disperse oneself’. The event is brought about by internal factors. One may think of a tribe dispersing itself in a region.
- *ttu-šəttət* (medio-passive prefix *ttu-*) ‘be dispersed’. The event is brought about by an external factor, but the agent is of no relevance. One may think of leaves lying around, dispersed by the wind.
- *ttwa-šəttət* (passive prefix *ttwa-*) ‘be dispersed’. The event is brought about by an external agent, which is considered relevant. It may be expressed by an agent phrase.

2.12.3 Reflexives

Reflexives are expressed by the noun phrase *iman*, usually followed by a pronominalized genitive phrase. In Northern Berber, the noun *iman* has no other usages than in the reflexive construction. In Tuareg, it is a *plurale tantum* noun meaning ‘soul, the self’. E.g.:

(43a) *šərtβ-əy iman-iw*
 test:P-1SG REFLEXIVE-1SG:GEN
 ‘I have tested myself.’
 (Kabyle, Dallet 1982: 503)

(43b) *i-xəddəm f y-iman-is*
 3SG:M-work:I on EA:M-REFLEXIVE-3SG:GEN
 ‘He works for himself.’
 (Kabyle, Dallet 1982: 503)

2.13 Basic sentence structure

Berber has two basic sentence types: sentences with a finite verb (verbal sentences) and sentences without a finite verb (non-verbal sentences).

2.13.1 Simple verbal sentences

In most Berber languages, simple verbal sentences have the following structure. Case assignment (EL = Free State, EA = Annexed State) is marked beneath the elements of the sentence:

[TOPIC], [V S O other]
 EL EA EL

- (45c) *a-xxam* *ǫ* *a-məqqran*
 EL:M-house PRED EL:M-big
 ‘The house is big.’
 (Kabyle, Nait-Zerrad 2001b: 127)
- (45d) *n jma*
 of brother
 ‘It is my brother’s.’
 (Kabyle, Nait-Zerrad 2001b: 128)

In addition to this sentence type, there exists everywhere a verb ‘be’. The use of a ‘be’-verb is obligatory when referring to situations other than present state, e.g. a habitual, an imperative or a non-realized event, as in the following examples:

- (46a) *iři* *ǫ* *a-ryaz*
 be:A:IMPT:SG PRED⁹ EL:M-man
 ‘Be a man!’ (imperative) (Riffian)
- (46b) *i-tiři* *ǫa*
 3SG:M-be:I here
 ‘He is always here.’ (habitual) (Riffian)
- (46c) *aǫ y-iři* *ǫ* *a-ǫβiβ*
 AD 3SG:M-be:A PRED EL:M-doctor
 ‘He will be a doctor.’ (non-realized) (Riffian)

Moreover, the verb in question may be obligatory in clauses which have a more complicated structure, either when they have some additional particles (such as the negation), or because they are subordinate (as in clefts), e.g.:

- (47a) (*nəšš*) *ǫ* *a-maziγ*
 (I) PRED EL:M-Berber
 ‘I am a Berber.’ (Ait Touzine Riffian)
- (47b) *ǫ* *a-maziγ* *i* *ǫǫi-x*
 PRED EL:M-Berber NONDEF be:P-1SG
 ‘I am a Berber (it is a Berber that I am).’ (Ait Touzine Riffian)
- (47c) *war ǫǫi-x* *ša* *ǫ* *a-maziγ*
 NEG be:P-1SG NEG PRED EL:M-Berber
 ‘I am not a Berber.’ (Ait Touzine Riffian)

In some languages, the use of verbal expressions in existential, attributive, and locative sentences is more general than in Riffian. In Tashelhiyt, for example, in attributive

sentences the verb *g* ‘be, make’ is used, while in locative sentences the verb *ili* is found, e.g. (Aspinion 1953: 84):

- (48a) *a-yyul i-lla y y-igr*
 EA:M-donkey 3SG:M-be:P in EA:M-field
 ‘The donkey is in the field.’
 (Tashelhiyt, Aspinion 1953: 84)

- (48b) *a-yyul i-ga yat lbhimit*
 EL:M-donkey 3SG:M-make:P one:F animal
 ‘The donkey is an animal.’
 (Tashelhiyt, Aspinion 1953: 84)

In Tashelhiyt, only a very restricted use is made of non-verbal structures (for details, see Galand 1988: 217–18).

In most Berber languages, sentences expressing ‘having’ are non-verbal in nature. In these sentences the possessor is expressed by a prepositional phrase using the preposition ‘at’ (*chez*). In several dialects, in possessive constructions, nominal complements of the preposition are obligatorily put in topic position, and taken up pronominally in the main clause, as in example (49):

- (49) *Brahim dar-s t-arwa*
 Brahim at-3SG EL:F-children
 ‘Brahim has children.’
 (Tashelhiyt, Galand 1988: 217) (*dar Brahim t-arwa* is ungrammatical)

2.13.3 Sentences with pseudo-verbs

In addition to finite verbs, there exists in many Berber languages a group of elements which lack subject marking and MAN inflection, but which allow for direct object marking, indirect object marking, and/or the use of the deictic clitics *dd* ‘hither’ and *nn* ‘thither’. As this suggests that these uninflected forms have the verbal property of valency, these elements will be called ‘pseudo-verbs’. In addition to pseudo-verbs, which can have predicative function, there also exist pseudo-verbs that can only be used adverbially. The following examples illustrate pseudo-verbs in Tashelhiyt:

- (50a) *manza=k*
 where=2SG:M:DO
 ‘Where are you?’
 (Tashelhiyt, Aspinion 1953: 212)
- (50b) *manza=km=inn*
 where=2SG:F:DO=THITHER
 ‘How do you (F) do?’
 (Tashelhiyt, Aspinion 1953: 212)

Table 2.35 *Negative constructions in Ghadames.*

Function	Form
Negation of the Imperative:	<i>wāl</i> + affirmative Imperfective (imperative endings)
Negative Future:	<i>ak</i> + <i>da</i> + Future
	<i>ak</i> + Negative Imperfective
Negative Past:	<i>ak</i> + Negative Perfective
Negative Habitual:	<i>ad</i> + affirmative Imperfective + <i>ante</i>

Source: Lanfry (1968: 338ff.).

- (50c) *laḥ=as ta-srdun-t nn-s*
 lost=3SG:IO EL:F-mule-SG:F of-3SG
 ‘He lost his mule (lit. lost to him his mule).’
 (Tashelhiyt, Aspinion 1953: 214)

- (50d) *i-skr γay-ann waḥdu=t*
 3SG:M-make:P NONDEF-DIST alone=3SG:M:DO
 ‘He did it alone.’
 (Tashelhiyt, Aspinion 1953: 213)

2.14 Negation and modality

2.14.1 Negation in verbal and prepositional sentences

In verbal sentences, negation is expressed by the pre-verbal particle *wər* (*ur*, *ul*, etc.) in the great majority of Berber languages. Except for with the Imperative, the particle *wər* is obligatorily followed by negative MAN verb-stems.

In some eastern Berber languages, a rather complicated system of negative particles is found. In Ghadames, for example, the form of the particle is connected with the aspectual stem which is used (table 2.35).

In a number of Northern Berber languages, there is extensive use of post-verbal negative elements, which are used together with the obligatory pre-verbal element. The exact syntactic conditions under which these elements are used are not always clear, and there may be considerable dialectal variation. Examples include:

- (51a) *u traža ša*
 NEG wait:I:IMPT:SG NEG
 ‘Don’t wait.’
 (Riffian, Lafkioui 1996: 60)

- (51b) *u (a)sən=θ-əwši arrbiŋ*
 NEG 3PL:M:IO=3SG:F-give:PN grass
 ‘She did not give them grass.’
 (Riffian, Lafkioui 1996: 61)

- (51c) *u (a)sən=θ-əwši ša arrbiʕ*
 NEG 3PL:M:IO=3SG:F-give:PN NEG grass
 ‘She did not give them grass.’
 (Riffian, Lafkioui 1996: 61)

- (51d) *u (a)sən=θ-əwši βu arrbiʕ*
 NEG 3PL:M:IO=3SG:F-give:PN NEG grass
 ‘She did not give them grass (at all).’ (Riffian)

In most Berber languages, negation of locational and possessive predicates follows the same lines as verbal negation: the prepositional phrase is preceded by the particle *wə(r)* and, possibly, followed by the second element of the negation. In this construction, only prepositional phrases with pronominal suffixes are allowed, e.g.:

- (52a) *u ɣar-s ša řħəq*
 NEG with-3SG NEG right
 ‘He is not right (lit. there is no right with him).’
 (Riffian, Lafkioui 1996: 63)

- (52b) *θi-ʕəzriyy-in=a u δay-sənt ša zzin*
 EL:F-girl-PL:F=PROX NEG in-3PL:F NEG beauty
 ‘These girls, there is no beauty in them.’
 (Riffian, Lafkioui 1996: 63)

In the negation of other non-verbal sentences, most (possibly all) Berber languages differentiate between attributive sentences and existential sentences (see Galand 2002a [1995]: 175–86), using different particles and constructions. In attributive sentences, the following types of constructions are found:

- a negation built on the element *wə(r)* + the predicative particle *d*, e.g.:

- (53) *ur id a-rgaz*
 NEG PRED EL:M-man
 ‘It is not a man.’
 (Central Moroccan Berber, Taïfi 1991: 766)

- a negation using a special particle (often borrowed from Arabic), only used in this context, e.g.:

- (54) *mačči đ a-rjaz*
 NEG PRED EL:M-man
 ‘It is not a man.’
 (Eastern Kabyle, Rabhi 1996: 28)

- a negation using a negative verb, or a construction derived from a verb phrase, e.g.:

(55a) *i-xǝa* *ǝ* *a-ryaz*
 3SG:M-be.excluded:P PRED EL:M-man

‘It is not a man.’

(Chaouia, Rabhi 1996: 28)

(55b) *mmi-s*, *udži* *ša* *Mmuñ*
 son-3SG NEG:be NEG Muh

‘His son is not Muh.’ (from *war y-ǝdži* ‘he is not’)

(Riffian, Lafkioui 1996: 69)

(55c) *kǎy* *a* *tǎn=y-ǝñ-ǎn*,
 2SG:M NONDEF 3PL:M:DO=PTC:SG:M-say:P-PTC:SG:M
wǝrge *nǝa*
 NEG:be 3SG:M

‘You said it, not he.’ (from *wǝr ge* ‘I am not’)

(Ayer Tuareg, Ramada Elghamis p.c.)

In locative and existential sentences, two types of negation are generally found:

- a negation of the existential verb *ili* ‘be’, often grammaticalized as a negative particle, e.g.:

(56a) *t-u* *ulli* *šay* *d* *ta-mǝššiǝan-t*
 DEF:F:SG-PROX NEG:be NEG PRED EL:F-devil-SG:F

n laxǝrt

of Other.World

‘This is not a devil from the Other World.’

(*ulli* < *ul i-lli* ‘he is not’) (Figuig)

(56b) *ulaš* *xali-ǧ* *ǝi* *θ-ǝssir-θ*
 NEG:be uncle-2SG:M in EA:F-mill-SG:F

‘There is no “Your uncle” at the mill (i.e. everybody has to wait for his turn).’

(Kabyle, Dallet 1982: 443)

- the use of a special negative verb or particle, e.g.:

(57a) *aba=hak* *erǝd*
 NEG:be=2SG:M:IO wheat

‘You don’t have wheat.’

(Ahaggar Tuareg, Galand 2002a: 178)

- (57b) *laḥ=as ta-fuk-t*
 is.not=3SG:IO EL:F-sun-SG:F
 ‘There is no sun for him.’
 (Tashelhiyt, Galand 2002a: 178)

2.14.2 Questions

In all Berber languages, yes–no interrogation can be expressed by intonation only. In many languages, there exist special interrogative markers which are put in initial position in yes–no questions. The form of these markers differs from dialect to dialect. Tashelhiyt and a number of other Moroccan dialects use *is*, which has non-interrogative functions too (Galand 2002a [1987]: 253). Other dialects use, among others, *ma* (Kabyle, Riffian) or the loan from dialectal Arabic *waš* (Figuig). Examples include:

- (58a) *ma a d=y-as a-zəkka?*
 Q AD HITHER=3SG:M-come:A EL:M-tomorrow
 ‘Will he come tomorrow?’
 (Kabyle, Dallet 1982: 475)
- (58b) *waš t-ḡəlm-əd arra?*
 Q 2SG-have:P-2SG children
 ‘Do you have children?’
 (Figuig, Kossmann 1997: 305)

Most content questions involve question words consisting of an element *m-*, followed by a pronominal element (mostly *a(y)* or *i*), which, in the case of many prepositional questions, is followed by a form of the preposition, e.g. Tashelhiyt: *ma* ‘who?’; *mad* ‘what?’; *ma-f* (what-on) ‘on what?’; *ma-y* (what-in) ‘in what?’; and the irregular form *mamu* ‘to whom?’, which is the interrogative counterpart of phrases with the dative preposition *i* ‘to’. In many dialects, ‘who’-questions use a special pronominal form, *wi*.

Interrogative sentences with question words typically involve syntactic structures akin to clefting. It is possible to analyse (at least historically) most question-word sentences as a question element *m-*, followed by the clefting element *a*, followed by a relative clause. This explains the fact that prepositions typically follow the question word rather than precede it (in relative clauses, prepositions are found on the left periphery of the clause), and the use of the participial form when the question word is the subject of the sentence, e.g.:

- (59) *ma i-nna-n awal=ad?*
ma i-nna-n awal=ad
 who PTC:SG-say:P-PTC:SG word=PROX
 ‘Who has said this word?’
 (Tashelhiyt, Aspinion 1953: 180)

The analysis of interrogative sentences as clefted constructions involves one minor problem. As mentioned above, adpositions regularly follow the question word, which is unproblematic from a syntactic point of view as long as the sentence can be analysed as involving clefting. However, it is also possible to use question words as isolated sentences. In this case, the question word is followed by the adposition, but no other part of a relative clause is present, e.g.:

- (60) *ma yər?*
 what to
 ‘Why?’ (Figuig)

In such cases, it seems that the adposition has become fixed to the original interrogative element, and that they form together a complex question word, without a major syntactic break between the two elements.

Indirect questions are constructed in the same way as direct questions, using interrogative particles in indirect yes–no questions, and question words in word-questions. The difference with direct questions lies in the impossibility of unmarked interrogation in indirect questions and in the absence of the typical interrogative intonation.

2.14.3 Deontic modality

Deontic modality involves a number of different forms and constructions (for an overview, see Kossmann 2001a). Most important among these are the Imperative and the Injunctive. The particle *ad*, ‘NON-REALIZED’, is used for a large range of meanings, whose central part is the fact that the event in question has not been realized (yet). In addition to orders, which are expressed by the Imperative or by a phrase with *ad*, there exist a number of other modal expressions in the Berber verb. These include cohortatives (first-person order) and injunctives (mainly third-person order). In the formation of these modal forms two different constructions are used:

- Adjunction of a modal element specific to an imperative verb. This is mostly found with first-person injunctives (jussives), e.g.:

- (61) *ddu-yat-aγ*
 go:A-IMPT:PL:M-COHORTATIVE
 ‘Let’s go.’ (Tashelhiyt)

- Adjunction of a modal element to a verbal form with normal inflection. This appears both with first-person and third-person injunctions, e.g.:

(62a) *an n-əzwa-t*
 AD 1PL-go:A-INJUNCTIVE
 ‘Let’s go.’ (Figuig)

(62b) *y as et=i=d*
 3SG:M come:A INJUNCTIVE=1SG:DO=HITHER
 ‘May he come to me.’ (Ahaggar Tuareg)

2.15 Pragmatic functions

2.15.1 Topicalization

Elements can be topicalized by putting them in sentence-initial position. Although topicalized nouns normally specify elements taken up by pronominal elements later on in the sentence, this is not necessarily the case. It is possible to have several topicalized elements in one sentence. Nouns in topicalized position have the Free State, whatever their function in the sentence may be. There exist no lexical topic markers in Berber. Examples (topicalized elements are in bold type) include:

(63a) ***θəlt*** *iyyam nəttəθ t-tɣima* *ðin*
 three days she 3SG:F-stay:I there
 ‘Three days, as for her, she stayed there.’ (Riffian)

(63b) ***yəmma-s=ənni*** *kuř ssimana y-ətsəwwəq*
 mother-3SG=ANAPH every week 3SG:M-go.to.market:I
t-tišš=as dəřhəm
 3SG:F-give:I=3SG:IO dirham
 ‘As for his mother, every week he would go to the market, and she would give him a dirham (a coin).’ (Riffian)

(63c) ***nəttəθ θ-xaðən-t=ənni*** *ɣir a t=y-əzři*
 she EL:F-ring-SG:F=ANAPH only AD 3SG:F:DO=3SG:M-turn:A
amm-u a ki-s d=i-xəšš žžənn
 like-PROX AD with-3SG HITHER=3SG:M-come.in:A djinn
 ‘As for it, this ring, he only had to turn it around like this and a djinn would come in.’ (Riffian)

2.15.2 Focalization

Focus is marked by means of clefting. A cleft sentence typically has the following structure:

[NON-VERBAL PREDICATE] [CLEFTING ELEMENT] [RELATIVE CLAUSE]

In those languages in which the predicative particle *d* is used, this particle will normally be the initial element of the cleft sentence. However, if the clefted element is a question word, only constructions without *d* are possible. In those languages in which there is no predicative particle, the focalized element is the first element of the sentence.

The clefting element normally has the form *a(y)* or *i* (according to the dialects). It has been analysed by Lionel Galand as a ‘support de détermination’, i.e. a (demonstrative) pronominal element which is mainly or exclusively used as the basis to which a determination (in this case the relative clause) is attached – for example:

- (64) *ǎ nǎčč ay kiǎ-ǎç d=y-usi-n*
 PRED I NONDEF with-2SG:M HITHER=PTC-come:P-PTC
 ‘It is I who have come with you.’
 (Eastern Riffian, Kossmann 2000a: 158)

In most languages and constructions, clefting mainly concerns noun phrases. The construction used in the clefting of prepositional phrases is subject to dialectal variation. Many languages have a construction in which only the noun is clefted and the bare preposition is part of the relative construction, e.g.:

- (65) *ta-saru-t=ad a s t-rzm-t lbab?*
 EL:M-key-SG:F=PROX NONDEF with 2SG-open:P-2SG door
 ‘Is it with this key that you opened the door?’
 (Tashelhiyt, Leguil 1992: 137)

In the alternative construction, which may appear in the same language, the whole prepositional phrase is clefted. In the relative clause, the preposition may be repeated or absent, e.g.:

- (66a) *s t-saru-t=ad a s t-rzm-t lbab?*
 with EA:M-key-SG:F=PROX NONDEF with 2SG-open:P-2SG door
 ‘Is it with this key that you opened the door?’
 (Tashelhiyt, Leguil 1992: 137)
- (66b) *ǎi-ç ay yi-x ttiqa*
 in-2SG:M NONDEF put:P-1SG confidence
 ‘It is in you that I have confidence.’
 (Ayt Sadden, Central Moroccan Berber, Leguil 1992: 138)

In order to express verb focus, some languages allow for a clefting procedure, in which the verb is taken up by a clefted cognate verbal noun, e.g.:

- (67) δ $\theta a-r\acute{e}wla$ ay $d=r\acute{e}wl-\acute{e}n$
 PRED EL:F-fleeing NONDEF HITHER=flee:P-3PL:M
 ‘They fled hither (lit. it is fleeing that they fled).’
 (Kabyle, Galand 2002a: 344 citing Picard)

In other languages, only intonational means are used for conveying focus to the verb.

At least in some languages, it is possible to put the clefted non-verbal predicate at the end of the sentence, as in example (68):

- (68) a $y-uss-n$ $i-y^w\acute{l}al-n$ i $w-u\acute{s}\acute{s}n$
 NONDEF PTC:SG-attach:P-PTC:SG EL:M-shell-PL:M to EA:M-jackal
 y $t-\acute{s}\acute{t}\acute{t}ab-t$ $n-s$ d $bum\acute{h}and$
 on EA:F-tail-SG:F of-3SG PRED hedgehog
 ‘It is the hedgehog who attached the shells to the tail of the jackal.’
 (Tashelhiyt, Galand 2002a: 349)

Note in this example the use of the predicative particle *d*, which is absent elsewhere in Tashelhiyt.

2.16 Complex sentences

2.16.1 Sentential coordination and VP coordination

The only Pan-Berber element used in sentential and VP coordination is *niy* (and variants) ‘or’. In most Berber languages there is no ‘and’ morpheme used in sentential or VP coordination. In some Eastern Berber languages (e.g. Djebel Nefusa), however, the preposition *d* ‘with, and’, which is normally restricted to NP coordination, has been extended to sentential coordination, probably as a calque on Arabic *w* ‘and’, used for both sentential and NP coordination – e.g.:

- (69) $ss\acute{e}nz-\acute{e}y=t\acute{e}nt$ $d\acute{e}d$ $k\acute{e}sb-\acute{e}y$ $si-s\acute{e}nt$
 sell:P-1SG=3PL:F:ACC with gain:P-1SG from-3PL:F
 ‘I sold them and gained from them.’
 (Djebel Nefusa, Beguinot 1942: 174)

In other languages, there is sometimes room for *d* as a sentence coordinator, provided that the second sentence begins with a topicalized noun or pronoun. Thus, it seems that the syntactic obligation is fulfilled that, in non-relative clauses, a preposition should be followed by a noun phrase, although the coordination clearly involves two propositions

and not only the noun preceded by *d*. While this construction is marginal in most languages, it is a fairly common strategy in Eastern Riffian, e.g.:

- (70) *iwa θ-əčča ǫ Lila a las=θ-ini*
 well 3SG:F-eat:P and Lila AD 3SG:IO=3SG:F-say:A
 ‘Well, she ate, and Lila told her . . .’
 (Eastern Riffian, Kossmann 2000a: 192)

2.16.2 Clausal complements

In Berber, many verbs can have clausal complements. These complements always consist of clauses with finite verbs. Sentences can be adjoined without a complementizer. The complements always follow the main verb. As the subject is obligatorily encoded in the verbal form, there is no way to distinguish a same-subject complement phrase from a full sentence, other than intonation (for a discussion, see Chaker 1983: 411–27), as shown in the following Kabyle examples (Chaker 1983: 417–18), in which the comma marks a different intonation contour:

- (71a) *y-uji, aǫ y-əqqim*
 3SG:M-refuse:P, AD 3SG:M-stay:A
 ‘He refuses (to come), and will stay.’
 (Chaker 1983: 417)
- (71b) *y-uji aǫ y-əqqim*
 3SG:M-refuse:P AD 3SG:M-stay:A
 ‘He refuses to stay.’
 (Chaker 1983: 418)

Many initial verbs determine the aspect of the second verb. Thus, the verb ‘begin’ is always followed by an imperfective verb, while the verb ‘want’ is followed by an *ad*+Aorist construction. In sentences where the two verbs have different subjects, it is possible to express the (lexical) subject both with the first verb and with the second verb, e.g.:

- (72) *t-xəs t-məttu-t n ppa-s ad t-əxləq*
 3SG:F-want:P EA:F-wife-SG:F of father-3SG AD 3SG:F-be:A
wala d amm=ənn yəlli-s
 also PRED like=ANAPH daughter-3SG
 ‘The wife of her father wanted her daughter also to be like that.’ (Figuiç)

In example (72), *t-məttu-t n ppa-s* ‘the wife (EA) of her father’ is the lexical subject of the initial verb *t-xəs* ‘she wanted’, while *yəlli-s* ‘her daughter’ is the lexical subject

of the dependent verb phrase *ad t-əxləq wala d amm=ənn* ‘she will also be like that’. While most clausal complements do not involve a complementizer, such linkers are not entirely absent from Berber syntax. An example of a construction without a linking element which contrasts with a construction with a complementizer is found with the verb ‘know’ in many Berber languages, e.g.:

- (73a) *y-əssən að y-ari*
 3SG:M-know:P AD 3SG:M-write:A
 ‘He knows (how) to write.’
 (Riffian, Cadi 1987: 81)

- (73b) *y-əssən illa að ari-y*
 3SG:M-know:P COMPLEMENTIZER AD write:A-1SG
 ‘He knows that I will write.’
 (Riffian, Cadi 1987: 81)

2.16.3 Subordinating particles

Subordinate clauses with subordinating particles are well attested all over Berber. There exist important differences in syntactic behaviour between the subordinating particles. Thus in Figuig Berber, two syntactic features are relevant for distinguishing types of subordinating particles. First, the use of some, but not all, subordinating particles leads to clitic fronting. Second, the syntax of topicalization depends on the subordinating particle: with some, the topicalized element occurs before the subordinator, while with others, the topicalized element occurs after the subordinator. Compare the following examples:

- (74a) *Buɣlam mikk i-kəmməl si rriyat ad i-qədd . . .*
 Buɣlam when 3SG:M-finish:P from money AD 3SG:M-can:A
 ‘Buɣlam, when he has finally found the money, will be able . . .’
 (Figuig, Kossmann 1997: 323)

- (74b) *ɣlahəqqaš ay-ənn n u-ysum y-uyyəy*
 because NONDEF-ANAPH of EA:M-meat 3SG:M-refuse:P
ad i-hwa
 AD 3SG:M-go.down:A
 ‘because the meat would not go down (into the stomach)’
 (Figuig, Kossmann 1997: 323)

Example (74a) shows that, with *mikk* ‘when’, the topicalized element (*Buɣlam*) stands before the conjunction, whereas example (74b) shows that, with *ɣlahəqqaš* ‘because’, the topicalized element (*ay-ənn n u-ysum*), stands after the subordinator.

On the basis of the different combinations of these two syntactic features, three classes can be distinguished: particles which cause clitic fronting, and have pre-particle topicalization; particles without clitic fronting, which have pre-particle topicalization; and particles without clitic fronting, which have post-particle topicalization. There exist no particles which cause clitic fronting, but have post-particle topicalization.

The syntax of topicalization in these subordinated clauses may be connected to the semantics of the conjunction – topicalization before the conjunction being found with temporal and conditional conjunctions, while causal and final conjunctions have topicalization after the conjunction. The presence or absence of clitic fronting seems to be lexically determined.

Many conjunctions have their origin in more complex syntactic constructions, either a relative (or clefted) structure (see Galand 2002a [1987]: 241–56), or a structure with a grammaticalized verbal element. Moreover, many conjunctions have been borrowed from dialectal Arabic. It is probable that these different origins are (partly) the reason for the differences in behaviour as to clitic fronting. Thus, an old relative construction would automatically bring about clitic fronting, as opposed to the ancient verbal constructions. It is, however, often very difficult to prove such origins in the actual languages, due to changes that the system has undergone.

2.16.4 Relative clauses

Relative clause formation in Berber involves a number of different features (see Galand 2002a [1988]: 219–40):

- (1) The use of a special verbal form, the so-called ‘participle’, when the head functions as the subject of the relative clause. Otherwise the normal inflected verb forms are used.
- (2) Clitic fronting.
- (3) In some languages, the use of specialized relative elements. These elements may either be phonologically independent pronoun-based elements, or specialized noun-clitics which are cliticized to the head noun.

In some varieties, these phenomena are only found if the head noun is definite, while with an indefinite head noun a construction without relative marking is used (see below). The head noun is not marked by a resumptive pronoun in the relative clause. With the exception of Siwa and Awdjilah, features (1) and (2) occur in all Berber variants. They will be illustrated with forms from Figuig, a language which has no specialized relative particles or clitics (relative clauses are in bold).

- (75a) *ti-zədnan* ***dd=i-ttas-ən*** (subject relative)
 EL:F-women HITHER=PTC-come:I-PTC
 ‘the women that come here’ (Figuig)
- (75b) *nwi* ***dd=y-iwəy*** ***u-məzzyan*** (direct object relative)
 kernels HITHER=3SG:M-bring:P EA:M-small
 ‘the date kernels that the young (child) has brought’
 (Figuig, Kossmann 1997: 280)

In prepositional relatives, the bare preposition, without a pronominal or nominal element following it, is put on the left edge of the relative clause, e.g. in Figuig (relative clauses bold):

- (75c) *t-iddar-t* ***dəg i-mmut*** (prepositional relative)
 EA:F-house-SG:F in 3SG:M-die:P
 ‘the house in which he died’
 (Figuig, Kossmann 1997: 220)
- (75d) *ta-mdin-t* ***zəg dd=usi-x*** (prepositional relative)
 EL:F-town-SG:F from HITHER=go.out:P-1SG
 ‘the town from which I have come’
 (Figuig, Kossmann 1997: 221)

In a number of varieties, there exist special elements that mark the relative clause. These elements can be of two types. In the first place, there exist in some languages deictic clitics which only occur when attached to the head of a relative clause. This is the case, for example, with the relative clitic *da* in Demnat (Central Moroccan Berber), e.g. (relative clauses are in bold):

- (76a) *zri-y* *a-rgaz=da* ***i-rwl-n***
 see-1SG EL:M-man=RELATIVE PTC-flee:P-PTC
 ‘I saw the man who fled.’
 (Demnat, Central Moroccan Berber, Sadiqi 1997: 160)
- (76b) *lktab=da* ***y-ara*** ***u-rgaz*** *i-yla*
 book=RELATIVE 3SG:M-write:P EA:M-man 3SG:M-be.expensive:P
 ‘The book that the man has written is expensive.’
 (Demnat, Central Moroccan Berber, Sadiqi 1997: 164)
- (76c) *i-dda* *u-rgaz=da* ***f i-ssawl***
 3SG:M-go:P EA:M-man=RELATIVE on 3SG:M-speak:P
 ‘The man about whom he spoke has gone.’
 (Demnat, Central Moroccan Berber, Sadiqi 1997: 165)

In the second place, it is obligatory in some varieties, at least in some constructions, to use a non-clitic linking element. Galand (2002a: 336ff. and elsewhere) analyses these elements as pronouns, which are exclusively used as a basis for the determination, in this case the relative clause (so-called ‘supports de détermination’). However, as he remarks himself, this construction seems to be undergoing further grammaticalization, at least in some dialects, and in some cases one could probably speak of genuine relative pronouns (Leguil 1992: 111–21). Examples of this construction found in central Riffian dialects, which use a demonstrative element *i* in many relative constructions (relative clauses are in bold), are:

(77a) *ttəffaħ i dd=i-tarr-ən ləʕmar*
 apples NONDEF HITHER=PTC-render:I-PTC life
 ‘the apples that restore life’ (Riffian)

(77b) *a t-əsw-əm lhažəθ i θ-əxs-əm*
 AD 2PL:M-drink:A-2PL:M thing NONDEF 2PL:M-want:P-2PL:M
 ‘You may drink the thing that you want.’ (Riffian)

In many varieties, relative clauses with an indefinite head noun have no special relative marking, as in example (78) from Figuig (describing a very unusual event), where one finds a subject relative with an indefinite head without the participle.

(78) *n-əmmutər yišš n t-ili t-əyyu ššmal*
 1PL-see:P one:F of EA:F-ewe 3SG:F-put:P bra
 ‘We saw a ewe with a bra (lit. a ewe that had put on a bra).’
 (Figuig, Kossmann 1997: 316)

2.16.5 Consecutive constructions

Consecutivization is straightforward in Berber and does not involve special morphological features, except for the choice of MAN stem. As described above, auxiliary verbs have a tendency to develop into pre-verbal particles without subject marking; at a certain point in this process of grammaticalization, one could speak of consecutivization.

The most interesting feature in consecutivization is the use of the Aorist. In the majority of Berber variants, the Aorist without the particle *ad* is mainly used as a consecutive form – that is, when it is used, its temporal/aspectual interpretation is that of the initial verb in the series. The Aorist without *ad* cannot be used as an initial verb (except in the imperative) and does not occur in negative contexts. In principle, it can continue any initial verbal form, as shown below for Tashelhiyt (cf. Galand 2002a [1987]: 259–71; consecutive Aorists are in bold).

ad + Aorist

- (79) *an n-ddu ar ta-wrir-t=ann n-azzl=d gi-s*
 AD 1PL-GO:A until EL:F-hill-SG:F=DIST 1PL-run:A=HITHER on-3SG
 ‘We will go to that hill over there and run on it.’
 (Tashelhiyt, Stroomer 2001)

Perfective

- (80) *i-nna=yas: (. . .), azzl-n ukan, y-ak^wi*
 3SG:M-say:P=3SG:IO (. . .) run:A-3PL:M then 3SG:M-reach:A
w-uššn bumḥand i-fl=t
 EA:M-jackal hedgehog 3SG:M-pass:A=3SG:M:DO
 ‘He said: (. . .), then they **ran**, the jackal **reached** the hedgehog, he **ran** past him.’
 (Tashelhiyt, Stroomer 2001: 138)

Imperfective

- (81) *ar t-ttabša ya-t t-suqiy-t t-ag^wmar-t*
 AUX 3SG:F-follow:I one-F EA:F-black.person-SG:F EL:F-horse-SG:F
t-asi ta-grtil-t n t-sli-t t-amz
 3SG:F-bear:A EL:F-mat-SG:F of EA:F-bride-SG:F 3SG:F-hold:A
ta-qzzib-t n t-ag^wmar-t
 EL:F-tail-SG:F of EA:F-horse-SG:F
 ‘A black woman follows the horse and **bears** the mat of the bride and **holds** the tail of the horse.’
 (Tashelhiyt, Stroomer 2001: 42)

Following an Imperative, the consecutive Aorist takes the non-imperative endings of the second person, e.g.:

- (82) *hak ta-kššul-t=ad awi=t s*
 here EL:F-bag.for.churning-SG:F=PROX bring:A:IMPT:SG=3SG:F:DO to
w-asif ssird=stt=id gi-s bahra
 EA:M-river wash:A:IMPT:SG=3SG:F:DO=HITHER on-3SG much
t-awi-t=stt=id ar yid
 2SG-bring:A-2SG=3SG:F:DO=HITHER until here
 ‘Here, take this skin bag for churning, take it to the river, wash it properly, and bring it back here.’
 (Tashelhiyt, Stroomer 2002: 70)

There are no restrictions on the person of the verb used in the consecutive series; there exists no obligation to use the same subject or similar things.

Similar consecutive uses of the Aorist without preceding particle are found in many other Berber languages, e.g. in Central Moroccan Berber, in Figuig, and in Kabyle. In some variants, there are important restrictions as to the verb forms a consecutive Aorist may continue; thus, in Riffian, for example, the consecutive use of the Aorist is confined to series of Imperatives.

Although consecutivization is probably the central function of the Aorist without a particle, it is difficult to subsume all uses of this construction under the label ‘consecutive’. A well-attested phenomenon is that the ‘consecutive’ Aorist is used in the main clause after a subordinate clause, e.g.:

- (83) *iγ i-zra kra n bnadm y-ašk=id sr-s*
 when 3SG:M-see:P some of human 3SG:M-come:A=HITHER to-3SG
y-iri ad t=i-ssxsr
 3SG:M-want:A AD 3SG:M:DO=3SG:M-ruin:A
 ‘When he (the hyena) sees a human being, he goes toward him and
 wants to ruin him’
 (Tashelhiyt, Galand 2002a [1987]: 263 citing Roux)

It is difficult to see how the Aorist (which is used in a habitual context, which would better fit an Imperfective MAN stem) could be considered consecutive to the Perfective form found in the subordinate clause.

Ancient Egyptian and Coptic

Antonio Loprieno and Matthias Müller

3.1 Historical and cultural context

3.1.1 Introduction

Ancient Egyptian and its latest historical stage, Coptic, represent a separate branch of the Afroasiatic language family (also called Hamito-Semitic, or Semito-Hamitic: Diakonoff 1965; Hodge 1971; Zaborski 1992: 36–7). Within Afroasiatic, Egyptian shows the closest relations to Semitic and Berber.

The productive history of Egyptian, which spans from 3000 BC to AD 1300, divides into two main stages, characterized by a major change from synthetic to analytic patterns in the nominal syntax and the verbal system (Junge 1985), and further into three different phases, which affect mainly the sphere of graphemics (Kammerzell 1995).

The use of Egyptian was confined to the Nile valley and delta, broadly within the borders of modern Egypt. At certain times, the Egyptian dominion exceeded these natural borders, and Egyptian was used as the language of the Egyptian-based ruling elite in the occupied territories such as Nubia or the southern Levant. However, the language never established itself there as a stable communication system, although it seems to have left language contact traces in some of the areas (Muchiki 1999).

3.1.2 Earlier Egyptian

Earlier Egyptian is the language of all written texts from 3000 to 1300 BC, surviving in formal religious texts until the third century AD. Its main phases are as follows:

- (1) *Old Egyptian* (Edel 1955–64), the language of the Old Kingdom and of the First Intermediate Period (3000–2000 BC). The main documents of this stage of the language were royal rituals such as the ‘Pyramid Texts’, and funerary texts, especially ‘autobiographies’ which contained accounts of individual achievements inscribed in the rock tombs of the administrative elite. Additionally, a limited number of letters and business documents survive from this period.

- (2) *Middle Egyptian* (Gardiner 1957), also termed ‘Classical Egyptian’, from the Middle Kingdom to the end of Dynasty XVIII (2000–1300 BC). Middle Egyptian was the language of classical Egyptian literature, which consisted of ritual texts, for example the ‘Coffin Texts’ inscribed on the sarcophagi of the administrative elite; wisdom texts that conveyed the educational and professional expectations of contemporary Egyptian society, for example the ‘Instructions of the Vizier Ptahhotep’; narratives relating adventures of a specific hero and representing individual concerns, the most famous specimen of this genre being the ‘Tale of Sinuhe’; hymns and poetical texts with religious contents, written in praise of a god or of the king. Besides literary texts, administrative documents, for example the Kahun papyri, and historical records comprise the Middle Egyptian corpus.
- (3) *Traditional Egyptian*, the language of religious texts (rituals, mythology, hymns) from the New Kingdom to the end of Egyptian civilization. Late Middle Egyptian coexisted with Later Egyptian for more than a millennium in a situation of diglossia (Vernus 1996: 560–4). From a grammatical point of view, Late Middle Egyptian maintained the linguistic structures of the classical language, but on the graphemic side, especially in the Greco-Roman period, it showed an enormous expansion of the set of hieroglyphic signs.

Earlier Egyptian was characterized by a preference for synthetic grammatical structures: it displayed a full set of morphological suffixes indicating gender and number; it exhibited no definite article; it maintained the VSO order in verbal formations:

- (1) *sdm zḥ3w n sb3.t-j*
listen(PROSP) scribe to teaching.FEM-me
‘May the scribe listen to my teaching.’

3.1.3 Later Egyptian

Later Egyptian is documented from Dynasty XIX down to the Middle Ages (1300 BC–AD 1300). Its main phases were as follows:

- (1) *Late Egyptian* (1300–700 BC), the language of written records from the second part of the New Kingdom (Černý and Groll 1984; Junge 2008; Neveu 1996). It conveyed the rich entertainment literature of Dynasty XIX, consisting of wisdom texts and tales, as well as new literary genres, such as mythology or love poetry. Late Egyptian was also the vehicle of Ramesside bureaucracy, as documented by the archives of the Theban necropolis or

by school texts. Late Egyptian was not a wholly homogeneous linguistic reality; rather, the texts of this phase of the language show various degrees of interference from classical Middle Egyptian, with a tendency for older or more formal texts, such as historical records or literary tales, to display a higher number of borrowings from the classical language, as opposed to later or administrative texts, in which Middle Egyptian forms are much rarer (Winand 1992: 3–25).

- (2) *Demotic* (seventh century BC to fifth century AD), the language of administration and literature from the pharaonic Late Period to Late Antiquity (Johnson 1991). While grammatically close to Late Egyptian, it radically differs from it in its graphic system. Important texts in Demotic are narrative cycles and moral instructions (Hoffmann 2000; Quack 2005).
- (3) *Coptic* (fourth to fourteenth century AD), the language of Christian Egypt, written in a variety of the Greek alphabet with the addition of six Demotic signs to indicate Egyptian phonemes absent from Greek (Lambdin 1983; Layton 2004). As a spoken, and gradually also as a written language, Coptic was superseded by Arabic from the ninth century onward, but it survives to the present time as the liturgical language of the Christian church of Egypt and in a few linguistic traces it left in spoken Egyptian Arabic (Vittmann 1991).

Besides displaying a number of phonological evolutions, Later Egyptian develops analytic features: suffixal markers of morphological oppositions are dropped and functionally replaced by prefixal indicators; the demonstrative ‘this’ and the numeral ‘one’ evolve into the definite and the indefinite article; periphrastic patterns in the order SVO supersede older verbal formations (Hintze 1950):

- (2) *mare-p-sah sôtm e-ta-sbô*
OPT-the-scribe listen to-the(FEM)my-teaching
‘May the scribe listen to my teaching.’

3.1.4 Dialects

Owing to the centralized nature of the political and cultural models underlying the evolution of Ancient Egyptian society, there is hardly any evidence of dialect differences in pre-Coptic Egyptian (Osing 1975; Lüddeckens 1975). However, although the writing system probably originated in the south of the country, the origins of the linguistic type represented by Earlier Egyptian are to be seen in northern Egypt, around the city of Memphis, which was the capital of the country during the Old Kingdom. The linguistic

origins of Later Egyptian lie in southern Egypt, in the region of Thebes, which was the cultural, religious, and political centre during the New Kingdom (Zeidler 1992: 208; Schenkel 1993: 148).

Coptic is known through a variety of dialects differing mostly in the graphic rendition of Egyptian phonemes, and to a lesser extent also in morphology and lexicon. The most important dialect was Sahidic (from Arabic *al-ṣaʿid* ‘Upper Egypt’), the written standard of the Theban area. Sahidic was the first dialect of Coptic literature. Bohairic (from Arabic *al-buḥayra* ‘Lower Egypt’), the dialect of Alexandria, eventually became the language of the liturgy of the Coptic church. Other important dialects of Coptic literature were Akhmimic from the city of Akhmim (Greek Panopolis) in Upper Egypt; Subakhmimic, also called Lycopolitan or Lycodiosopolitan, spoken in the area of Asyut (Greek Lycopolis) in Middle Egypt; and Fayyumic, the variety of Coptic from the oasis of Fayyum, in the upper western corner of the Nile valley (Kasser 1991b).

3.2 Writing systems

3.2.1 Principles

The basic graphic system of the Egyptian language from about 3000 BC to the first centuries of the common era is called ‘hieroglyphs’ (Fischer 1977). This term is the Greek counterpart to the Egyptian expression *mdw.w-ntr* ‘god’s words’. Hieroglyphs were used primarily for monumental purposes, their main material support being stone – less frequently, papyrus. For cursive uses, the hieroglyphic system developed two handwritten varieties: Hieratic, documented from the Old Kingdom to the third century AD, and Demotic, from the seventh century BC to the fifth century AD. Beginning in Hellenistic times, hieroglyphs and their manual varieties were gradually superseded by alphabetic transcriptions of words, and then of whole texts, inspired by the Greek alphabet with the addition of Demotic signs to render Egyptian phonemes unknown to Greek. The final result of this process was the emergence of Coptic. Unlike other writing systems of the Ancient Near East, for example Mesopotamian cuneiform, hieroglyphs were never used to write down any language other than Egyptian, except for their later adoption in Nubia for the writing of Meroitic (third century BC to fourth century AD; Wenig 1982). However, the Proto-Sinaitic inscriptions of the second millennium BC (Givón 1982) show that Hieratic signs may have inspired the shape of Northwest Semitic consonantal signs. As for Demotic, some of its sign groups were adopted and phonetically reinterpreted in Meroitic.

Because of the formal similarities with Egyptian hieroglyphs, the term ‘hieroglyph’ has also been applied to the writing system of Luwian, an Anatolian language related to cuneiform Hittite, spoken and written during the Late Bronze and Iron Ages (between

c. 1500 and 700 BC) in southern and southwestern Anatolia and northern Syria: hence the misleading designation ‘Hittite hieroglyphs’ with which they are often referred to (Gelb 1963: 81–4).

The Egyptian hieroglyphs constitute a variable set of graphemes, ranging from about 1,000 in the Old Kingdom (third millennium BC) down to approximately 750 in the classical language (second millennium BC), then increasing to many thousands during the Ptolemaic and Roman rule in Egypt, from the third century BC to the second century AD. They are pictographic signs representing entities and objects, such as gods or categories of people, animals, parts of the human or animal body, plants, astronomical entities, buildings, and furniture. But these pictograms are not organized within a purely ideographic system; rather, they represent a combination of phonological and semantic principles (Schenkel 1984). The graphic representation of an Egyptian word usually consists of two components:

(1) A sequence of phonograms, each of which represents a sequence of one, two, or three consonantal phonemes; hence their label as ‘monoconsonantal’ (such as  <m>), ‘biconsonantal’ (such as  <p-r>), or ‘triconsonantal’ signs (such as  <ḥ-t-p>). Phonograms convey a substantial portion of the phonological structure of the word: normally all the consonants, less regularly the (semiconsonantal) glides *j* and *w*. The vowels remain unexpressed in the writing. Bi- and triconsonantal signs may be accompanied by other phonograms, mostly monoconsonantal, which spell out one or two of their phonemes, allowing in this way a more immediate interpretation of the phonological sequence; these signs are called phonetic complements.

Egyptian writing displays a set of twenty-five signs of monoconsonantal value (see table 3.1). Although these cover almost completely the inventory of consonants and glides – an exception being the liquid /l/, conveyed by the graphemes <n>, <r>, or <n + r> – the hieroglyphic system never became fully phonetic, but always maintained the original combination of logograms and phonograms.

The phonological value of the phonograms is derived from the name of the represented entity by means of the rebus principle, i.e., by applying the same phonological sequence to other entities semantically unrelated to them. For example, from the representation of water,  **maw*, is derived the phonological value of this sign as /m-w/. In this process of derivation, called the consonantal principle, only a segment of the original sequence of phonemes of the represented entity, usually consisting of the strong consonants, is isolated to function as a phonogram: thus, the sign for a house,  **pa:ruw*, is used for the sequence /p-r/. In later times, the consonantal principle was expanded by the so-called ‘acrophonic principle’, i.e., the derivation of a phonological value from the first consonantal sound of the represented entity.

(2) The sequence of phonograms is usually followed by a semagram, called a determinative, which classifies a word according to its semantic sphere: for example, a

Table 3.1 *Mono-consonantal hieroglyphic signs.*

Sign	Entity depicted	Conventional transliteration	Phonological value (IPA)
	vulture	ʒ (aleph)	earlier /ʁ/ > later /ʀ/
	flowering reed	j (yod)	earlier /j/ > later /ʀ/
	two reed flowers	y	/j/
	human forearm	^c (ayin)	earlier /d/ > later /ʒ/
	quail chick	w (waw)	/w/
	lower leg with foot	b	/b/
	stool	p	/p ^h /
	horned viper	f	/f/
	owl	m	/m/
	water	n	/n/
	human mouth	r	/ɹ/
	reed shelter	h	/h/
	twisted wick	ḥ	/ḥ/
	placenta	ḥ	/x/
	animal's belly	ḥ	/ç/
	door bolt	z	earlier /ʁs/ > later /s/
	folded cloth	s	/s/
	pool or lake	š	/ʃ/
	hill slope	q	/q/
	basket with handle	k	/k ^h /
	stand for a jar	g	/k ² /
	bread loaf	t	/t ^h /
	tethering rope	ṯ	/c ^h /
	human hand	d	/t ² /
	snake	ḏ	/c ² /

sitting man () expresses the lexical realm of ‘man, mankind’; a sitting man touching his mouth () , the domain of ‘eating, speaking, thinking, sensing’; a scribe’s equipment () , the area of ‘writing’; a stylized settlement () identifies the word as a toponym.

Many items of the basic vocabulary of Egyptian are expressed by semagrams, which indicate their own semantic meaning. They do this (i) iconically, by reproducing the object itself; (ii) indexically, by portraying an entity whose name displays a similar phonological structure; or (iii) symbolically, by depicting an item metaphorically or metonymically associated with the object. These signs are called logograms or ideograms: for example, the hieroglyph which represents the enclosure of a house  is used to indicate iconically the concept ‘house’ (*prw*); the sign representing a duck  means ‘son’ (*z3*) by virtue of the phonetic similarity between the Egyptian words for

‘duck’ and for ‘son’; the cloth wound on a pole , a sacred emblem placed on the pylons of Egyptian temples, through symbolic association denotes ‘god’ (*ntr*).

Unlike most other systems of pictographic origin, such as Mesopotamian cuneiform or Chinese logograms, Egyptian hieroglyphs kept their original iconicity throughout their entire history without developing stylized forms. From about 2150 BC, Egyptian developed a subsystem of hieroglyphic orthography to express a sequence of consonant + vowel. In this subsystem, dubbed ‘syllabic orthography’ (Schneider 1992; Zeidler 1993; Hoch 1994: 487–504) and mostly used for the writing of words of foreign origin, three consonantal symbols (*ʒ*, *y*, *w*) were used to express vowels, in a procedure similar to the use of *matres lectionis* in Northwest Semitic orthography. This system, however, is not limited to the representation of ‘foreign words’ but also often used to bridge the gap between a historical writing of a word and its phonetic changes.

The writing system also possessed a set of hieroglyphic signs used to convey logographically the numbers $10^0:10^6$ and the fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ (Loprieno 1986). To indicate natural numbers, signs appear repeated and organized sequentially from the highest to the lowest (, $356 = 3 \times 100, 5 \times 10, 6 \times 1$).

The basic orientation of the Egyptian writing system, and the only one used in the cursive varieties, is from right to left, with signs facing to the right; in monumental texts, the order may be inverted to left to right for reasons of symmetry or artistic composition.

Hieroglyphic writing conventions could be modified by addressing the figurative content of the sign. First, signs could become the vehicle for the expression of a cultural attitude vis-à-vis the entity it represented. For example within a compound, signs referring to the divine or royal sphere preceded in the writing any other sign belonging to the same compound noun, regardless of their actual syntactic positions. Conversely, a sign referring to a negatively connotated entity (for example an enemy) could be modified by means of substitution or mutilation of one of its features, in order to neutralize its negative potential. Second, the array of functional values of a specific sign could be expanded beyond the limits of the fixed convention: a sign could be given a different phonological value from the traditionally established one, especially by using it to indicate only the first consonantal phoneme of the corresponding word according to the acrophonic principle. This type of connotational expansion of the hieroglyphic system is found sporadically from the Old Kingdom on, but developed dramatically in Ptolemaic times, leading to a radical change in the laws regulating the use of hieroglyphs.

3.2.2 Historical evolution

While the principles described herein basically apply to the entire history of Egyptian writing, their distribution varied somewhat in the course of time. In the archaic period

around 3000 BC, the emergence of writing in Egypt was associated with a gradual development of a centralized system of government covering the entire country. In the inscriptions from this period on seals, palettes, and other monuments pertaining to the royal or administrative sphere, phonological and semantic principles were already intertwined, with a high number of signs functioning as logograms (Kahl 1994). In the Old Kingdom (Dynasty III–VI, 2750–2150 BC), the quantity and the complexity of written documents expanded dramatically. Phonetic complementation might precede or follow the main sign. In the classical system of the Middle Kingdom (2050–1750 BC), which remained in use until the end of Dynasty XVIII (c. 1300 BC), a developed school system for the education of the bureaucratic elite fixed Egyptian orthography by reducing the number of graphic renditions allowed for any given word. The conventional orthography of the word usually consisted of either a logogram, for the most basic nouns of the lexicon, or a sequence of phonograms, often complemented, followed by a determinative. The inventory of hieroglyphs at this period totalled about 750 signs (Gardiner 1957: 438–548). During Dynasty XIX (1310–1195 BC), major changes affected the writing conventions of hieroglyphs and especially of Hieratic. In monumental texts, the space units within which sequences of hieroglyphs were formally arranged underwent an aesthetic readjustment. Changes were even more significant in manual writing, with a constant interface between traditional historical writing and the evolved phonetic reality.

With the decay of a powerful centralized government in the first millennium BC, centrifugal tendencies affected writing conventions as well. During Dynasty XXVI (seventh century BC), the cursive variety called Demotic developed – at first in the north of the country, where the royal residence was located – and was gradually extended to the southern regions. Unlike Hieratic, which had sign groups that mirrored the shape of the original hieroglyphs rather closely, Demotic signs broke away from this tradition and adopted a set of stylized, conventional forms, in which the connection to the hieroglyphic counterpart was hardly perceivable, and which proved therefore more likely to be used in purely phonetic function. Determinatives had to a large extent lost their function as lexical classifiers. The development of Demotic marked the beginning of a divorce between monumental and cursive writing, which would have a dramatic impact on the evolution of the hieroglyphic system as well. Demotic remained in literary and administrative use until the end of the Roman period.

In Ptolemaic and Roman times (fourth century BC to third century AD), an increasing consciousness of the symbolic potential inherent in the relation between hieroglyphic signs and semantic meanings led to the development of previously unknown phonetic values and also of so-called ‘cryptographic solutions’. This evolution, which originated in priestly circles and remained until the end the monopoly of a very restricted intellectual community, threatened the accessibility of the system, favouring a dramatic increase in

Table 3.2 *The Coptic alphabet.*

Character	Transcription	Character	Transcription	Character	Transcription
Ⲁ	<i>a</i>	Ⲙ	<i>m</i>	Ⲫ	<i>ps</i>
Ⲃ	<i>b</i>	Ⲏ	<i>n</i>	Ⲭ	<i>ō</i>
Ⲅ	<i>g</i>	Ⲛ	<i>ks</i>	Ⲫ	<i>š</i>
Ⲇ	<i>d</i>	Ⲑ	<i>o</i>	ϣ	<i>f</i>
Ⲉ	<i>e</i>	Ⲓ	<i>p</i>	ϥ, ϧ	<i>x</i>
Ⲋ	<i>z</i>	Ⲕ	<i>r</i>	Ϩ	<i>h</i>
Ⲍ	<i>ê</i>	Ⲗ	<i>s</i>	Ⲭ	<i>j</i>
Ⲏ	<i>th</i>	Ⲙ	<i>t</i>	Ⲫ	<i>c</i>
Ⲑ	<i>i</i>	Ⲛ	<i>u</i>	Ⲫ	<i>ti</i>
Ⲓ	<i>k</i>	Ⲭ	<i>ph</i>		
Ⲕ	<i>l</i>	Ⲏ	<i>kh</i>		

the number of signs, which at the time reached many thousands (Daumas 1988–95), and exploiting the full array of potential meanings of the hieroglyphic sign. And it was exactly this radical change in the nature of the writing system in the Greco-Roman period which was at the origin of the view, held in the western world from Late Antiquity to the emergence of modern Egyptology, of the symbolic, rather than phonological, character of the hieroglyphic writing (Fowden 1986: 13–74). With few exceptions, the Ptolemaic system was applied only to monumental writing.

3.2.3 Coptic

The first two centuries AD saw the development of a corpus of mostly magical Egyptian texts in Greek letters, with the addition of Demotic signs to supplement it when phonologically required. This corpus is called in the scholarly literature ‘Old Coptic’. The adoption of an alphabetic system was standardized with the Christianization of the country, when religious reasons contributed to the divorce between Egyptian culture and its traditional writing systems. The last dated hieroglyphic inscription is from the year AD 394. Demotic texts substantially decrease in number, Egyptian being replaced by Greek as a written language (Bagnall 1993: 235ff.). The last Demotic graffito is dated to AD 452. In the following century, the new convention, which we call Coptic, appears completely established: the Egyptian language was written in a Greek-derived alphabet (see table 3.2). By the fifth century, the Egyptian elite had already lost the knowledge of the nature of hieroglyphs: the *Hieroglyphiká* of Horapollo, a Hellenized Egyptian, offer a ‘decipherment’ of the hieroglyphs fully echoing the late antique symbolic speculations (Boas and Grafton 1993). However, Egypt remained a bilingual country, with Greek used for the administration and Coptic for everyday communication as well as religious

matters. The Greek influence on Coptic was rather heavy, as to a certain extent even particles have been taken over into Coptic. Initially the ruling Arab elite did not alter the situation but simply added Arabic as the language of the highest representatives of the court in Cairo. Yet, gradually, the latter replaced Greek as the means of administrative communication, and finally even Coptic receded to the Christian religious sphere (Papaconstantinou 2007). Already the Coptic grammar written in Arabic by Athanasius of Qus tells the reader that only Sahidic and Bohairic have survived, while the Bashmuriic dialect is extinct already (Bauer 1971).

3.2.4 Decipherment

The interest in matters Egyptian remained active in the West for the centuries that followed (Iversen 1961: 57–123), but it was only in modern times that the understanding of the writing system was recovered. In the seventeenth century Athanasius Kircher recognized the linguistic derivation of Coptic from the language of the hieroglyphs (which he still took to be a symbolic writing), and in the eighteenth century Jean Barthélemy suggested that the cartouches, which surround some hieroglyphic words, contained divine and royal names. In 1799, during Napoleon's expedition to Egypt, the discovery of the so-called 'Rosetta Stone', a trilingual (Hieroglyphic, Demotic, and Greek) document from the Ptolemaic period, found in the Egyptian town of Rosetta (from Arabic 'Al-Rashid'), provided the possibility of comparing the same text in two unknown writing systems (Demotic and hieroglyphs) and in Greek; this event opened the way to the actual decipherment. First results were achieved by the Swede Johan David Åkerblad for the Demotic section and especially by the English physician Thomas Young, who, however, did not progress beyond the royal names. The most decisive contribution to the decipherment was made by the French scholar Jean-François Champollion in his *Lettre à M. Dacier* (1822), and especially in the *Précis du système hiéroglyphique* (1824). On the basis of the writing of Greek names in the hieroglyphic text, Champollion was able to establish the presence of a phonetic component in the system, breaking away from the traditional symbolic approach (Iversen 1961: 124–45).

3.3 Phonology

3.3.1 Phonemes and graphemes

The exact phonological value of many Egyptian phonemes is obscured by difficulties in establishing reliable Afroasiatic correspondences (Schenkel 1990: 24–57). Vocalism

and prosody can be partially reconstructed on the basis of: (i) Akkadian transcriptions of Egyptian words and phrases from the second millennium BC; (ii) Greek transcriptions from the Late Period (corresponding roughly to spoken Demotic); and (iii) the Coptic evidence of the first millennium AD. In the sketch of Egyptian phonology presented below, Egyptological transliterations of words and phrases are given in italics, whereas underlying phonological realities are rendered between slashes. The latter, since they are scholarly reconstructions, are always preceded by an asterisk (note that by convention a dot is used to separate the root from morphological affixes, e.g., *sn.t* ‘sister’ < root *sn* + feminine marker *t*). As for Coptic, in spite of a certain number of graphic idiosyncrasies, all dialects share a relatively uniform phonological system. For example, the graphic conventions of Sahidic – as opposed to those of Bohairic – do not distinguish between voiceless and ejective plosives (Sahidic *tôre*, Bohairic *thôri* = /tʰo:ɔ/ ‘willow’ ~ Sahidic *tôre*, Bohairic *tôri* = /tʰo:ɔ/ ‘hand’); or between glottal and velar fricatives (Sahidic *hrai*, Bohairic *hrai* = /hɔj/ ‘above’ ~ Sahidic *hrai*, Bohairic *xrai* = /xɔj/ ‘below’). Yet the presence of the corresponding oppositions in Sahidic can be established on the basis of comparative dialectology and of the different impact of these phonemes on their respective phonetic environment (Loprieno 1995: 40–50).

3.3.2 Consonants

3.3.2.1 Stops and affricates

The standard stops of Earlier Egyptian are presented in (3).

earlier Egyptian stops

(3)	BILABIAL	ALVEOLAR	PALATAL	VELAR	UVULAR	GLOTTAL
Voiced	<i>b</i> /b/	(^c /d/)	–	–	–	–
Voiceless	<i>p</i> /pʰ/	<i>t</i> /tʰ/	<i>t̪</i> /cʰ/	<i>k</i> /kʰ/	<i>q</i> /q/	ʔ /ʔ/
Ejective	–	<i>d</i> /tʰʼ/	<i>ḏ</i> /cʰʼ/	<i>g</i> /kʰʼ/	–	–

In prehistoric times, a palatalization process led to the emergence of palatal stops. Only the environment rule for the change /kʰ/ > /cʰ/, however, can be established with certainty (4b).

(4a) Afroasiatic q > Eg. cʰ
 *√*wraq* ‘green, yellow’ > *wʒd* /w-R-cʰ/

(4b) Afroasiatic k > Eg. cʰ/ _i
 *-*ki* ‘you(SG.FEM)’ > -*t* /cʰi/

In the Egyptian phonological system, the opposition between voiceless and voiced phonemes (Schenkel 1993: 138–46) appears limited to bilabial stops (5a), whereas in the other series the articulatory opposition – when present – was between voiceless and

ejective stop or affricate (5b–c). The voiceless varieties displayed aspiration in pretonic and high-sonority environments.

- (5a) bilabial /b/ ~ /p^h/: Earlier Eg. *b3q* ‘bright’ ~ *p3q* ‘fine’
 (5b) dental /t^h/ ~ /t^ʰ/: Earlier Eg. *tm* ‘to complete’ ~ *dm* ‘to sharpen’
 (5c) palatal /c^h/ ~ /c^ʰ/: Earlier Eg. *tr.t* ‘willow’ ~ *dr.t* ‘hand’

Etymological considerations, however, point towards a general development of voiced stops into fricatives. The dental series was typologically complex: while it probably exhibited a tripartite opposition voiceless–voiced–ejective in the earliest periods, the voiced stop */d/ evolved into a pharyngeal fricative */ʕ/ before the emergence of Middle Egyptian (Zeidler 1992: 206–10), and then to a glottal stop, and eventually zero, in Coptic (6a). During the late third to the early second millennium BC, the voiceless alveolar /t/ showed the tendency to be dropped in final position (6b).

- (6a) */d/ > */ʕ/ > /ʔ/ or /ø/:
 Old Eg. ^c*š* */da:ʃ/ > Late Eg. */ʕa:ʃ/ > Coptic *ôš* /ʔo:ʃ/ ‘to call’
 (6b) t > ø / _ #:
 Old Eg. *sn.t* */sa:nat/ > Late Eg. */sa:ne/ > Coptic *sône* /so:nə/ ‘sister’

During the late second millennium BC, the place of articulation of stop consonants tended to be moved to the frontal region (Osing 1980: 946): uvulars and velars were palatalized (7) (Peust 1999: 120–2), palatals became dentals, and dentals were dropped in final position (8) (Peust 1999: 123–5):

Uvular and velar palatalization

- (7a) Late Eg. *k3m* */k^haʔm/ > Coptic *côm* /k^jo:m/ ‘garden’
 (7b) Old Eg. *gr* */k^ʰa:ɹ/ > Coptic *cô* /k^jo:ʔ/ ‘to cease’
 (7c) Old Eg. *qd* */qat^ʰ/ > Coptic *cot* /k^jot/ ‘form’

Palatal > dental; dental > ø / _

- (8a) Old Eg. *dr.t* */c^ʰa:ɹat/ > Late Eg. */t^ʰa:ɹe/ > Coptic *tôre* /t^ʰo:ɹə/ ‘hand’
 (8b) Old Eg. *rmt* */ɹa:mac/ > Late Eg. */ɹa:me/ > Coptic *rôme* /ɹo:mə/ ‘man’

Earlier Egyptian had an alveolar affricate *z* /ʕs/ which by the end of the third millennium BC had lost its plosive co-articulation and thus conflated with the alveolar fricative *s* /s/.

The opposition between uvulars and velars was neutralized during the first millennium BC: Coptic exhibited in the velar series a new tripartite opposition, ‘voiceless: ejective: palatalized’.

$/k^h/ \sim /k^2/ \sim /q/ > /k^{(h)}/ \sim /k^2/ \sim /k^j/$

(9a) $kô /k^h o:/$ ‘shrine’ (from Eg. $*/k^h/$) \sim $cô /k^j o:/$ ‘to cease’ (from Eg. $*/k^2/$)

(9b) $côb /k^j o:b/$ ‘weak’ (from Eg. $*/k/$) \sim $kôb /k^2 o:b/$ ‘to double’ (from Eg. $*/q/$)

(9c) $cot /k^j ot/$ ‘form’ \sim $kot /k^2 ot/$ ‘wheel’ (both from Eg. $*/q/$)

The standard aspiration of the plain stops in Earlier Egyptian was subject to allophonic distribution: as in some varieties of English, aspiration appeared only in stressed syllables. The feature aspiration was marked in writing only in Bohairic Coptic (Hintze 1980: 28). Under certain conditions, the stop $/c/$ developed into an affricate, since it might also represent word-initial etymological $/t/ + /s/$ (as in jpo ‘give birth’ $< *t-špo$). The bilabial voiced stop $/b/$ was mostly articulated as a fricative $[β]$, but maintained in certain environments the plosive articulation (Peust 1999: 136–7) – see example (10).

Stops and affricates in Sahidic Coptic

(10)	BILABIAL	DENTAL	PALATAL	VELAR	GLOTTAL	
	Voiced	$b /b/$	$d /d/$	–	$g /g/$	–
	Voiceless	$p /p^{(h)}/$	$t /t^{(h)}/$	$j /c^{(h)}/$	$k /k^{(h)}/$	$∅ /ʔ/$
	Ejective	–	$t /t^2/$	$j /c^2/$	$k /k^2/$	–
	Palatalized	–	–	–	$c /k^j/$	–

It should be noted that the opposition between voiceless and ejectives was neutralized in post-tonic position (11a), and that voiced dentals and velars are only found in Greek borrowings or as a result of assimilation of the corresponding voiceless obstruent in nasal environments (11b).

(11a) $sôtm /so:təm/ < /so:t^2əm/$ ‘to hear’ \sim $sôtp /so:təp/ < /so:t^həp/$ ‘to choose’

(11b) $tooun-g < tooun-k$ ‘stand up!’

3.3.2.2 Fricatives

In Old Egyptian, all fricative consonants were voiceless; in Middle Egyptian, as we saw in (6), a pharyngeal $/ʕ/$ evolved from earlier $/d/$ via lateralization.

Fricatives in Earlier Egyptian

(12)	LABIO-DENTAL	ALVEOLAR	POST-ALVEOLAR	PALATAL	VELAR	
	Voiceless	$f /f/$	$s /s/$	$š /ʃ/$	$h /ç/$	$h /x/$
	Voiceless	–	–	–	–	
		PHARYNGEAL	GLOTTAL			
	Voiceless	$h /ħ/$	$h /h/$			
	Voiceless	$(^c /ʕ/)$	–			

The post-alveolar fricative resulted from a conditioned sound change /ç/ > /ʃ/ which took place in the third millennium BC. The original alveolar affricate *z* merged by the end of the third millennium BC with the alveolar *s* (/t͡s/ > /s/). In the first millennium BC, the tripartite opposition between the back coronal and the dorsal fricatives (/ʃ/ ~ /ç/ ~ /x/) was reduced to a bipartite one (/ʃ/ ~ /x/), with a partial redistribution of the original articulation (Peust 1999: 115–18):

- (13a) */x/ > /ʃ/:
 Old Eg. ^chm */da:xam/ > Late Eg. */ʃa:xem/ > Coptic *ôšm* /ʃo:ʃəm/
 ‘to extinguish’
- (13b) */ç/ ~ /x/:
 Old Eg. *zḥʒw* */t͡saçraʊ/ > Late Eg. */saçʔə/ > Coptic *sah* /sax/
 ‘scribe’
 Old Eg. ^chm */daça:mv/ > Late Eg. */ʃaça:m/ > Coptic *ahôm*
 /ʔaxo:m/ ‘falcon’

In the first millennium BC a similar neutralization affected the opposition between pharyngeal /ħ/ and glottal /h/ (Osing 1976: 367–8; Peust 1999: 98–9):

- (14a) Old Eg. *ḥʒ.t* */ħu:rit/ > Late Eg. */ħe:ʔə/ > Coptic *hê* /ħe:ʔ/
 ‘beginning’
- (14b) Old Eg. *hʒ.w* */haruʊ/ > Late Eg. */həʔe:ʔ/ > Coptic *hê* /ħe:ʔ/
 ‘season’

The distribution of fricative phonemes in Sahidic Coptic was thus in (15).

Fricatives in Sahidic Coptic

(15)	LABIO-DENTAL	ALVEOLAR	PALATO-ALVEOLAR	VELAR	GLOTTAL
Voiceless	<i>f</i> /f/	<i>s</i> /s/	<i>š</i> /ʃ/	<i>h</i> /x/	<i>h</i> /h/
Voiced	<i>b</i> /β/	<i>z</i> /z/	–	–	–

It should be noted that the voiced alveolar fricative *z* is only found in Greek borrowings or as a result of feature spreading in nasal environments:

- (16) Coptic *anzêbe* < /ʔanze:bə/ < /ʔanse:bə/ ‘school’

3.3.2.3 Sonorants

Historical evolutions affecting nasals, liquids, and glides during the second millennium BC (Loprieno 1995: 38) involved: (i) the loss of the uvular trill /R/ and its lenition to glottal stop /ʔ/ and eventually to \emptyset (17); and (ii) the loss of final approximants (18) in the same environments in which a final voiceless dental *t* was dropped, as in (8):

/r/ > /ʀ/ > ø

- (17) Old Eg. *kʒnw* */k^harnav/ > Late Eg. */k^haʔm/ > Coptic *côm* /k^ho:m/ 'garden'

[+Approximant] > ø / __#

- (18a) Old Eg. *hpr* */xa:paɪ/ > Late Eg. */xa:pe/ > Coptic *šôpe* /ʃo:pə/ 'to become'
- (18b) Old Eg. *ntr.w* */nac^hu:ɪav/ > Late Eg. */nət^he:ɪə/ 'gods' > Coptic *nîêr* */n^ht^he:ɪ/ 'idols'

The reconstruction of the rhotics is complicated by different facts: etymological considerations would opt for an approximant /ɹ/, which also provides the best explanation for the graphic representation of /l/ by <r> as well as the later attested Lamdacism, i.e., the graphic representation of words containing <r> by <l>, e.g., ^{SAL}*rôme*, ^B*rômi* = ^F*lami*, in Fayyumic Coptic (Peust 1999: 130–1) and Fayyumic Greek (Milani 1981: 221–9). However, the graphic representation of Semitic words containing /d/ in the early second millennium, such as Semitic ^c*bd* 'servant' > Eg. ^c*pr* or Sem. ^c*dš-n* 'lentil' > Eg. ^c*ršn* > Coptic *aršîn*, as well as the representation of some Egyptian words in contemporary foreign languages, such as Eg. *ry(.t)* 'ink' > Hebr. *dyw*, seem to point to the articulation of this phoneme as flap or tap. Whether this should be considered a diachronic development (Earlier Eg. /r/ > Later Eg. /ɹ/) or a synchronic distribution (Earlier Eg. [r] ~ [ɹ] conflating into Later Eg. [ɹ]) must remain undecided.

Sonorants in the Egyptian domain

(19)	LABIAL	ALVEOLAR	PALATAL	UVULAR
Nasal	<i>m</i> /m/	<i>n</i> /n/		
Trill				ʒ/r/
Approximant	<i>w</i> /w/	<i>r</i> /ɹ/	<i>j</i> /j/	
Lateral		/l/		

3.3.3 Vowels

The set of vowels posited for Earlier Egyptian (Osing 1976: 10–30) is the same as for most Afroasiatic languages in their earliest stage of development (Diakonoff 1965: 30–1) – see (20).

Vowels in Earlier Egyptian

(20)	SHORT	LONG
Front	/i/	/i:z/
Central	/a/	/a:z/
Back	/u/	/u:z/

This system underwent a certain number of historical changes, only some of which can be discussed here. First and foremost, because of the presence of a strong expiratory stress, Egyptian unstressed vowels gradually lost phonological status, until in Coptic they were generally realized as schwa. Only the short unstressed /a/ was maintained in pretonic position in specific phonetic environments (Schenkel 1990: 91–3):

- (21a) Old Eg. *rm̄t nj km.t* */ɰamac-ni-k^hu:mat/ > Coptic *rmnkême*
/ɰmpk^he:mə/ ‘Egyptian man’
- (21b) Old Eg. *jnk* */janak/ > Coptic *anok* /ʔanək/ ‘I’

Stressed vowels underwent a global shift: during the second millennium BC, long /u:/ turned into /e:/, and short stressed /i/ and /u/ merged into /e/. In the main Coptic dialects and unless followed by glottal stop, this /e/ evolved into /a/:

- (22a) Old Eg. *rn* */jin/ > Late Eg. */ien/ > Coptic *ran* /ian/ ‘name’
- (22b) Old Eg. *mʒ̣.t* */murdat/ > Late Eg. */meʔʕə/ > Coptic *me* /mɛʔ/
‘truth’
- (22c) Old Eg. *km.t* */k^hu:mat/ > Late Eg. */k^he:me/ > Coptic *kême* /k^he:mə/
‘Egypt’

Around 1000 BC, long /a:/ became /o:/ (/u:/ after nasals) and short /a/ became /o/, a change limited to the same portion of the Coptic linguistic domain to which /i/, /u/ > /e/ applied:

- (23a) Old Eg. *ntr* */na:caɰ/ > Coptic *noute* /nu:tə/ ‘God’
- (23b) Old Eg. *sn* */san/ > Coptic *son* /sɔn/ ‘brother’

Vowels in Sahidic Coptic

(24)	FRONT	CENTRAL	BACK
<i>Stressed</i>			
Long	<i>i, ei</i> /i:/		<i>ou</i> /u:/
	<i>ê</i> /e:/		<i>ô</i> /o:/
Short	<i>e</i> /ɛ/	<i>a</i> /a/	<i>o</i> /ɔ/
<i>Unstressed</i>			
		<i>e</i> /ə/	
		<i>a</i> /a/	

3.3.4 Phonotactics, alternations, and prosody

In Earlier Egyptian, the stress lay on the ultimate (oxytone) or penultimate (paroxytone) syllable of a word (Schenkel 1990: 63–86). Closed (CVC) and open (CV) syllables could

be found in pre-tonic, tonic, and post-tonic position. Two consecutive open syllables forming a moraic foot were exposed to syncopation (CV.CV > CVC). The stressed vowel of a penultimate open syllable was always long (CV:); according to some scholars, extra-syllabic additions under oxytone stress could generate syllables of the type CV:(C) or CVC(C) (Loprieno 1995: 36–7). Syllables of the type v or VC were not allowed in Egyptian (see 25).

Earlier Egyptian syllabic structures

(25)	PRE-TONIC	TONIC	POST-TONIC
Open	\$CV\$	\$CV:\$	\$CV#
Closed	\$CVC\$	\$CVC\$	\$CVC#
Doubly closed		\$CVCC\$	
Long		\$CV:C\$	

These syllabic structures were modified under the influence of the strong expiratory stress, which always characterized the Egyptian domain (Fecht 1960) and prompted significant typological changes in morphology and syntax. The gradual loss of short unstressed vowels led to the emergence of complex consonantal clusters in syllable onset (i.e., word-initially) in Coptic (Loprieno 1995: 48–50) – see (26).

Coptic syllabic structures

(26)	PRE-TONIC	TONIC	POST-TONIC
Open	\$CV\$	\$CV:\$	\$CV#
	#CCV\$	#CCV:\$	
Closed	\$CVC\$	\$CVC\$	\$CVC\$
	#CCVC\$	#CCVC\$	
Doubly closed		\$CVCC\$	
		\$CVCC\$	
Long		\$CV:C\$	
		#CCV:C\$	

Syllables graphically represented as <v> or <vc> are considered to contain an initial glottal plosive /ʔ/, as in *ejêu* /ʔecʰe:w/ ‘ships’. Examples for the evolution of oxytone patterns are:

(27a) CVCVC > CCVC

Old Eg. *wđḥ* */vaʰcʰaḥ/ > Coptic *outah* /vʰtʰaḥ/ ‘fruit’

(27b) CVCCVC > CVCCVC

Old Eg. *nmḥw* */numʰiḥ/ ‘poor’ > Coptic *rmhe* /ɹəmʰeʔ/ ‘free’

Examples for the evolution of paroxytone patterns:

- (28a) 'CVCCVC > CVCC
Old Eg. *ḥmtw* */xamtaʋ/ > Bohairic *šomt* /ʃomt/ 'three'
- (28b) CV'CVCCVC > CCVCC
Old Eg. *ḥjm.wt* */ḥi'jamʋat/ > Coptic *hiome* /hjomʔ/ 'women'
- (28c) CV'CVVCVC > CCVC
Old Eg. *psdʋ* */pi'si:cʔaʋ/ > Coptic *psit* /psi:t/ 'nine'

Earlier Egyptian displayed only few phonological or morphophonemic alternations. The most common were the evolution of *t* and *r* to /ʔ/ and eventually to \emptyset in a final syllabic environment (*ḥtrw* */jatɹaʋ/ > Sahidic *ioor* /ʃoʔɹ/ 'river'; *ḥr* */ḥaɹ/ > Sahidic *ho* /hoʔ/ 'face'). Typical for Coptic, but sporadically attested in earlier times, was the progressive assimilation of *n* > *m* in a labial environment: **hn-p-êi* /hn-p-ʔe:j/ > *hm-p-êi* /hm-p-ʔe:j/ 'in the house'. The Coptic grammar of Athanasius of Qus reports some more features that are generally veiled by the graphic representation, such as the plosive articulation of Bohairic in the coda position versus a fricative one in the onset of a syllable (Bauer 1971: 56; the other features he reports pertain to Greek words only).

3.4 Morphology

3.4.1 Word formation

Earlier Egyptian was a language of the flecional or fusional type, in which morphemes were unsegmentable units combining many grammatical functions. Morphological forms exhibited a number of correspondences with the patterns of word formation in other Afroasiatic languages (Schenkel 1990: 94–121). In recent years, scholars have also emphasized the importance of prehistoric contacts between Egyptian and Indo-European (Ray 1992: 124–36; Kammerzell 1994: 37–58).

The basic structure of an Egyptian word was a lexical *root*, an abstract phonological entity consisting of a sequence of consonants or semi-consonants which varied in number from one to four, with an overwhelming majority of biconsonantal, triconsonantal, and so-called 'weak' roots, which displayed a vocalic or semivocalic last radical or a gemination of the second radical. Within the root, rules of compatibility applied which prevented the combination of homorganic phonemes: e.g., within the same root, the clustering of *b* and *p* was not allowed. Superimposed on the root as a separate morphological tier was a vocalic or semivocalic pattern, which together with the root formed the so-called *stem*, the surface form acquired by the root; the stem determined the

functional class to which the word belonged. It was transformed into an actual word by means of inflectional affixes (in Egyptian, these were for the most part suffixes), which conveyed deictic markers and other grammatical functions such as gender, number, tense and aspect, and voice (Reintges 1994).

Vocalic skeletons generally determined the structure of nominal patterns and of basic conjugational forms, whereas semivocalic suffixes conveyed the expression of the plural, of adjectival forms of the verb (participles and relative forms), and of some conjugational patterns. A *j*- or *w*- prefix could be added to biconsonantal roots to form triradical nominal stems; conversely, a triconsonantal root might lose a semivocalic glide and be reduced to a biradical stem. Examples of consonantal additions prefixed to a root were *s*- for causative stems, *n*- for singulative nouns and reflexive verbs, and *m*- for nouns of instrument, place, or agent. Egyptian stems resulting from the addition of a consonantal phoneme to a root tended to be lexicalized as new autonomous roots rather than treated as grammatical forms of the basic root: Egyptian, therefore, did not possess a fully fledged paradigm of verbal stems conveying semantic nuances of a verbal root similar to the ones known in Semitic.

Common modifications of the root were:

- (a) The reduplication of the entire root or of a segment thereof. This pattern affected the semantic sphere, creating new lexemes – see (29).

(29)	ROOT	REDUPLICATION
	<i>sn</i> ‘brother’	<i>snsn</i> ‘to befriend’
	<i>gmj</i> ‘to find’	<i>ngmgm</i> ‘to be gathered’
		(with the <i>n</i> -prefix of reflexivity)
	<i>snb</i> ‘to be healthy’	<i>snbb</i> ‘to greet’

- (b) The gemination of the last radical, which affected the grammatical sphere and was thus a postlexical rule (Reintges 1994: 230–40) – see (30).

(30)	ROOT	GEMINATION
	<i>dd</i> ‘to say’	<i>ddd.t</i> ‘what has been said’
	<i>mrj</i> ‘to love’	<i>mrr-j</i> ‘that I love’
	<i>sdm</i> ‘to hear’	<i>sdmm-f</i> ‘he will be heard’

3.4.2 Nouns

In Earlier Egyptian, nouns were built by adding to the stem a zero- or a non-zero suffix, depending on whether the stem ended in a consonant, in which case the suffix was zero, or a vowel, in which case a *w*-suffix was added. Nouns inflected for gender (masculine vs feminine) and number (singular, dual, and plural). Case marking might have been

existent in pre-historic phases of the language and even marked by a vowel in Earlier Egyptian, but the latter never showed in writing. The feminine marker was a *t*-suffix added to the masculine noun; the plural displayed a *w*- (appearing as *j* with the feminine sometimes) or *ww*-suffix or showed no graphical marking at all; the dual had a *j*-marker added to the stem of the singular noun – see (31).

Nouns in Earlier Egyptian

(31)	MASCULINE	FEMININE
Singular	- \emptyset , - <i>w</i>	- <i>t</i>
Dual	- <i>wj</i>	- <i>tj</i>
Plural	- \emptyset , - <i>w</i> , - <i>ww</i>	- <i>t</i> , - <i>jt</i> , - <i>wt</i>

Under the pressure of a strong expiratory stress, which reduced the distinctive function of unstressed vowels, the flecional system underwent a profound crisis in Later Egyptian, requiring a reorganization of the morphological carriers of information.

The general trend was to replace synthetic structures by analytic constructions: for example, nominalized participles (32) or abstract nouns (33) were replaced by lexicalized compounds with nominal classifiers (Till 1970: 71–5).

(32)	PARTICIPLE	>	‘MAN-WHO’-V
	<i>l3w</i>		<i>ref-jioue</i>
	steal(PART)		‘man-who’-steal(INF)
			‘thief’

(33)	ABSTRACT NOUN	>	‘THING-OF’-N
	<i>r3 nj km.t</i>		<i>mnt-rm-n-kême</i>
	mouth of Egypt		‘THING-OF’-man-of-Egypt
			‘Egyptian language’

Thus, because of the loss of regular flecional patterns, the only device by which Coptic conveyed the distinction between different patterns (masculine vs feminine, nominal vs verbal) was the presence of morphological markers preceding the noun (34a–c; a zero-marker in the case of c):

- (34a) *rm̄t*: stem **jamac*- + \emptyset (MASC.SG) = */*ja:mac*/ > Coptic *p-rôme* ‘the man’
- (34b) *sn*: stem **san*- + at(FEM.SG) = */*sa:nat*/ > Coptic *t-sône* ‘the sister’
- (34c) *hpr*: stem **xapaɪ*- + INF. \emptyset = */*xa:paɪ*/ > Coptic *šôpe* ‘to become’

Some nouns, however, did retain different forms for masculine vs feminine nouns, e.g. Coptic *son* ‘brother’ vs *sône* ‘sister’, or singular versus plural, e.g. Coptic *hto* ‘horse’ vs *htôdr* ‘horses’.

3.4.3 Articles

Later Egyptian developed two sets of articles. The indefinite singular article came from the numeral $w^c j$ ‘one’, the plural form developed out of the quantifier $nhy n$ ‘a little of’ (35).

- | | | | | |
|------|--------------------|---|---------------------------|---------------------------|
| (35) | N[-SPEC] | > | INDEF.ART-N. | |
| | Earlier Eg. $sn.t$ | > | Late Eg. $w^c(.t)-sn(.t)$ | > Coptic <i>ou-sône</i> |
| | ‘a.sister’ | | | ‘a-sister’ |
| | Earlier Eg. $sr.w$ | > | Late Eg. $nhy-n-sj.w$ | > Coptic <i>hen-esoou</i> |
| | ‘sheep’ | | | ‘sheep’ |

The definite article (Loprieno 1980a) derived from a grammaticalized anaphoric demonstrative pronoun ($p3, t3, n3$ ‘this, these’) – see (36).

- | | | | | |
|------|-------------------------|---|--------------------------|-------------------------|
| (36) | N[+SPEC] | > | DEF.ART-N. | |
| | Earlier Eg. $rm\bar{t}$ | > | Late Eg. $p3-rm(t)$ | > Coptic <i>p-rôme</i> |
| | ‘the.man’ | | | ‘the man’ |
| | Earlier Eg. $db.wt$ | > | Late Eg. $n3-(n)-db(.t)$ | > Coptic <i>n-tôôbe</i> |
| | ‘the.bricks’ | | | ‘the bricks’ |

The definite article also attracted the pronominal affix indicating the possessor, which in Earlier Egyptian followed the head noun (37a). Similarly, deictics now preceded the noun they modified (37b).

- | | | | | |
|-------|-----------------|---|-----------------|--|
| (37a) | N-POSS | > | DEF.ART-POSS-N | |
| | $sn-f$ | | $pe-f-son$ | |
| | brother-his | | the-his-brother | |
| | ‘his brother’ | | | |
| (37b) | N-DEICTIC | > | DEICTIC-N | |
| | $hjm.t tn$ | | $tei-shime$ | |
| | woman this(FEM) | | this(FEM)-woman | |
| | ‘this woman’ | | | |

3.4.4 Adjectives

Adjectives were morpho-syntactically treated like nouns. However, as they could be expanded by adverbs they constituted a separate morphological class in Egyptian. In a common derivational pattern, called nisbation, a morpheme – masculine $*ij$, feminine $*it$ – was added to a stem, which might be different from the stem of the singular or plural noun, to form the corresponding adjective: ntr $*/na:cai/$ ‘god’, $ntr.w$ $*/nac^h u:ɔaw/$

Table 3.3 *Personal pronouns in Earlier Egyptian.*

		Stressed	Unstressed	Suffix
SINGULAR	1st com	<i>jnk</i>	<i>wj</i>	<i>-j</i>
	2nd masc	<i>ntk, twt^a</i>	<i>tw</i>	<i>-k</i>
	2nd fem	<i>ntt, tmt^a</i>	<i>tn</i>	<i>-t</i>
	3rd masc	<i>ntf, swt^a</i>	<i>sw</i>	<i>-f</i>
	3rd fem	<i>nts, stt^a</i>	<i>sj, st</i>	<i>-s</i>
DUAL	1st com		<i>nj</i>	<i>-nj</i>
	2nd com	<i>nttnj</i>	<i>tnj</i>	<i>-tnj</i>
	3rd com	<i>ntsnj</i>	<i>snj</i>	<i>-snj</i>
PLURAL	1st com	<i>jnn, (ntn)</i>	<i>n</i>	<i>-n</i>
	2nd com	<i>nttn</i>	<i>tn</i>	<i>-tn</i>
	3rd com	<i>ntsn</i>	<i>sn, st</i>	<i>-sn</i>

^a *twt, tmt, swt* and *stt* are more archaic forms found in Old Kingdom religious texts

‘gods’, *ntrj* */nuciij/, *ntrj.t* */nuc.iit/ ‘divine’. Unlike nouns, adjectives had only one plural form for both masculine and feminine: *ntrj.w* */nuc.iw/ ‘divine’.

In Later Egyptian, adjectival specification was more or less completely confined to the syntactic sphere. The use of the specifier after the connective *n* differentiated between genitive (38a) and adjectival construction (38b):

(38a) *p-hoout n-ta-sône*
 the-husband of-my-sister
 ‘my sister’s husband’

(38b) *p-halêt n-hoout*
 the-bird as-Ø-man
 ‘the male bird’

3.4.5 Pronouns

Egyptian had a developed system of personal, demonstrative, relative, and interrogative pronouns. Reflexive pronouns are not attested. Instead, either a personal pronoun or a prepositional phrase with a personal pronoun was used. Similar patterns were employed in the function of reciprocal pronouns.

3.4.5.1 *Personal pronouns*

There were four sets of personal pronouns (Kammerzell 1991), including one limited to the ending of the stative form of the verb. Stressed pronouns were used for the topicalized subject of noun clauses in the first and second person (39a), and for the focalized subject of verbal cleft sentences (39b).

- (39a) *jnk jt-k*
 I(TOPIC) father-you
 ‘I am your father.’
- (39b) *nts s^cnh rn-j*
 she(FOCUS) CAUS-live(PART) name-me
 ‘She is the one who makes my name live.’

Unstressed pronouns were used for the object of verbal phrases (40a), and for the subject of adjective clauses (40b) and of adverb clauses (40c):

- (40a) *h3b-f wj*
 send(PERF)-he me
 ‘He sent me.’
- (40b) *nfr tw hn^c-j*
 be.good(PART) you with-me
 ‘You are happy with me.’
- (40c) *mk wj m-b3h-k*
 behold me in-presence-you
 ‘Look, I am in front of you.’

Suffix pronouns were used as the subject of verb phrases, as possessive marker, and as the object of prepositions (41). (NB: Though they are formally identical, we gloss suffix pronouns functioning as subjects as being in the English nominative case and all others as being in the accusative case in order to distinguish them from one another. This does not imply that there is accusative case marking in Egyptian.)

- (41) *dj-k r-k n-j h.t-j*
 give(PROSP)-you toward-you to-me thing.FEM-me
 ‘You shall indeed (lit. ‘toward-you’) give me my possessions.’

3.4.5.2 *Demonstrative pronouns*

Demonstratives were characterized by a deictic element preceded by the indicator of gender and number – masculine *pn, pf, pw*; feminine *tn, tf, tw*; *rm₁ pf* ‘that man’, *hjm.t tn* ‘this woman’. They followed the noun they referred to. While the *-w*-series is distance-neutral, the *-f*-series is distal but is used only in contrast to a proximal referent. The difference between the *-w*- and *-n*-series is situated on a pragmatic level (Jenni 2010). The plurals (originally neuter) *nw, nf, nn* were also used as pronouns in partitive constructions with the determinative pronoun *nj*: *nn nj srj.w* ‘these officials’ < *‘this of officials’. The determinative pronoun *nj*, feminine *n.t*, plural *n.w* was used primarily as

a marker of genitival relation: *rm̄.w n.w km.t* ‘men of Egypt’ > ‘Egyptians’. Of these, only members of the *n*-series can be used absolutely: *ḏd-n-f nn* ‘he said this’.

While the demonstratives followed the noun they referred to in Earlier Egyptian, those of Later Egyptian precede their nouns: *p3y rm̄* ‘this man’, *t3y s.t-ḥm.t* ‘this woman’, *n3y jnr* ‘these stones’. Furthermore the pattern of a triple series is replaced by an assumed twofold one, yet the earlier phases of Later Egyptian do not mark that assumed distance graphically. Hence, *p3y rm̄* might mean ‘this man’ as well as ‘that man’ in Late Egyptian and Demotic. From Late Egyptian onwards, the demonstratives can be found used regularly in absolute function: *p3y, t3y, n3y* ‘this/that/these/those one/s’.

Coptic, however, displays a suppletive paradigm. The proximal function is expressed by the series *pai, tai, nai* (absolute use) and *pi-, ti-, ni-* (use in front of noun). For the expression of the distal function, Coptic employs an expression being etymologically a relative clause – ‘which is there’: *etmmau* in Sahidic (< *nty n-im=w* attested in Demotic: *n-hmhal etmmau* ‘those servants’, and *et-tê* in Bohairic: *pi-rômi ettê* ‘that man’). The absolute pronoun is *pê, tê, nê*.

3.4.5.3 Relative pronouns

The relative pronoun was masculine *ntj*, feminine *nt.t*, plural *nt.w* ‘who, which, that’. It was morphologically derived from the determinative pronoun. In Earlier Egyptian, these pronouns agreed in gender and number with the head noun, which had to be semantically specific. Characteristic for Earlier Egyptian was the presence of a relative pronoun – masculine *jwtj*, feminine *jwt.t*, plural *jwt.w* – which semantically incorporated negation (‘who not / which not / that not’):

- (42) *jwtj phr-f ḏd.w m ḥ.t-f*
 who.not vent(AOR)-he say(PART.IMPF.PASS) in belly.FEM-him
 ‘He who does not vent what is said in his belly.’

In Later Egyptian, the gender and number agreement had been dispensed with and only one morpheme, i.e. the masculine *ntj*, was thereafter employed in both affirmative (43a) and negative (43b) constructions as a relative particle.

- (43a) *p3 ntj nb jw-j (r) ḏd.t-f*
 the(MASC) REL all COMPL-I (to) say(INF)-it
 ‘everything I will tell’

- (43b) *ntj bn st r s.t-w*
 REL NEG they to place-their
 ‘(bad things), which are not appropriate (lit. not at their place)’

3.4.5.4 Interrogative pronouns

Egyptian employed interrogative adverbs and interrogative pronouns. The majority of interrogative pronouns were generic: *m* ‘who/what?’, *jḥ* ‘what?’, *jšst* ‘what?’ They could be combined with prepositions or particles to form complex pronouns: *jn-m* ‘who?’, *ḥr-m* ‘why?’ (literally ‘on-what?’). Interrogative pronouns could not be used as relative pronouns.

3.4.6 Verbal morphology

3.4.6.1 Finite verb stems

Earlier Egyptian finite verb phrases displayed a limited number of stems (three or four) indicating tense, aspect, and voice followed by either the pronominal suffix (44a) or the nominal subject (44b):

- (44a) *ḥnḥ-s*
live(PROSP)-she
‘She will live.’
- (44b) *ḥ3b ḥjm.t z3-s*
send(PERF) woman son-her
‘The woman sent her son.’

Typical Egyptian verb inflection (utilizing the suffix pronouns) is illustrated in (45) with the verb-stem *sdm* ‘hear’:

- (45) SINGULAR 1st com *sdm-j* ‘I hear’
2nd masc *sdm-k* ‘you hear’
2nd fem *sdm-t* ‘you hear’
3rd masc *sdm-f* ‘he hears’
3rd fem *sdm-s* ‘she hears’
- PLURAL 1st com *sdm-n* ‘we hear’
2nd com *sdm-tn* ‘you hear’
3rd com *sdm-sn* ‘they hear’

In addition to variations in the stem, complementizers inserted between the stem and the subject indicated some verbal features: the most important of these indicators were *n* for the preterite tense (*sdm.n-f* ‘he heard’); *t* for non-paradigmatic occurrences of the perfective aspect (*n sdm.t-f* ‘before he had heard’) and for the prospective aspect of a few irregular verbs (e.g., *jn.t-f* ‘he will fetch’); *w* for prospective aspect (*mrj.w-f* ‘he will love’) and passive voice (in perfective stems, *sdm.w-f* ‘it was heard’), *tw* for passive (in non-perfective stems, *sdm.tw-f* ‘it is heard’).

A particular verbal stem displayed the tonic vowel between the second and the third radical, and in weak verbal classes the reduplication of the second radical: *stp-* */sa'tap-/ (choose.REL), *mrr-* */ma'iaɪ-/ (love.REL). A similar verbal form indicated in Semitic languages the imperfective aspect; in Egyptian, this may indeed have been the original meaning of the form, but in the language of literature its main function was to mark the verb phrase as pragmatic theme of the sentence in which it appeared (Polotsky 1976: 4–25). In these sentences, the pragmatic rheme was usually a modifier or an adverb clause:

- (46) *jrr hm-k r mrj.t-f*
do.IMPF Majesty-your to desire(REL).FEM-him
'Your Majesty acts as he desires.'

The imperative had no suffix element in the singular, but sometimes, especially with weak verbs, a semi-vocalic suffix in the plural.

Egyptian also exhibited a verbal form, variously called Old Perfective, Stative, or Pseudoparticiple, which indicated the wide semantic range of 'perfectivity', from perfect aspect (with intransitive verbs) to passive voice (with transitive verbs). This form was built with a special set of suffixes that were etymologically linked to the forms of the Semitic suffix conjugation (Schenkel 1990: 104–8; Kammerzell 1991: 165–99):

- (47) *mk wj jj-kw*
behold me come(STAT)-me
'Look, I have come.' i.e., 'I am here.'

In Later Egyptian, finite VSO forms were replaced by a paradigm of SVO-constructions, called 'sentence conjugations' or 'clause conjugations' (Polotsky 1960), resulting from the grammaticalization of a form of the verb 'to do' followed by the infinitive:

- (48) VSO > SVO
Old Eg. > Late Eg. > Coptic
s_{dm}.hr-f hr-jr-f-s_{dm} ša-f-sôtm
hear.AOR-he AOR-do-he-hear AOR-he-hear
'He usually hears.'

In this way, Coptic ultimately has maintained only two flectional patterns from most verbal roots: (i) the infinitive for process predicates, and (ii) the so-called 'qualitative', derived from the third masculine singular (more rarely, third feminine singular) form of the Old Perfective, for stative predicates (Polotsky 1987–90: II 197–221):

- (49) *f-kôt vs f-kêt*
he-build(INF) it-build(STAT)
'he builds' 'it is built'

Thus, with the productivity of root and stem variations massively reduced, Later Egyptian linguistic typology gradually moved from the original flectional toward the polysynthetic type, which to a large extent characterizes Coptic:

(50) *Earlier Eg.*
jw sdm.n-j hrw
 COMPL hear.PRET-I voice

Late Eg.
jr-j-sdm w^c-hrw
 do.PRET-I-hear a-voice

Coptic
a-i-setm-ou-hroou
 PRET-I-hear-a-voice

'I heard a voice.'

The evolution toward a lexicalization of compound expressions also affected the verbal system (Winand 1992: 20). In many instances, an earlier verbal lexeme was replaced in Later Egyptian, particularly in Coptic, by an auxiliary of generic meaning ('to do', 'to give', 'to take', etc.) followed by the verbal infinitive or by a noun object:

(51) VERBAL LEXEME > AUXILIARY + NOUN
wḏ^e *r-hap, ti-hap*
 judge(INF) do(INF)-law, give(INF)-law
 'to judge'

Non-finite forms of the Coptic verb are the infinitive – which usually indicates (i) activities (*ei* 'to come'), (ii) accomplishments (*ôô* 'to conceive'), or (iii) achievements (*cine* 'to find') – and the qualitative, which conveys states (*et* 'to be pregnant'). Although synthetic participial functions, as we saw in section 3.4.2, were analytically conveyed in later Egyptian by relative constructions, there were still a few remnants of Ancient Egyptian synthetic participles (*mai-noute* 'lover of god' > 'pious'). Finite verbal forms consisted in Coptic of a marker which conveyed aspectual, temporal, or modal features, followed by the nominal or pronominal subject and by the infinitive (for actions) of the verb: *a-prôme sôtm* 'the man heard', *a-i-hmoos* 'I sat down.' In the present and imperfect tense which were treated as adverbial constructions, the infinitive could be replaced by the qualitative (for states): *ti-hkaeit* 'I am hungry.' The most important verbal markers were as follows (the '=' symbol indicates pronominal subjects; the hyphen, nominal subjects):

- (1) *e=, ere-*: circumstantial present (*e=i-hkaeit* ‘while I am hungry’)
- (2) *ša=, šare-*: aorist of habit (*ša=i-ka-pajoi na=i* ‘I keep my ship for me’)
- (3) *me=, mere-*: negative aorist (*me=f-sôtm* ‘he cannot hear’)
- (4) *e=PRON e, ere-N e*: prospective of wish (*e=s-e-šôpe* ‘may it happen’, ‘amen’)
- (5) *nn(e)=, nne-*: negative prospective (*nne=f-eibe ša-eneh* ‘may he never be thirsty’)
- (6) *mar(e)=, mare-*: optative (*mare-pekran ouop* ‘hallowed be your name’)
- (7) *(n)tare=, (n)tare-*: final (*aitei tar=ou-ti nê=tn* ‘ask, that you may be given’)
- (8) *šant(e)=, šante-*: completive (*šante-prê hôtp* ‘until the sun sets down’)
- (9) *mpat(e)=, mpate-*: Negative Completive (*mpat=f-ei* ‘he has not yet come’)
- (10) *a=, a-*: preterite (*a-ouša šôpe* ‘a festival took place’)
- (11) *mp(e)=, mpe-*: Negative Preterite (*mpi-raše* ‘I did not rejoice’)
- (12) *ne=, nere-*: imperfect (*nere-tmaau n-iêsous mmau* ‘Jesus’ mother was there’)
- (13) *nter(e)=, ntere-*: temporal (*ntere=f-je nai* ‘when he said these things’)
- (14) *n=, nte-*: conjunctive (*e=k-e-nau n=g-eime* ‘may you see and understand’)

In addition to these so-called ‘sentence (or clause) conjugations’, Coptic displayed: (i) an inflected form of the infinitive (*p-tre=f-fsôtm* ‘the fact that he hears’) that could also be used after prepositions (*hm-p-tre=f-sôtm* ‘while he heard’); (ii) a special suffix conjugation for adjective verbs (*nanou=f* ‘he is good’); and (iii) a marker for the future of the present and imperfect tense (*ti-na-sôtm* ‘I shall hear’).

3.4.6.2 Non-finite verbals

Non-finite forms of the Egyptian verb were: (i) the participles, with nominal stems derived from the verbal root (e.g., *sđm* */sa:cim/ ‘hearer’); and (ii) the infinitives which displayed a suffix \emptyset in the regular verbs (*sđm* */sa:cam/ ‘to hear’) or an allomorph *t* in some classes of weak verbs (*mr.t* */mi:it/ ‘to love’; *rm.t* */i:imit/ ‘to cry’), and a suffix *w* after verbs of negative predication, such as *tm* (*tm jr.w* */tam-ji:aw/ ‘not to do’, lit. ‘to complete-to do.NEG-INF’).

Participles were diachronically superseded by analytic constructions with relative pronouns (52):

(52)	PARTICIPLE	>	RELATIVE CONSTRUCTION
	Old Eg.	>	Late Eg.
	<i>sđm</i>	>	Coptic
			<i>p3-nty (hr) sđm</i>
	hear(PART.IMPF)		the-who-(on)-hearing(INF)
	‘the hearer’		the-who-hear

3.4.7 Particles

The basic negative particle was *n*, which was used for unmarked (*contradictory*) negation, i.e., when the scope of the negation is the nexal relation between a predicative base and a predicate (53a); when combined with the adverb *js* ‘indeed’, this morpheme expressed *contrariety* (53b; see Loprieno 1991):

(53a) *n rḏi-f n-j mw*
 not give(PERF)-he to-me water
 ‘He did not give water to me.’

(53b) *n-js jt-j rḏj n-j*
 not-indeed father-me give(PART) to-me
 ‘It was not my father who gave (it) to me.’

A morphological variant of *n*, conventionally transcribed *nn*, is used in noun clauses to negate existence (54a), and in verb clauses to negate the prospective aspect (54b):

(54a) *nn mʒ.tw*
 not.exist trust.ADJ.PL
 ‘There are no trustworthy people.’

(54b) *nn mwt-k*
 not.exist die(PROSP)-you
 ‘You shall not die.’

3.4.8 Numerals and quantifiers

Numerals preceded the noun they referred to. The number 5 was etymologically derived from the word for ‘hand’; 20 is the dual of 10; 50 through 90 represent the plural forms of the respective units 5 to 9 (see table 3.4). Ordinals were derived from cardinals through the addition of a suffix *.nw* (from 2 to 9: *hmt.nw* ‘third’), and from the later 2nd millennium BC through the prefixation of the participle *mḥ* ‘filling’ to the cardinal number: *mḥ-20* ‘twentieth’). An exception was the ordinal number ‘first’, for which discrete lemmas derived from nouns were used in place of a derivation: *tpj* ‘first’ (still marking gender such as *tpj.t* ‘first’ [first.FEM]) in Earlier Egyptian, *ḥ3wtj* in Later Egyptian. Multiples were derived by the help of the noun *sp* ‘time’ following the number (*4 sp* ‘four times’). The derivation of fractions was achieved via the prefix *r* (from *r* ‘part’) plus the number of the fraction (*r-5* ‘ $\frac{1}{5}$ ’). Only for ‘half’ was a specific word, *gs*, used. Fractions other than $\frac{1}{x}$ could be expressed only for $\frac{2}{3}$ (*r.wy* ‘the two parts’ [part.DUAL]) and $\frac{3}{4}$ (*hmt rw* ‘the three parts (out of four)’ [three part.PL]). All other fractions were obtained by addition (e.g., $5 + \frac{1}{2} + \frac{1}{7} + \frac{1}{14} = 5\frac{5}{7}$).

Table 3.4 *Earlier Egyptian numerals and their Sahidic Coptic outcome.*

1 <i>w^c.w</i> */vuʕuʕ/ > <i>oua</i> /vaʔ/	50 * <i>dj.w</i> */t ² ijjaʕ/ > <i>taiou</i> /t ² ajjəʕ/
2 <i>sn.wj</i> */si ² nuʕʕaj/ > <i>snau</i> /snaʕ/	60 * <i>srs.w</i> */sar ² seʕ/ > <i>se</i> /seʔ/
3 <i>hmtw</i> */xamtaʕ/ > <i>šomnt</i> /ʃomnt/	70 * <i>sʃh.w</i> */saf ² xəʕ/ > <i>šfe</i> /ʃfeʔ/
4 <i>jfdw</i> */jif ² ʕʕ/ > <i>ftouu</i> /ft ² ʕʕ/	80 * <i>hmn.w</i> */xam ² neʕ/ > <i>hmene</i> /xme ² neʔ/
5 <i>djw</i> */t ² i:jaʕ/ > <i>tiou</i> /t ² i:ʔʕ/	90 * <i>psd.w</i> */pis ² c ² ijjaʕ/ > <i>pstaious</i> /pəs ² t ² ajjəʕ/
6 <i>srs.w</i> */sa ² saʕ/ > <i>soou</i> /sov/	100 <i>š(n)t</i> */ʃ(inj)ʕt/ > <i>še</i> /ʃeʔ/
7 <i>sʃhw</i> */saf ² xəʕ/ > <i>sašf</i> /saʃʃ/	200 <i>š(n).tj</i> */ʃ(inj)ʕ:taj/ > <i>šêt</i> /ʃe:t/
8 <i>hmn.w</i> */xa ² ma:naʕ/ > <i>šmoun</i> /ʃmu:n/	300–900 * <i>hmtw-š(n)t</i> , etc.
9 <i>psd.w</i> */pi ² si:c ² ʕʕ/ > <i>psit</i> /psi:t/	1,000 <i>h3</i> */xaʕ/ > <i>šo</i> /ʃoʔ/
10 <i>mdw</i> */mu:c ² ʕʕ/ > <i>mêt</i> /me:t/	10,000 <i>db^c</i> */c ² v ² baʕ/ > <i>tba</i> /t ² baʔ/
20 * <i>dw.tj</i> */c ² a ² va:taj/ > <i>jouôt</i> /c ² vo:t/	100,000 <i>hfn</i>
30 <i>m^cb3</i> */maʕbʕr/ > <i>maab</i> /mab/	1,000,000 <i>hh</i> */hah/ > <i>hah</i> /hah/
40 * <i>hm.w</i> */hv ² meʕ/ > <i>hme</i> /hmeʔ/	

Egyptian had a universal quantifier *nb*: since it was morphologically an adjective, this quantifier inflected for gender and number (*nb* ‘every’, *nb.t* ‘every.FEM’, *nb.w* ‘every.PL.MASC’, *nb.wt* ‘every.PL.FEM’). The numeral ‘two’ was also employed to express the meaning ‘other’. The function of scalar quantifiers was usually performed by adjectives such as *š3* or *qnw*, which meant ‘many’, or by genitive constructions which involved the noun *nhy* ‘a little’ (*nhy n n3 hbs.w* ‘some of the clothes’).

3.5 Syntax

3.5.1 General remarks

Egyptian phrasal syntax was head-initial. This distribution was obligatory with nominal (noun-genitive, noun-adjective), adjectival, and prepositional phrases. In Earlier Egyptian, however, determiners such as quantifiers or demonstrative pronouns followed the noun they referred to. From a diachronic point of view, the hierarchy within nominal phrases changed from *head – determiner – quantifier – adjective phrase – genitive nominal phrase* in Earlier Egyptian to *determiner – head – quantifier – adjective phrase – genitive nominal phrase* in Later Egyptian. All numbers except the numeral ‘2’ preceded the noun, which itself appeared in the singular. Up to 299, numerals showed gender agreement with the noun they referred to, but from 300 upwards numbers appeared always as feminine. In Coptic this gender distribution was no longer valid and numbers were generally treated as masculine. Scalar expressions could be expressed by using an adverb to specify an adjective or by repetition of the adjective (e.g. *jrp nfr nfr* ‘very good wine’).

Verbal valency limitations circumvent the double accusative position even in causative constructions (both morphological (synthetic) causatives in *s-* and syntactic (analytic)

causatives with the verb *rdj* plus clause). A necessary second object must be introduced via a prepositional phrase. For a detailed study of verbal valency in Egyptian, see Hafemann (2002).

Sentences with verbal predication show either VSO or SVO syntax; various sentence structures will be treated in detail in section 3.5.2. Clausal adjuncts were mainly formed by means of prepositional phrases with only a few real adverbs. The most frequent prepositions were *m* ‘in/with’, *n* ‘to/for’, *r* ‘toward’, *mj* ‘as/like’, *hr* ‘on’, *hr* ‘under’, *hn^c* ‘with’, *hft* ‘according to’, *hnt* ‘before’. Prepositional phrases followed the noun or the verb they modified. Particularly noteworthy is the presence of the preposition *hr* ‘near’; its original semantic value ‘beneath’ was applied to any situation in which the two participants A and B belonged to different levels of the social hierarchy:

(55a) *dd-f hr ms.w-f*
 say(PROSP)-he beneath child.PL-him
 ‘He will say to his children.’

(55b) *jm3hy hr ntr ʿ3*
 honour(PASS.PART) beneath god great
 ‘honoured by the great god’

The typical phrasal coordination pattern of Earlier Egyptian was juxtaposition. Later Egyptian regularly used conjunctions developed out of prepositions such as *hn^c* or *jm* ‘together with’, but even these conjunctions were initially limited to NP-coordination. No discrete adversative coordination pattern seems to have existed before Coptic, at least not for phrasal coordination. Coptic employs, besides the Greek-based *alla* ‘but’ (being the prototypical connector), various other Greek and Egyptian particles. The expression of disjunction was achieved by means of a post-positional element *r-pw* ‘or’ (e.g., *m nb m sn m hmms r-pw* ‘as lord, as brother, or as friend’) or by juxtaposition. Clausal coordination patterns will be described in detail below in section 3.5.3.

Egyptian allowed for the following deletion pattern of co-referential elements within verbal sentences (a–d are the arguments of the verbal predicate; P, Q indicate predicates; co-referential elements are set in bold. Note that in Earlier Egyptian, conjunction is mainly expressed by juxtaposition; it is only in Later Egyptian that a conjunct gradually becomes obligatory):

(i) **P a b** + **P c b** → P (a + c) b
 **wnm-sj t* + **wnm hm.t t* **wnm- sj (hn^c) hm.t t*
 eat man bread eat woman bread eat man (with) woman bread
 ‘The man and the woman eat bread.’

- (ii) **P a b** + **P a c** → **P a (b + c)**
**rdj.n-j t n-hqr* + **rdj.n-j hbs n-h3y* **jw rdj.n-j t n-hqr hbs n-h3y*
 give.PRET-I bread give.PRET-I cloth PTC give.PRET-I bread
 to-hungry to-naked to-hungry cloth to-naked
 ‘I gave bread to the hungry and clothing to the naked.’
- (iii) **P a b** + **Q a b** → **P a b** + **Q a b**
**jrj-sj t* + **wnm-sj t* **jw jrj-sj t* *wnm-f sw*
 do man bread eat man bread PTC do man bread eat-he it
 ‘The man buys bread and eats it.’
- (iv) **P a b** + **Q a c** → **P a b** + **Q a c**
**wnm-sj t* + **swj-sj mw* **jw wnm-sj t* *swj-f mw*
 eat man bread drink man water PTC eat man bread drink-he it
 ‘The man eats bread and drinks water.’
- (v) **P a b** + **P c d** → **P a b**
**wnm-sj t* + **wnm-hm.t j3rr.t* **jw wnm-sj t*
 eat man bread eat woman grapes PTC eat man bread
 + **P c d**
wnm-hm.t j3rr.t
 eat woman grapes
 ‘The man eats bread and the woman grapes.’

No limitations seem to have existed for the conversion of any sentence type into a relative clause in Later Egyptian. Earlier Egyptian displays a fully developed paradigm of participles and relative forms in addition to relative clauses introduced by a relative pronoun (positive and negative, see above, section 3.4.5.3). Diachronically, the synthetic morphological patterns for relative forms and participles tended to be replaced by analytic relative clauses built with the help of a relative marker (*nty* > *et*, see above, section 3.4.5.3, and below, section 3.5.4).

Complement clauses could be finite or non-finite; in the latter case, infinitive constructions were used. Finite complement clauses might appear introduced by a particle (*ntt*, *jwtt*, or *r-dd*) or directly juxtaposed to the main clause expressing the speaker’s attitude toward the propositional content of the reported sentence (Uljas 2007). The difference between direct and indirect speech was expressed through deictic reference shift. Earlier Egyptian behaved like most modern languages in shifting all referents (56a). In Late Egyptian, however, usually only one referent was shifted, as in (56b) (Kammerzell & Peust 2002):

- (56a) *dd.n-f ḥ3-f ḥn^f-j*
 say.PRET-he fight-he with-me
 ‘He said he would fight with me.’
- (56b) *tw-j ḥr-dd n-P3-R^c-Ḥr-3ḥ.tj [...] jmj n-k snb*
 I say to-Preharakhty [...] give(IMP) to-you health
 ‘I am praying to the god Preharakhty [... further deities ...], that they
 may give you health.’

Adverbial clauses could be used either initially or following the main clause. Earlier Egyptian typically employed prepositions as markers, while Later Egyptian developed a set of conjunctive markers or morphological verbal forms (see the list given above for Coptic). Conditional clauses could be marked as real or hypothetical. Before Coptic, concessive conditionals have no specific marking.

Because of the kind of agreement marking displayed in Egyptian, deletion of anaphoric pronouns in subject position was usually not allowed. Adverbial and complement clauses showed similar limitations except in non-finite structures.

Questions were usually marked by particles or possibly by suprasegmental features such as intonation. As *wh*-words could not be moved to the frontal position of unmarked sentences, questions generally gave rise instead to focalization patterns such as cleft sentences if the interrogative scope was a pronoun (57a), or topicalized verbal predicates (the so-called ‘second tenses’) if the interrogative scope was an adverb or a prepositional phrase. Only Coptic allowed *wh*-fronting in certain patterns (Reintges 2002: 374–80).

- (57a) *jḥ n3 nty tw-tn ḥr-dd.t-w*
 what the(PL) REL you(PL) say-them
 ‘What are you saying?’
- (57b) *j.jr-k gm-s mj-jḥ*
 FOC.do-you find-it like-what
 ‘(Regarding the place you went to,) how did you discover it?’

In comparative expressions, the second element of the comparison was introduced by the preposition *r* ‘to’ for inequality and *mj* ‘like’ for equality (Peust 2006).

- (58a) *s^c3.n-j sw r jm.t-ḥ3.t*
 enlarge.PRET-I it to-being(FEM)-before
 ‘I made it greater than it was formerly.’
- (58b) *dw3 sw mj f ḥ*
 worship him like moon
 ‘Worship him (i.e., the king) like the moon.’

3.5.2 Sentence types and word order

Egyptian syntax knew four types of sentences. These are classified according to the phrase which occupied the predicate position: noun clauses, adjectival clauses, adverb clauses, and verb clauses.

Syntactic patterns proved rather stable throughout the history of Egyptian. Late Egyptian (Satzinger 1981) and Coptic (Polotsky 1987–90: 9–43) displayed more or less the same variety of sentence types as in Earlier Egyptian.

3.5.2.1 *Noun clauses*

In noun clauses, the predicate is a noun: S > [NP NP] (Doret 1989–92; Loprieno 1995: 103–31). Any NP could occur in either position; pronouns, however, had a tendency to occupy the initial position. Typical were bipartite (juxtaposed NPs) and tripartite patterns (adding a copula as third element). In categorical statements a demonstrative *pw* ‘this’ functioning as copula was usually inserted between the two phrases (59):

- (59) *dmj.t pw jmn.t*
 city.FEM COP west.FEM
 ‘The west is a city.’

The distribution of predicate and subject was not consistent. Both S > [NP_S NP_P] and S > [NP_P NP_S] were possible. The syntactic order Predicate(-Copula)-Subject was modified into a pragmatic order Topic-Comment in: (i) classifying sentences in which the subject was a first- or second-person pronoun (60a); (ii) identifying sentences in which both the subject and the predicate were determined or semantically specified (60b); and (iii) in cleft sentences in which the predicate was a participle and the subject was focalized (60c) (Loprieno 1988: 41–52):

- (60a) *ntk jtj n nmḥw*
 you father for orphan
 ‘You are a father to the orphan.’
- (60b) *zh3w-f pw ḥrw*
 scribe-him COP Horus
 ‘His scribe is the god Horus.’
- (60c) *jn sn.t-j s-c nḥ rn-j*
 FOCUS sister.FEM-me CAUS-live(PART) name-me
 ‘My sister is the one who makes my name live.’

Later Egyptian showed typologically similar patterns: it displayed an unmarked syntactic order Predicate-Subject when the subject was a noun (61a), replaced by a marked

pragmatic order Topic-Comment in three environments: (i) when the subject was a pronoun (61b); (ii) when both the subject and the predicate were semantically specific (61c); and (iii) in cleft sentences, in which the predicate was a participle and the subject was focalized (61d):

- (61a) *ou-me te te-f-mnt-mntre*
a-truth COP.FEM the-his-thing-witness
'His testimony is true.'
- (61b) *anok ou-šôš*
TOPIC.I a-shepherd
'I am a shepherd.'
- (61c) *t-arxê n-t-sophia te t-mnt-mai-noute*
the-beginning of-the-wisdom COP the-thing-lover-god
'The beginning of wisdom is piety.'
- (61d) *p-noute p-et-sooun*
the-god the-REL-know(INF)
'God is the one who knows.' (= 'Only God knows.')

3.5.2.2 Adjectival clauses

The predicate position of adjectival clauses is occupied by an adjective (62a) or a participle (62b): $S > [\text{AdjP N}^{\text{P}}]$ (Loprieno 1995: 112–14). In the subject position, either a nominal phrase (62a–b) or a clause (62c) may appear. The normal order of constituents is Predicate-Subject (62a):

- (62a) *nfr mtn-j*
be.good path-me
'My path is good.'
- (62b) *sw3d̄w sw r h^cpy c3*
rejuvenate(PART) he than Nile high
'He is more rejuvenating than a high Nile.'
- (62c) *bjn-wj jw-k c̄d.tj wd3.tj*
bad-PTC come-you(MASC.SG) safe(STAT)-you sound(STAT)-you
'How very unfortunate that you have come safe and sound!'

In the presence of a first-person subject, the bipartite nominal pattern (63a) was used.

In Later Egyptian, this pattern tended to become very rare: although it still existed in Late Egyptian, it is completely absent in Demotic and Coptic, where adjectival clauses were replaced by nominal (63a from Coptic) or verbal patterns (63b from Demotic).

(63a) *ang ou-agathos*

I a-good (one)

‘I am good.’

(63b) *p3 hm nm n3-3f iw-db3 rn-f*

the little dwarf be.great-he because name-him

‘The little dwarf is big because of his name.’

3.5.2.3 *Adverb clauses*

In adverb clauses, the predicate is an adverbial or prepositional phrase: S > [NP AP] (Loprieno 1995: 144–72). The word order is always Subject-Predicate. In Earlier Egyptian, adverbial main clauses were often introduced by particles functioning as discourse markers (64a); in absence of a discourse marker, the clause is to be understood as syntactically dependent (64b):

(64a) *jw nzw jr p.t*

COMPL king towards heaven.FEM

‘Now the king is (directed) towards heaven.’

(64b) *hr.t-k m pr-k*

rations.FEM-you in house-you

‘(Because) your rations are in your house.’

In Later Egyptian, the syntax of adverb clauses did not change; the order is Subject-Predicate (Polotsky 1987–90: 203–24):

(65) *ti-hm-pa-eiôt*

I-in-my-father

‘I am in my father.’

3.5.2.4 *Verb clauses*

In verb clauses, the predicate is a verbal phrase (Loprieno 1995: 183–220); the word order is Predicate-Subject:

(66) *jj.n-j m nw.t-j*

come.PRET-I from city.FEM-me

‘I came from my city.’

As we observed in the discussion of morphology, a peculiarity of Egyptian syntax was that the predicate of verb clauses might function as the theme of the utterance.

In general, Egyptian verbal syntax displayed a comparatively high incidence of topicalization and focalization phenomena. The most common topicalization device

was the extraposition of the topicalized argument through the particle *jr* ‘concerning’ (67a); used as a conjunction, the same particle introduced the protasis of a hypothetical clause (67b):

(67a) *jr sf wsjr pw*
concerning yesterday Osiris COP
‘As for “yesterday”, it is Osiris.’

(67b) *jr jqr-k grg-k pr-k*
concerning be.important(PROSP)-you found(PROSP)-you house-you
‘If you become important, you should found a household.’

Unmarked VPs not introduced by discourse markers were less frequent than in related languages. They mostly functioned as dependent or modal clauses:

(68) *h^cy-k*
appear(PROSP)-you
‘May you appear.’

In Later Egyptian verb clauses (Polotsky 1987–90: 175–202), the predicate was conveyed by SVO-patterns in which the subject could be extraposed to the right of the predicate and anticipated by a cataphoric pronoun in the regular syntactic slot:

(69) *a-u-rime nci ne-snêu*
PRET-they-weep(INF) namely the-brothers(PL)
‘The monks wept.’

In Coptic verbal sentences, the tendency to have the verb phrase function as theme or rheme of the utterance reached its full development: in the former case, the verb phrase was preceded by a relative marker *e-* or *nt-* and is described in linguistic literature as ‘second tense’ (Polotsky 1987–90: 129–40); in the latter, the form is preceded by the circumstantial marker *e-* and is described as ‘circumstantial’ (Polotsky 1987–90: 225–60):

(70) *nt-a-n-jpo-f e-f-o n-blle*
REL-PRET-we-beget(INF)-him CONJ-he-do(STAT) as-blind
‘He was born to us blind.’ (lit. ‘That we begot him was while he is as blind.’)

3.5.3 Coordination and subordination

The presence or absence of morphemes indicating paragraph initiality was an important syntactic feature of adverb and verb clauses in Egyptian. The general rule was as

follows: (i) adverbial and verbal patterns introduced by a discourse particle were initial main clauses; (ii) bare patterns were non-initial clauses, either paratactically juxtaposed to the initial predication as non-initial coordinate main clauses or controlled by it as subordinate clauses. This flexibility in sentence patterns, which could appear as main sentence or as subordinate clause, depending on the syntactic environment, was a common feature of Egyptian syntax, being shared by the majority of patterns, whether they were nominal, adverbial, or verbal.

The dialectic between the initial main sentence introduced by a particle and the non-initial coordinate bare adverb clause is captured in the following example:

- (71) *jw hnw m sgr jb.w m gmw rw.tj*
 COMPL residence in silence heart.PL in mourning portal.FEM.DUAL
wr.tj htm.w
 great.FEM.DUAL shut(STAT).3PL
 ‘The Residence was in silence, the hearts in mourning, the two great portals shut.’

An example of coordinate verb clause syntax is provided by the following passage, in which a series of non-initial main clauses was paratactically linked to the initial verb form:

- (72) *jrj.t-j šm.t m hnty.t nj k3-j*
 make(INF)-I go(INF) in sail.south(INF) NEG think(PERF)-I
spr r hnw pn hmt.n-j hpr
 reach(INF) to residence this contemplate(PERF)-I happen(PROSP)
h3yt nj dd-j nh-j r-s3-f nmj.n-j
 turmoil NEG say(PERF)-I live(PROSP)-I after-it pass(PRET)-I
m3.tj m h3w nh.t zm3.n-j m jw-snfrw
 Maaty in area sycamore arrive(PERF)-I in island-Snefru
 ‘I made a journey southward, and did not plan to reach the residence; I thought that there would be turmoil and I did not expect to survive after it; I crossed the lake Maaty in the sycamore neighborhood, and arrived at Snefru Island.’

It is important to appreciate the difference between initiality as a property of discourse and coordination vs subordination as syntactic features of the clause. In examples (71) and (72), there are only main clauses, in the sense that – if taken individually – all clauses represent well-formed Egyptian sentences paratactically organized within a

chain of discourse (Collier 1992). In both cases, however, only the first sentence is paragraph-initial: in the case of (71), it is introduced by an overt particle of initiality, the complementizer *jw*, which indicates that the corresponding adverbial sentence *ḥnw m sgr* opens a new segment of discourse; in example (72), the initial verb form, a narrative infinitive, provides the temporal and aspectual references for the chain of paratactically linked clauses.

We need, therefore, to draw a distinction between the level of clause and the level of discourse. Adverbial and verbal sentences introduced by a particle were always main clauses; non-initial patterns might be paratactically linked main clauses or embedded subordinate clauses. The difference between forms with and without an introductory particle lies on the discourse level, in that the sentence introduced by an initial clitic particle opened a paragraph, i.e. a new segment of text. In this respect, rather than operating with the traditional two levels of clausal linkage (parataxis vs hypotaxis, or coordination vs subordination), it seems suitable to analyse Egyptian syntactic phenomena by positing three forms of linkage between sentences.

- (1) **Parataxis**, i.e., the linkage between main clauses: this linkage usually remained unexpressed in Egyptian syntax, as in the case of bare adverbial or verbal sentences which followed an initial main clause within a chain of discourse. Specimens of paratactic chains are provided in (71)–(72). Later Egyptian restricted the employment of parataxis to verbal sentences in the perfective aspect.
- (2) **Hypotaxis**, i.e., a semantic, rather than syntactic, dependency of a sentence on the discourse nucleus: hypotactically linked clauses were usually introduced by particles such as *jsk*, *jḥr*, or *js*; their semantic scope and their pragmatic setting could be properly understood only in reference to the message conveyed in the textual nucleus, as in example (73), which in the original text immediately follows (71):

(73) *jst* *r-f* *zḃj.n* *ḥm-f* *mšc*
 meanwhile to-it send.PRET majesty-him army
r t3-ṯmḥ.w *z3-f* *smsw m ḥrj* *jry*
 to land-Libyans son-him elder as superior thereof
 ‘Meanwhile, His Majesty had sent off to the land of the
 Libyans an army whose leader was his elder son.’

- (3) **Subordination**, i.e., the syntactic dependency of a clause on a higher node, which itself could be a main or a subordinate clause. Subordination was usually signalled by morphological markers such as prepositions

(for example, *m* ‘in’ > ‘when’) governing nominalized verbal phrases, conjunctions (such as *hr-ntt* ‘because’), or particles (*jr* ‘if’):

- (74) *rḥ.n-j* *qd-k* *tw-j* *m zšj* *m wn-k*
 know.PRET-I character-you indeed-I in nest in be(AOR)-you
m šms.wt *jt-j*
 in following father-me
 ‘I knew your character while still in the nest, when you were in
 my father’s following.’

In the absence of an overt marker of dependency, subordination could also be determined by syntactic control. In this case, one speaks of ‘embedding’, as in the case of adverbial or verbal sentences functioning as virtual relative clauses or controlled by a verb of perception:

- (75) *gmj.n-j* *nb-j* ^c*nḥ.w* *wḏ3.w* *snb.w*
 find.PRET-I lord-me live(STAT) sound(STAT) healthy(STAT)
ḥntj-f
 sail.south(AOR)-him
 ‘I found my Lord (may he be alive, prosperous, and healthy)
 travelling southward.’

3.5.4 Relativization

As an example of the complex interface between overt and embedded subordination, let us consider relativization. Specific antecedents (Loprieno 1995: 202–8) were resumed by an overt marker of relativization: (i) the relative pronoun – masculine *ntj*, feminine *nt.t*, plural *nt.w* ‘who/which/that’ – in adverb clauses (76a); or (ii) an agreement-marker inflected in the relative verb form: a participle in the presence of co-referentiality of antecedent and subject of the relative clause (76b), or a finite relative form in the absence of it (76c):

- (76a) *mtr.n* *wj* *rmṯ.w km.t* *nt.w* *jm* *ḥn^c-f*
 witness.PRET me man.PL Egypt REL.PL there with.-him
 ‘Egyptians who were there with him bore witness for me.’
- (76b) *dj-s* *ḥ.t* *nb.t* *nfr.t* *w^cb.t*
 give(PROSP)-she thing.FEM every.FEM good.FEM pure.FEM
prr.t *ḥr* *wḏḥ-s*
 exit(PART.FEM) on altar-her
 ‘May she give every good and pure thing which goes up on her altar.’

- (76c) *ḥ3s.t nb.t rwj.t.n-j r-s*
 country.FEM every.FEM advance(REL).FEM.PRET-I against-it
 ‘Every country against which I advanced.’

Non-specific antecedents, on the other hand, were modified by relative clauses, which lack overt agreement-markers (Collier 1991; Loprieno 1995: 158–61). They were syntactically subordinated by means of embedding into the main clause:

- (77) *kj.t n.t msḏr dj-f mw*
 another.FEM that_of.FEM ear give(AOR)-it water
 ‘another (remedy) for an ear which gives off water’

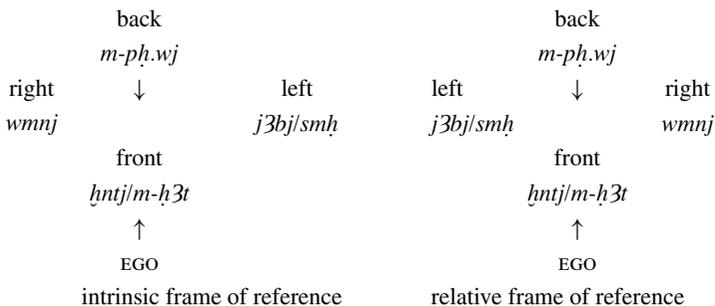
3.6 Lexicon

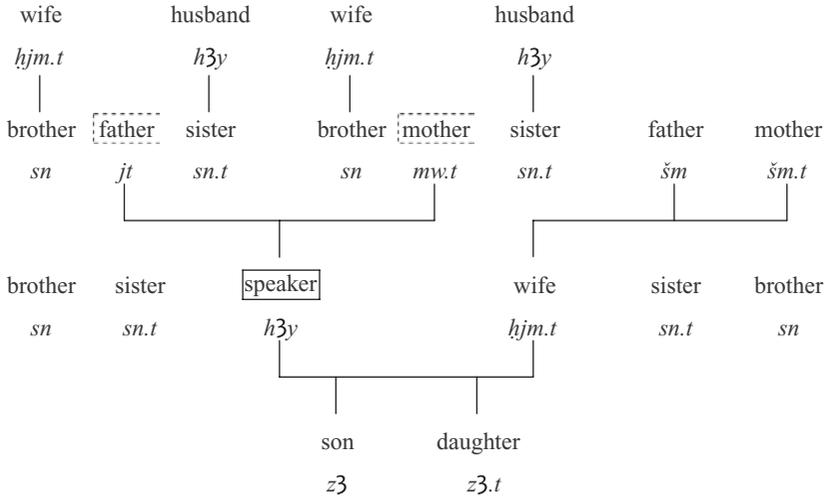
3.6.1 Structured semantic fields

Family terms made basic use of the following: *ḥ3y* ‘husband’ and *ḥjm.t* ‘wife’, *jt* ‘father’ and *mw.t* ‘mother’, *sn* ‘brother’ and *sn.t* ‘sister’, *z3* ‘son’ and *z3.t* ‘daughter’. These were extended to clarify the reference as in *sn ḥjm.t-j* ‘my wife’s brother’ or *ḥ3y n sn.t mw.t-j* ‘my aunt’s husband’ (Franke 1983). The system can be conveniently represented as in Figure 3.1.

Egyptian differentiated the colour terms ‘black’ (*km*), ‘white’ (*ḥd*), ‘red/yellow’ (*dšr*) for warm colours, and ‘green/blue’ (*w3d*) for cold colours (Schenkel 1963: 140–7). Body parts were finely differentiated (Westendorf 1999: 108–236); a similar degree of sophistication applied to cooking and food-processing terminology (Verhoeven 1984; Faltings 1998).

Egyptian displayed a binary system for primary spatial deixis: ‘3 ‘here’ vs *jm* ‘there’, later conflating graphically into *dy* ‘here/there’ but possibly differentiated nevertheless – cf. the Coptic forms *tai* ‘here’ vs *tê* ‘there’. Secondary spatial deixis showed intrinsic as well as relative features (M. Müller in press). The unmarked distribution seems to be:



Figure 3.1 *Family relations.*

3.6.2 Lexical contacts

Owing to Egypt's geographically protected location, Ancient Egyptian did not display in its earlier phase (from 3000 BC) detectable influences from other languages, although the neighbouring languages certainly contributed to the lexical development of historical Egyptian. The majority of the lexicon was of Afroasiatic origin and showed convergences especially with the Semitic and Libyan Berber branches of this family (Schenkel 1990: 49–57): for example, *sp.t* 'lip', cf. Arabic *šafat-un*; *sfhw* 'seven', cf. Arabic *sab^c-un*; *jnm* 'skin', cf. Berber *a-glim*. There is also some evidence for the possible impact of an Indo-European adstratum in the area of basic vocabulary (Kammerzell 1994: 37–58): e.g., Egyptian *jrt.t* */jala:cat/ 'milk', cf. Greek *gala*, *galak-tos*; or *hntj* */xant-ij/ 'before,' cf. Greek *anti*, Latin *ante*. In some cases, for the same concept – for example, 'heart' – Egyptian displayed the coexistence of an Afroasiatic (*jb* */jib/, cf. Akkadian *libb-um*) and of an Indo-European connection (*h3tj* */hurtij/, cf. Latin *cor*, *cord-is*), probably rooted in different dialectal areas of the country. During the Late Bronze Age (1550–1100 BC), contacts with the western Asiatic world led to the adoption of a considerable number of mostly West Semitic loanwords (Hoch 1994), many of which remained confined to the scholarly and administrative sphere: for example, *tpr* from Northwest Semitic *sôper* 'scribe'; *mrkbt* (Coptic *brcoout/berecôout*) from Northwest Semitic *merkabâh* 'chariot'; *mryn* from Mitanni (Iranian) *maryannu* 'chariot-fighter'.

In the Late Period, after the seventh century BC, when the productive written language was Demotic, a limited number of (mostly technical) Greek words entered the Egyptian

domain: *gawma* from *καῦμα* ‘fever’; *wynn* through Aramaic from *οἱ Ἴωνιοι* ‘the Ionians’ i.e., ‘the Greeks’. The impact of Greek vocabulary became more dramatic with the Christianization of the country, Hellenistic Greek being the language in which the Christian Scriptures were transmitted in the eastern Mediterranean world. The number of Greek loanwords in Coptic is therefore very high (Kasser 1991a), depending on the nature of the text: up to one-third of the lexical items found in a Coptic text may be of Greek origin. Most of these words stem from the spheres of: (i) religious practice and belief (*aggelos* ‘angel’, *diabolos* ‘devil’, *ekklêsia* ‘church’, *hagios* ‘saint’, *sôtêr* ‘saviour’, etc.); (ii) administration (*arkhôn* ‘governor’, *oikonomei* ‘to administer’, etc.); and (iii) high culture (*anagnôsis* ‘recitation’, *logikos* ‘spiritual’, etc.). In some texts translated from Greek, the influence of this language extends to the realm of syntax. A limited number of words from the military context are Latin (*douks* ‘general’, from Latin *dux*), whereas documents from the end of the first millennium begin to display the adoption of loanwords from Arabic (*alpesour* from *al-bāsūr* ‘haemorrhoids’). The terms referring to the basic vocabulary, however, usually remain of Egyptian origin: for example, *rm̄t* > *rôme* ‘man’; *h̄jm.t* > *s(.t)-h̄jm(.t)* > *shime* ‘woman’; *mw* > *mau* ‘water’; *sn.wj* > *snau* ‘two’.

Semitic

Gene Gragg and Robert Hoberman

See Map 4.1.

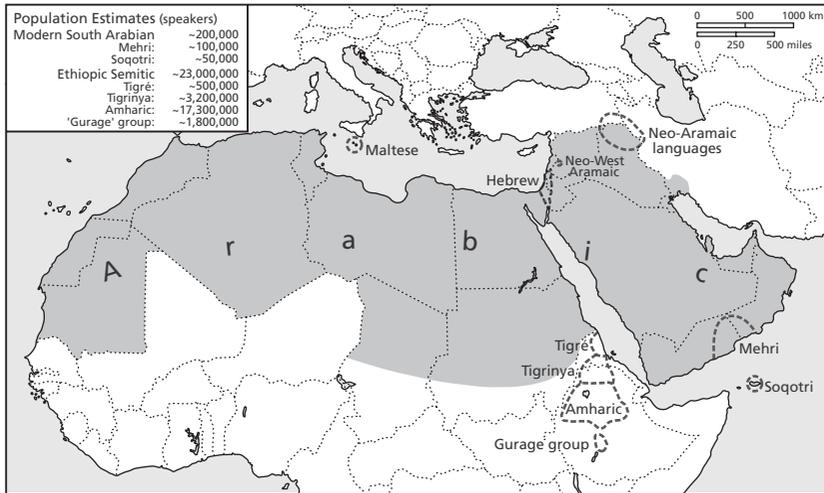
4.1 Distribution of the Semitic languages in time and space

4.1.1 Mesopotamia

The main language in this group, Akkadian, is attested on many thousands of clay tablets, written in a mixed logographic–syllabic writing system with wedge-shaped characters ('cuneiform') adapted from the Akkadians' Sumerian predecessors in the region. The huge Akkadian corpus starts from the middle of the third millennium BC (Old Akkadian), and subsequently, in a northern ('Assyrian', centring around the northern capital city of Aššur, near present-day Mosul) and southern ('Babylonian', roughly from present-day Baghdad to the Persian Gulf) variety, continues down to the last scholarly texts written in the final centuries BC. On chronological grounds, Assyrian and Babylonian are conventionally divided into 'Old' (first half of second millennium), 'Middle' (second half of second millennium), and 'Neo' (first millennium). Old Babylonian, the administrative and literary language of Babylon at the time of Hammurabi, is often taken as a 'classic' form of the language; *Neo-Babylonian* and *Neo-Assyrian* are the languages of the last great Mesopotamian empires preceding the rise of the Persian Empire. It is generally assumed that Akkadian was replaced by Aramaic as a spoken language in Mesopotamia in the course of the first millennium BC. A smaller body of texts, more recently discovered at the Syrian site of Tell-Mardikh (=Ebla), is also written in cuneiform and is roughly contemporary with Old Akkadian. Eblaite is sometimes taken to be an extreme western dialect of Akkadian, but sometimes as a separate Mesopotamian Semitic language. Much work remains to be done on this difficult corpus.

4.1.2 The Levant

The eastern coast of the Mediterranean is the home of three important languages. *Ugaritic*, the earliest of them, was written for only about 200 years, from 1400 to



Map 4.1 *Modern Semitic languages*

1190 BC, and in just one location, on the coast of what is now Syria. About 1,000 well-preserved texts survive, many of them strikingly similar in form and content to biblical poems and narratives.

Phoenician was the language of a group of city-states on the coast of what is modern Lebanon, Israel, and Syria, such as Byblos, Sidon, and Tyre. The inscriptions that have been found there and in many other parts of the eastern Mediterranean date from about the tenth century BC until the first century AD; the forms of the language used in North Africa are known as Punic, and survived until the fifth century. The Phoenician alphabet was the source on which the Greek alphabet, and thence all the European alphabets, were based.

Hebrew is first attested in inscriptions from what is now Israel in the tenth century BC. The subsequent history of the language is best understood as divided into three periods. From the Ancient Hebrew period we have a number of short inscriptions and important bodies of literature: most of the Bible (Old Testament), many of the Dead Sea Scrolls, and the Mishna and associated works (finalized about AD 200). During the latter part of this period Hebrew as a vernacular language gradually receded, replaced by Aramaic, until finally, from about AD 200 or not long after, there were no native speakers of Hebrew. In the second period, the Scholastic or Rabbinic period, Hebrew was not a colloquial language, but it continued in productive use among scholars, who wrote a large variety of religious and belletristic works. Beginning in the 1880s, under the influence of European ideas of nationhood, efforts were made to revive Hebrew as a spoken language. By the 1920s there were significant communities in

Palestine functioning mainly in Hebrew and raising Hebrew-speaking children. Hebrew is now the dominant language among the approximately 7 million Israelis, of whom at least half are native speakers. This third period is best called Israeli Hebrew, as varieties of Hebrew rooted in the Scholastic period are still in use by non-native speakers elsewhere.

4.1.3 The Fertile Crescent (Mesopotamia, N. Syria, Syro-Palestinian Coast)

Aramaic first appears in inscriptions in northern Syria in the ninth century BC. It gradually spread – for reasons that are still poorly understood – throughout the Fertile Crescent, displacing all the indigenous languages, including Akkadian, Phoenician, and Hebrew, and Aramaic was the dominant language in the entire area for over 1,000 years, from about 600 BC until the spread of Arabic after the seventh century AD. At least six Aramaic literary languages developed, and important bodies of Jewish and Christian literature were written. Syriac, the best-documented of all Aramaic languages, with an extensive body of literature, is still the liturgical language of many of the Middle Eastern Christian churches. After the spread of Islam and with it the Arabic language, Aramaic speech receded. There are now several hundred thousand speakers of Aramaic, perhaps more, known as Assyrians or Chaldeans, speaking something between four and ten distinct languages.

4.1.4 Northern and Central Arabian peninsula

Arabic is first attested in a large variety of related dialects in the central and northern Arabian peninsula from the eighth century BC to the mid first century AD. Toward the end of that period a highly elaborated intertribal literary language coalesced; this is the language of the Qur'an and early poetry. As the language spread along with the Islamic empire, starting in the seventh century, it was codified by grammarians and literary scholars, becoming what is known as Classical Arabic. This is still the model for all writing and formal speech in Arabic, so that Modern Standard Arabic is to a considerable degree identical to Classical Arabic; the differences are mainly in vocabulary and in the relative frequencies of particular grammatical structures. Modern Standard Arabic is, however, no-one's native language. All Arabs speak local vernacular forms of the language, many of which, if not for the prestige of Classical Arabic, would be considered different languages. Of these, only *Maltese* has broken away from the model of Classical Arabic. Judged purely by its grammatical structure and basic vocabulary, Maltese would be seen as one variety of North African vernacular Arabic, but culturally it is more associated with Europe and has the status of a separate national language.

4.1.5 Southwest Arabian peninsula

Old South Arabian (OSA) is a group of closely related languages of the city-states (principally Saba, Ma'in, Qataban, Hadramawt, Himyar) in what is modern Yemen, which, from mid-first-millennium BC to mid-first-millennium AD, mediated in the very lucrative spice trade between the southern Arabian peninsula (including goods transiting from the Indian Ocean region beyond) and the Mediterranean world. Written in a very archaic form of the West Semitic alphabet (the one that perhaps comes closest to representing all the consonants of Proto-Semitic), the OSA corpus consists of thousands of monumental inscriptions (mostly on stone and often highly formulaic in content), and a smaller, but very interesting corpus of epistolary and administrative texts written on palm fronds. In spite of sharing in their name the stem 'Arab' with Arabic and Modern South Arabian, the Old South Arabian languages have to be taken as a separate language group. There is much that is indeterminate about details of OSA grammar, since its alphabet is one of the most resolutely non-vocalic of all Semitic writing systems; because of this, OSA will not often be used here to illustrate points of Semitic morphology and syntax.

4.1.6 Southern Arabian peninsula

The *Modern South Arabian* (MSA) languages, Mehri, Jibali (Šḥeri), Ḥarsusi, Hobyot, Baḥari, and Soqotri, are now spoken only on the extreme southern periphery of the Arabian peninsula in eastern Yemen, western Oman, and on the Indian Ocean island of Soqotri. They have no native tradition of writing and were unknown to western scholarship until first reported on by explorers early in the nineteenth century, and then studied by a Viennese expedition sent for that purpose only in 1898. These languages have been much better studied since World War II, particularly in the text-collections and dictionaries of Johnstone. The languages are highly conservative in phonology and morphology and preserve a large number of archaic Semitic features.

4.1.7 Horn of Africa

Generally presumed to have been introduced into the Horn of Africa from the Arabian peninsula at some indeterminate date, *Ethiopian Semitic* (ES), although it shares features with both OSA and MSA, is quite distinct from OSA, and cannot be derived from any known form of MSA. Geez, a northern variety, was the language of the ancient capital Aksum, and is first attested in pre-Christian, and then Christian, monumental inscriptions from around the fourth century AD. Geez was probably no longer a spoken language by

the early medieval period, but continued up to the twentieth century as the only official written language of church and state in Ethiopia. It has given rise to a rich manuscript tradition of mainly religious, but also secular, content. The Ethiopian writing system clearly developed from the OSA alphabet, with a consonant inventory reduced to that of Geez at the time of adaptation, but with the addition, unique in Semitic writing traditions, of more-or-less consistent vocalic diacritics to the consonantal signs, resulting in a quasi-syllabary, whose inspiration, it has been conjectured, may have come from Devanagari, known from contact with trading partners from India in the course of the ongoing Indian Ocean trade. Our knowledge of Geez pronunciation is dependent on the ecclesiastical pronunciation traditions, observed in the west since the seventeenth century – of which, however, there is more than one, and which, in phonetic details, are not entirely consistent.

Of the two other northern varieties of ES, Tigrinya, spoken in Eritrea and the northern highlands of Ethiopia, is more or less the modern continuation of Geez, whereas the northern-most Tigre (in Eritrea) represents an earlier branching of Northern ES. The very different, and highly diverse, southern group of ES is most prominently represented by Amharic (until 1975 the only recognized national language of government and mass media, and still the principal written language of Ethiopia). The other southern ES languages include Argobba, closely related to Amharic, and Harari, the language of the city of Harar. Finally, there is a very diversified language sub-family which includes Gafat (now extinct), and a group of more than a dozen languages spoken in a relatively dense area south of Addis Ababa and informally and collectively known as Gurage (including Soddo, Goggot, Muher, Masqan, Ezha, Chaha, Gumer, Guna, Gyeto, Inor, Endgen, Enor, and an ‘Eastern Gurage’ sub-group including Silte, Inneqor, Wolane, and Zway, which may actually be more closely related to Harari).

4.2 Internal classification

There is general agreement that there is a clear major division between East Semitic (‘Mesopotamian Semitic’, which retains from Proto-Semitic a prefixing past tense along with a prefixing non-past) and all the other groups (which share an innovative suffixing past tense, along with ‘fossilized’ remnants of a prefixing past tense), collectively referred to as ‘West Semitic’. However, within West Semitic, the consensus is much less clear, and there are major problems with cross-cutting isoglosses. An older division, based on phonological correspondence $*p > p$ (i.e., a retention attested in East Semitic, plus Ugaritic-Canaanite-Aramaic) vs the presumed innovation $*p > f$ (shared by Arabic, OSA, MSA, Ethiopic), distinguished Ugaritic-Canaanite-Aramaic (= North(west) Semitic) from Arabic, OSA, MSA, Ethiopic (= South Semitic). More recently, however,

on the basis of verb morphology (retention of Proto-Semitic and East Semitic present tense **yiqattil* in MSA and Ethiopic vs the innovative present tense *yaqtul-* in Northwest Semitic and Arabic), it has been proposed to group Arabic with Ugaritic-Canaanite-Aramaic into a Central Semitic group. OSA is problematic: although it shares some significant features with MSA-Ethiopic (suffixing past tense 1sg *qatalku*, 2sgm *qatalka*, 2sgf *qatalki*; as opposed to *qataltu*, *qatalta*, *qatalti* in Central Semitic), the evidence – difficult to establish directly since both *yVqattVI-* and *yVqtVI-* would be written *yqtl* – now seems to indicate that it shares the innovative present tense *yaqtul-* with Central Semitic (Nebes 1994). Ethiopic shares important defining features with MSA, and may eventually be shown to share an exclusive common ancestor with it, but, as mentioned, certainly cannot be derived from any currently known variety. Within ES, although Geez is the earliest attested language, and contains many archaic features, it cannot be equated with Proto-ES, nor even with Proto-Northern-ES, since both Southern-ES and the other Northern-ES languages retain archaic features not present in Geez.

4.3 The study of Semitic

As opposed to other language families in this volume, Semitic is one of the most thoroughly documented and researched language families in existence. On the one hand, an adequate overview of its scholarship would almost require a volume in itself; but by the same token, there are many excellent surveys of and introductions to the various languages and sub-domains of this key component of Afroasiatic. The goal of this chapter itself is to provide a typologically oriented introductory survey of data from a representative sample of Semitic languages. We intend the following brief compilation as a first key to further exploration of the bibliography, research, and data of the languages and language groups which constitute this rich domain.

4.3.1 Common Semitic

A good and accessible overview is Huehnergard (2004); on individual languages, see the chapters in Hetzron (1997), Woodard (2004), and Kaye (2007: part 1). Although an up-to-date historical synthesis on the level of Brockelmann (1908–13) has not been produced, for background and historical context (less so for historical linguistics) Lipiński (1997) can be consulted. An earlier, typologically oriented survey somewhat in the spirit of the present chapter is Bergsträsser (1928; translation 1983). On the Semitic genealogical tree, Hetzron (see, for example, 1972a) has been enormously influential. Finally, although after centuries of study a complete Semitic etymological dictionary still does not exist, a start has been made in Militarev and Kogan (2000–).

4.3.2 East Semitic

The standard reference for Akkadian is von Soden (1995), but Huehnergard (1997, cited hereafter as H[page]) is an excellent introduction. CAD (Gelb *et al.* 1956–2011) is a multi-volume dictionary, many decades in the making, and finally finished in 2011. Not enough is yet known about Eblaite to produce a real grammar, but a preliminary survey of the evidence can be found in Gordon (1997), and in proceedings of various annual meetings and publications such as Gordon *et al.* (1987–2002); Akkadian and Eblaite are treated together in Huehnergard and Woods (2004).

4.3.3 Northwest/Central Semitic

4.3.3.1 Hebrew

Standard reference grammars of Biblical Hebrew are Kautzsch (1910) and Joüon (2000), and Waltke and O'Connor (1990) is a handbook of the syntax and semantics, organized by morphological categories. For Rabbinic Hebrew, Pérez Fernández (1997) is a pedagogical grammar with many original observations, and constitutes as well an introduction to the terminology, logic, and culture of rabbinic literature. Glinert (1989) covers the morphology, and especially the syntax and semantics, of Israeli Hebrew with great detail and insight.

4.3.3.2 Aramaic

For Syriac, the standard grammar is still Nöldeke's, originally published in 1880 (Nöldeke 2001 [1904]). A fine pedagogical grammar is Muraoka (1997). Sokoloff (2009) is a superb dictionary. So many grammars and dictionaries for varieties of ancient Aramaic exist, and the body of studies of particular modern Aramaic dialects is growing so rapidly, that it is difficult to select just a few, but two dictionaries deserve mention: Sokoloff (2002) is a comprehensive dictionary – and the first that is based on reliable manuscripts – of the language of the Babylonian Talmud, which still constitutes the core of traditional Jewish education; Sabar (2002) provides an intimate view of the language and culture of the Aramaic-speaking Jewish communities of Kurdistan.

4.3.3.3 Arabic

The literature on Arabic is enormous. A handy one-volume survey is Versteegh (1997), while the *Encyclopedia of Arabic Language and Linguistics* (Versteegh *et al.* 2006–9, in 5 vols.) is monumental. The standard grammar of Classical Arabic is Wright (1896–98). Badawi *et al.* (2004) is a comprehensive description of Modern Standard Arabic syntax, while Aoun *et al.* (2010) is more concerned with formal generative analysis. Holes (2004) is an excellent survey of many aspects of both Modern Standard Arabic

and modern vernacular Arabic. For more on modern vernacular Arabic, Brustad (2000) on syntax and semantics and Watson (2002) on phonology provide broad coverage; Cowell (1964) is perhaps the best reference grammar of a single dialect, remarkable for its comprehensiveness, originality, and insight.

4.3.3.4 *Old South Arabian*

A good overview of the family is provided in Nebes and Stein (2004). A concise grammar of Sabaic is Beeston (1984), and for a dictionary see Beeston *et al.* (1982). A selection of the more recently (re-)discovered non-monumental and cursive texts is published in Ryckmans *et al.* (1994).

4.3.3.5 *Modern South Arabian*

Our surest data about these languages are still supplied by the dictionaries and text collections of T. M. Johnstone (1977, 1981, 1987; Johnstone and Stroomer 1999), with an overview in Johnstone (1975) – see also Simeone-Senelle (1997). The most detailed grammatical information on an MSA language is contained in Rubin (2010, cited later as R[page]), a study of Mehri based on Johnstone's texts and recordings.

4.3.3.6 *Ethiopian Semitic*

For the classification of these languages, see especially Hetzron (1972a); Leslau (1987) is an authoritative etymological dictionary. The standard reference grammar of Geez is Dillmann (1974 [1907]), but Lambdin (1978) is a useful pedagogical introduction; a reference grammar of Amharic was produced by Leslau (1995, cited hereafter as L[page]). A number of useful articles on individual ES languages are contained in Hetzron (1997). For the dense cluster of southern ES, see the overview of Hetzron (1977), the etymological dictionary of Leslau (1979), the morphophonological study of Banksira (2000), and the chapter by Rose (2007).

4.3.4 Languages used in this study

Relevant evidence can of course in principle, and will on occasion, be drawn from the total range of Semitic. However, in order to keep this overview within the bounds of a single chapter, while giving as accurate an impression as possible of the typological range of Semitic through its long-attested history of development, we will try to give as complete a report as possible, given the space limitations, on a sample of Semitic languages which might be taken together to show both the abiding central tendencies and the range differentiation of this uniquely attested language family.

For East Semitic, other things being equal, evidence will be cited from the Old Babylonian dialect of Akkadian. Within West Semitic, the main languages will be

Table 4.1 *Consonants of Old South Arabian.*

		labial	interdental	dental	pal.	lateral	velar	post-vel.	phar.	glottal
stop	vceless			<i>t</i>			<i>k</i>			
	vced	<i>b</i>		<i>d</i>			<i>g</i>		ʕ	ʔ
	emph			<i>t̤</i>			<i>k̤</i>			
spirant	vceless	<i>f</i>	θ	<i>s</i>	š	ʃ		<i>x</i>	ħ	h
	vced		ð	<i>z</i>				<i>ɣ</i>		
	emph		θ̤	<i>s̤</i>		ʃ̤				
resonant			<i>r</i>		<i>l</i>					
glide		<i>w</i>			<i>y</i>					
nasal		<i>m</i>		<i>n</i>						

Biblical Hebrew, Syriac (representing the Aramaic family), Classical Arabic, and Syrian vernacular Arabic, and to a smaller extent modern Israeli Hebrew, the modern Aramaic of the Jews of Amadiya, Iraq, and Maltese. Unless otherwise specified, ‘Hebrew’ is Biblical Hebrew, and ‘Arabic’ is Classical Arabic. As already indicated, the OSA group will be cited only sporadically. The more phonologically and morphologically accessible MSA is represented almost exclusively by material drawn from the compilation of Mehri material assembled recently by Rubin (2010). Ethiopian Semitic is sampled mainly from Ge'ez for the Northern group and Amharic for the Southern.¹

4.4 Phonology

4.4.1 Consonants

The consonant inventory of OSA (table 4.1), together with that of MSA, is the fullest of any branch of Semitic. It shows the characteristic ‘South Semitic’ asymmetry, in which a voiceless labial spirant systematically replaces the voiceless labial stop represented in Eastern and Northwestern Semitic. But apart from that this inventory is the fullest representation of Common Semitic, and has frequently been taken to be at least a close approximation to the consonant inventory of Proto-Semitic. A more recent view has a different interpretation of the sibilants, according to which *s* and *z* were the affricates *ts*, *dz* respectively, and *š* was a plain *s*.

‘Emphatic’ is the traditional term for a class of consonants that are realized as glottalized in MSA and ES, probably also in OSA and Proto-Semitic, and possibly so in Akkadian and earliest NW Semitic (Ugaritic-Canaanite-Aramaic). In Arabic and all the modern Aramaic languages, on the contrary, they are realized as pharyngealized. The most striking typological fact about this inventory is the great elaboration of the spirant

Table 4.2 *Consonant inventory of Old Babylonian Akkadian.*

		labial	dental	pal.	velar	glottal
stop	vceless	<i>p</i>	<i>t</i>		<i>k</i>	
	vced	<i>b</i>	<i>d</i>		<i>g</i>	<i>ʔ</i>
	emph		<i>t̰</i>		<i>k̰</i>	
spirant	vceless		<i>s</i>	<i>š</i>	<i>x</i>	
	vced		<i>z</i>			
	emph		<i>š</i>			

class, and what may be designated as the post-velar (now often called, resurrecting an old traditional term, ‘guttural’); and at the same time, the relative lack of elaboration in labial obstruents (no emphatics, only a voiced stop /b/, and one voiceless labial obstruent which is realized as either a stop or a spirant only). The consonants /x/ and /χ/, which in some languages are realized as velar spirants, seem generally to pattern with the pharyngeals everywhere except for the /x/ in Akkadian, where it is retained as a velar spirant (possibly due to influence of a Sumerian sub-strate). Particularly noteworthy is the class of lateral(-ized) spirants (traditionally noted by Semitists as ‘š’ and ‘š̰’ at a time when their lateral character was not yet recognized), which are attested in Semitic only in OSA and MSA, and which elsewhere merge with obstruents in other articulatory positions.

The consonantal inventory of Old South Arabian is by and large maintained in Modern South Arabian, and in some languages even augmented. Mehri, which will in general be our MSA representative in this survey, fills in a systematic gap in the OSA table by creating a palato-alveolar emphatic, /š̰/. The emphatic spirants otherwise tend to have a markedly voiced quality, so that Rubin (2010) notes the emphatic interdental and lateral continuants as /š̰/ and /ž̰/ respectively (he notes the voiceless lateral continuant as /š̰/). The pharyngeal set is maintained, even though in many lexical items /š̰/ is replaced by /ʔ/.

In Akkadian (table 4.2), as mentioned, the voiceless labial obstruent is a stop. The situation is not completely clear for the earliest Old Akkadian, but by Old Babylonian it is clear that there is considerable simplification in both the pharyngeals and spirants. The pharyngeals all disappear, with the exception of /x/, apparently realized as a voiceless velar spirant and – limited to certain intervocalic hiatus functions – /ʔ/. In the spirant series, /θ/ and /ʃ/ both merge with /š̰/, /ð/ merges with /z/, while the emphatic spirants /ʃ̰, θ̰/ merge with /š̰/.

Compared with the Proto-Semitic consonant system, which is best represented in Old South Arabian, Arabic shows the effects of several surprising shifts, which make sense as a coherent set if they were initiated by the change of the emphatic consonants from

Table 4.3 *Consonant inventory of Classical Arabic.*

		labial	interdental	dental	pal.	lateral	velar	post-vel.	phar.	glottal
stop	vceless			<i>t</i>			<i>k</i>			
	vced	<i>b</i>		<i>d</i>	<i>j</i>				ʕ	ʔ
	emph			<i>ʔ</i>				<i>q</i>		
spirant	vceless	<i>f</i>	<i>θ</i>	<i>s</i>	<i>š</i>			<i>x</i>	<i>ħ</i>	<i>h</i>
	vced		<i>ð</i>	<i>z</i>				<i>ɣ</i>		
	emph		<i>ð̣</i>	<i>ẓ</i>		<i>ʃ̣</i>				
resonant			<i>r</i>		<i>l</i>					
glide		<i>w</i>			<i>j</i>					
nasal		<i>m</i>		<i>n</i>						

glottalized to pharyngealized. Because pharyngealized consonants, unlike glottalized ones, can be voiced as well as voiceless, it became possible to create greater phonetic distance between phonemes in crowded areas of the phonemic inventory. Two of the emphatics were voiced (**θ > ð, *ʔ > ʃ̣*). The velar **k* was retracted and at least sometimes voiced; the conventional symbol for its reflex is *q*, but judging from the range of variation in modern Arabic dialects, *q* was, in the Old Arabic period, [g], [g̠], [q], or glottalized [qʔ]. As a result of the voicing of *q*, Semitic **g* became a palatal stop or affricate, which may be represented as *j*. (Modern dialectal reflexes of *j* include [j], [ɕ], [ʒ], [g], and [y].) In addition, **š* and **s* merged as *s*, and **ʔ* was delateralized to create a new *ṣ̌* phoneme. Although there is medieval and early modern evidence proving the lateral character of *ʃ̣* in Old Arabic, it has lost its lateral feature in all of modern Arabic, merging in each dialect with the reflex of **ð̣*. As a result of these changes, Classical Arabic had a strikingly asymmetrical consonant inventory (table 4.3).

Most modern vernacular Arabic dialects have made the consonant system more symmetrical by adding or losing phonemes. In many urban dialects, the interdentalals have become dental stops (*θ, ð, ð̣ > t, d, ḍ*). In a few dialects, they have become bilabials (*f, v, ɸ*). A widespread tradition of reading Classical and Modern Standard Arabic makes a thoroughly artificial distinction between *ð̣* (for Classical *ð̣*) and *ḍ* (for Classical *ʃ̣*). Damascus Arabic (table 4.4) is one of those that lost the interdentalals. Three of the phonemes in parentheses, *p, v, g*, occur in loanwords from other languages or Arabic dialects. The sounds in curly brackets (*{b}*, etc.) are only marginally phonemic. The original uvular *q* has shifted to *ʔ*, except in the very frequent classicisms.

The feature of pharyngealization normally spreads from the lexically emphatic phoneme to adjacent sounds, sometimes to a whole word; thus *bəʔlaʕ* ‘he goes up/out’

Table 4.4 Consonant inventory of Damascus Arabic.

		labial	dental	pal.	lateral	velar	post-vel.	phar.	glottal
stop	vceless	<i>(p)</i>	<i>t</i>			<i>k</i>	<i>(q)</i>		
	vced	<i>b</i>	<i>d</i>			<i>(g)</i>		ʕ	ʔ
	vceless emph		<i>ʔ</i>						
	vced emph	<i>{b}</i>	<i>ḏ</i>						
spirant	vceless	<i>f</i>	<i>s</i>	<i>š</i>			<i>x</i>	<i>ħ</i>	<i>h</i>
	vced	<i>(v)</i>	<i>z</i>	<i>ẓ</i>			<i>y</i>		
	vceless emph		<i>ṣ</i>						
	vced emph		<i>ẓ</i>						
resonant			<i>r</i>		<i>l</i>				
	emph		<i>{r}</i>		<i>{l}</i>				
glide		<i>w</i>		<i>y</i>					
nasal		<i>m</i>	<i>n</i>						
	emph	<i>{m}</i>	<i>{n}</i>						

is pronounced [bəʔlʕʔ], and even the pharyngeal consonants can be allophonically pharyngealized, as in *baʕd* [bəʕd] ‘some’ vs *baʕd* [baʕd] ‘after’. Moroccan Arabic has an additional feature of labialization in the phonemes *b^w*, *m^w*, *f^w*, *k^w*, *g^w*, *q^w*, *x^w*, and *y^w*. These have simultaneous pharyngealization, and are only marginally distinct phonemically from the corresponding non-labialized consonants, as in *mm^wna* ‘our mother’ vs *mmnuʕ* (also *məmmnuʕ*) ‘forbidden’, *x^wra* (also *oxra*) ‘other (FEM.SG)’ versus *xra* ‘faeces’.

A widespread reflex of *j*, one which is considered normative in formal reading, is the affricate *čʒ*, and many Arabic vernacular dialects have developed additional dental and palatal affricates. Iraqi dialects and many rural dialects in the Levant have *tʃ* from *k*, and in some Bedouin dialects it is *ts*. For Old Arabic *q*, Bedouin and rural dialects have voiced reflexes; *g* is widespread, and this has shifted to *čʒ* or *čʒ* in southern Iraq, the Persian Gulf dialects, and Central Arabia.

Maltese (table 4.5) has acquired affricates from two sources: the normal reflex of **j* is *čʒ*, while *tʃ*, *ts*, and *čʒ* have entered the language with the numerous loanwords from Italian and Sicilian. Standard Maltese has also lost pharyngealization (though it survives as a suprasegmental feature in most dialects), yielding a consonant inventory that looks strikingly European.

Biblical Hebrew and Classical Syriac have identical consonant inventories (table 4.6). Both lost the Semitic interdental, lateral, and post-velar fricatives (*θ*, *ð*, *θ̣*, *ʃ*, *ʒ*, *x*, *y*) in the late first millennium BC. The reflexes of the interdentals and laterals in the two languages are different, however; for example, corresponding to Arabic *θawr*- ‘bull’, Syriac has *tawr-a*: while Hebrew has *šor*, and corresponding to Arabic *ʔarḥ*- ‘land’, the

Table 4.5 *Consonant inventory of Maltese.*

		labial	dental	pal.	lateral	velar	phar.	glottal
stop	vceless	<i>p</i>	<i>t</i>			<i>k</i>		
	vced	<i>b</i>	<i>d</i>			<i>g</i>		<i>ʔ</i>
affricate	vceless		<i>ts</i>	<i>ɖ</i>				
	vced		<i>ʃ</i>	<i>ʒ</i>				
spirant	vceless	<i>f</i>	<i>s</i>	<i>ʃ</i>			<i>ħ</i>	<i>h</i>
	vced	<i>v</i>	<i>z</i>	<i>ʒ</i>				
resonant			<i>r</i>		<i>l</i>			
glide		<i>w</i>		<i>j</i>				
nasal		<i>m</i>	<i>n</i>					

Table 4.6 *Consonant inventory of Biblical Hebrew and Syriac.*

		labial	interdental	dental	pal.	lateral	velar	post-vel.	phar.	glottal
stop	vceless	<i>p</i>		<i>t</i>			<i>k</i>			
	vced	<i>b</i>		<i>d</i>			<i>g</i>		<i>ʕ</i>	<i>ʔ</i>
	emph			<i>ʔ</i>				<i>q</i>		
spirant	vceless	<i>ʃ</i>	<i>θ</i>	<i>s</i>	<i>ʃ</i>		<i>x</i>		<i>ħ</i>	<i>h</i>
	vced	<i>β</i>	<i>ð</i>	<i>z</i>			<i>ɣ</i>			
	emph			<i>ʒ</i>						
resonant			<i>r</i>		<i>l</i>					
glide		<i>w</i>			<i>y</i>					
nasal		<i>m</i>		<i>n</i>						

Syriac is *ʔarʕ-a*; and the Hebrew is *ʔérɛʃ*. In both Hebrew and Aramaic (Syriac) the six non-emphatic stops, /p, b, t, d, k, g/ had fricative allophones [ʃ], [β], [θ], [ð], [x], [ɣ] (the first two will be written here as *f* and *v* for convenience) when preceded by a vowel and not geminated, and this shift, known as spirantization, resulted in extremely frequent alternations, such as Syriac *ka:θev* ‘he writes’, *ka:θba*: ‘she writes’, *ʔextov* ‘I will write’. In the course of time, as some vowels were deleted and morphological levelling took place, these fricatives became separate phonemes (and thus the languages recreated the phonemes *θ*, *ð*, *x*, *ɣ*). In the various modern Aramaic languages and modern Hebrew, after many additional sound changes including degemination and the elision of some vowels, these fricatives (those that survive in any given dialect) are, unequivocally, phonemes. Modern Aramaic languages have seen many of the same innovations as vernacular Arabic dialects have, and Modern Hebrew is like Maltese in having lost pharyngealization and gained new phonemes.

Table 4.7 Consonant inventory of Israeli Hebrew.

		labial	interdental	dental	pal.	velar	post-vel.	phar.	glottal
stop	vceless	<i>p</i>		<i>t</i>		<i>k</i>			
	vced	<i>b</i>		<i>d</i>		<i>g</i>		(ʕ)	ʔ
	emph								
affricate	vceless			<i>ts</i>	č				
	vced				č̣				
spirant	vceless	<i>f</i>		<i>s</i>	š		<i>x</i>	(ħ)	<i>h</i>
	vced	<i>v</i>		<i>z</i>	ž				
	emph								
resonant				(r)			(ʁ)		
glide					<i>y</i>				
nasal		<i>m</i>		<i>n</i>					

Table 4.8 Ge`ez consonants.

		labial	dental	velar	labio-velar	phar.	glottal
stop	vceless	<i>p</i>	<i>t</i>	<i>k</i>	<i>kʷ</i>		
	vced	<i>b</i>	<i>d</i>	<i>g</i>	<i>gʷ</i>	ʕ	ʔ
	emph	<i>p̣</i>	<i>ṭ</i>	<i>ḳ</i>	<i>ḳʷ</i>		
spirant	vceless	<i>f</i>	<i>s</i> [‘s’ ~ ‘ṣ’]	<i>x</i>	<i>xʷ</i>	ħ	<i>h</i>
	vced		<i>z</i>				
	emph		š [‘š’ ~ ‘d’]				

In modern Israeli Hebrew (table 4.7), the phoneme /r/ is pronounced as either a uvular [ʁ] or an alveolar [r]. The pharyngeals ħ and ʕ are pronounced only by a minority of speakers, and not consistently even by them; otherwise, they are merged with *x* and ʔ respectively, and all speakers frequently omit *h* and ʔ. The phonemes *ʃ*, *č̣*, and *ž* occur almost exclusively in loanwords from European languages and Arabic, but in those words they are quite stable.

In Ethiopian Semitic (table 4.8), generally, the voiceless labial obstruent is a continuant /f/, as in OSA, MSA, and Arabic, and the emphatics are glottalized (again as in OSA and MSA, but not Arabic). In the languages which maintain an inventory of pharyngeals, as is the case in Geez, Tigre, and Tigrinya, the post-velar spirants merge with pharyngeals, with /ɣ/ > /ʕ/ and /x/ > /ħ/; we know that in Geez, at least, the first merger preceded the second, and that the second followed the creation of the writing

system, since the writing system maintains a separate grapheme ‘x’, but has no **‘ǰ’.

In the continuants, as in Arabic the palato-alveolar spirant merges with /s/, while the lateral spirant becomes a palato-alveolar: /ʃ/ > /s/, and /ʎ/ > /ʃ/. Note that this is supported only by graphic evidence, since the Ethiopic syllabary, on the basis of virtually identical shape with the corresponding OSA characters, has a character series for both /sV/ and /ʃV/. However, the phonetic distinction between characters ‘s’ and ‘ʃ’ is lost in all ES languages, including in all Geez pronunciation traditions, and a phonetic /ʃ/, where it exists, is always the result of a palatalization of /s/. In the other spirant series, the interdental merges with the palato-alveolars (/θ/ > /s/ and /ð/ > /z/); /ʈ/ apparently merged first with /ʈ/ (traditionally noted as /d/ in Ethiopianist scholarship). As with ‘s’ ~ ‘ʃ’ and ‘x’ ~ ‘ħ’, the writing tradition maintains a distinction between a ‘d’ character and a ‘š’ character, but the pronunciation tradition knows only a post-merger pronunciation /ʃ/.

As opposed to the mergers, ES created a new labiovelar consonant series /k^w g^w k^w x^w/; the fact that /x^w/ is included in this series is possible evidence that the pre-merger articulation of /x/ was velar. Sometimes the conditioning environment for the formation of labiovelars is clear, as in the verb *tārg^wāmā* ‘interpret, translate’, back-formed from the Aramaic loanword *targūm* ‘translation’; in other cases it is not at all clear, as in the minimal pair *gādālā* ‘strive’ vs *g^wādālā* ‘lack’. Finally, from Greek and other loanwords the labial series is filled out with a voiceless and an emphatic segment. These mergers and additions, which are basically common to all ES, yield directly the Geez obstruent inventory of table 4.8 (the resonant, glide, and nasal consonants are as in OSA).

The Southern ES languages seem to have inherited a consonant inventory something like that of Geez. In roughly similar, but not identical fashion, each of them simplified the pharyngeal inventory, and elaborated a series of palato-alveolar spirants and affricates, for the most part through palatalizations of the alveolar dental series.

Amharic, which is typical of the Southern ES languages in this respect, loses the entire inherited pharyngeal inventory, but recreates a /h/ via a spirantization of /k/ (cf. Geez *konā* = Amharic *honā* ‘be, exist’; the fact that there exists a /h^w/ also shows the origin of this consonant from a /k^w/). On the other hand, it creates a series of palato-alveolars in a one-to-one correspondence with the consonants of the dental-alveolar series. This results in both non-alternating palato-alveolars (Geez *dede* ‘door’ = Amharic *daǰǰ*) and synchronically alternating ones: *nāggārā* ‘speak’ ~ *nāgari* ‘speaker’; *wārrādā* ‘descend’ ~ *wāraǰ*; *gāddālā* ‘kill’ ~ *gāday*. In table 4.9, the inclusion of the glides /w, y/ in a row with the resonants /r, l/ is meant to show that /y/ functions as a palatalization of /l/. (Note that /ç/ functions equally as a palatalization of /ʃ/, which phonetically is often realized as an affricate /ç/.)

Table 4.9 Amharic consonants.

		labial	dental-alveolar	palato-alveolar	velar	labiovelar	glottal
stop	vceless	<i>p</i>	<i>t</i>	<i>č</i>	<i>k</i>	<i>k^w</i>	
	vced	<i>b</i>	<i>d</i>	<i>ǰ</i>	<i>g</i>	<i>g^w</i>	
	emph	<i>ḅ</i>	<i>ṭ</i>	<i>č̣</i>	<i>ḳ</i>	<i>k^w</i>	
spirant	vceless	<i>f</i>	<i>s</i>	<i>š</i>		<i>h^w</i>	<i>h</i>
	vced		<i>z</i>	<i>ž</i>			
	emph		<i>ṣ</i>				
nasal		<i>m</i>	<i>n</i>	<i>ṅ</i>			
sonorant		<i>w</i>	<i>r</i>	<i>l</i>	<i>y</i>		

4.4.2 Vowels

The vowel inventory of Common Semitic is generally accepted to be that of Classical Arabic, with three basic vowels, long and short.

short	<i>i</i>	<i>a</i>	<i>u</i>
long	<i>ī</i>	<i>ā</i>	<i>ū</i>
diphthong	<i>ay</i>	<i>aw</i>	

Many modern Arabic dialects have added the long vowels *e:* and *o:*, in most cases from old Arabic *ay* and *aw*. Most of these same dialects still have *ay* and *aw*, phonemically distinct from *e:* and *o:*, in limited phonological or morphological environments. For example, Cairo Arabic has *be:t* ‘house’ and *no:m* ‘sleep’ (the noun), from old Arabic *bayt-*, *nawm-*, but has *nayma* ‘sleeping (FEM.SG)’ from *na:ʔima-* and *gaww* ‘air’ from *jaww-*. Many dialects have fewer short-vowel phonemes than long ones: *i:*, *e:*, *a:*, *o:*, *u:*, but *i*, *a*, *u*. In many dialects the phonemic distinction between *i* and *u* is neutralized, in all or some environments, with the exact quality determined by the surrounding consonants. The biggest difference between Classical Arabic and most or all modern dialects has to do with syllable structure, with a constraint against the appearance of short vowels in open syllables. That is, underlying short vowels are deleted in some open syllables, depending on stress and other factors, in ways that vary from dialect to dialect. In the Arabic of Damascus, there are five long vowels, *i:*, *u:*, *e:*, *o:*, *a:*, which occur in syllables of all types, but the number of short vowels varies from environment to environment, ranging from four (*e*, *o*, *ə*, *a*) to two (*ə*, *a*), with consequent alternations as in *l̥bes* ‘he put on (garment)’, *l̥bset* ‘she put on’, *l̥bs(ə)t* ‘I put on’, *l̥əbsət* ‘she put it on’. Such limitations on short vowels in open syllables have gone to an extreme in Moroccan Arabic, where both the presence and the quality of the short vowels is nearly, though not completely, predictable from their environments, so that the vowels of Moroccan

Arabic are best described not as long and short but as ‘full’ vowels, which are stable though not particularly long, vs vestigial, very short, ‘variable’ vowels; for example, Moroccan Arabic has *ktāb* ‘he wrote’, *kātibāt* ‘she wrote’, *kātibu* ‘they wrote’, *katāb* ‘having written’, from Old Arabic *kataba*, *katabat*, *katabu*, *katib-*. The precise quality of this *ā* varies a great deal with the consonantal environment, though in some Moroccan dialects there are contrasts in very limited environments, so that it is necessary to posit a three-way distinction of short vowel phonemes, *ā*, *ā̄*, *ā̇*.

Akkadian operates basically in terms of the three-long-plus-three-short vowels of Common Semitic, but adds a front-mid vowel, short and long (*/e/*, */ē/*), which arises for the most part from */a/* in lexical items which historically contained the pharyngeals */ʕ, ʁ, ʕ/*: **ʕazābum* ‘leave’ > *ezēbum*.

short	<i>i</i>	<i>e</i>	<i>a</i>	<i>u</i>
long	<i>ī</i>	<i>ē</i>	<i>ā</i>	<i>ū</i>
diph	<i>ay</i>		<i>aw</i>	

Of the ancient Canaanite languages, it is only for Biblical Hebrew that the vowels are clearly attested, in notations that were added to the biblical text in the late first millennium AD. The best-known of these systems of notation, called Tiberian, has ten vowel symbols, which may be represented as *i*, *e*, *ε*, *a*, *ɔ*, *o*, *u*, *ě*, *ā̄*, *ā̇*. An additional symbol, called ‘shwa’ and often transcribed as *ə*, is used both to indicate a short vowel (most often [a]) and to indicate the lack of a vowel at the end of a syllable. Shwa will not be indicated in the transcriptions used here, because its graphic location is predictable and its pronunciation is a matter of reconstruction and interpretations vary. The Tiberian vowel *ɔ* is derived from earlier long **a:* or short **u*. On the basis of non-Tiberian traditions of Hebrew (including modern Israeli Hebrew), and in order to clarify the morphological structures of Hebrew and facilitate comparison with other Semitic languages, *ɔ* from **a:* will be represented in this chapter as *ā̄*, and *ɔ* from **u* as *ɔ*. Hebrew had a phonemic distinction between long and short vowels, but these are only marginally represented in the indigenous notation systems. Thus, the forms *kāthāv* ‘he wrote’, *kāvatēm* ‘you (2mpl) wrote’, and *kothév* ‘writing (MASC.SG)’ were underlyingly /*katab/*, /*katabtēm/*, and /*ko:teb/*, and were pronounced by the medieval Tiberian scholars as [kɔ:θa:v], [kaθavté:m], [ko:θé:v], respectively.

There are two indigenous systems of vowel notation for Syriac, and many reading traditions extant today. On the basis of these, the vowels can be reconstructed as follows:

Short	<i>ε</i> , <i>a</i>
Long	<i>i:</i> , <i>e:</i> , <i>ε:</i> , <i>a:</i>
Variable	<i>o(:)</i> , <i>u(:)</i>

Syriac *a*: differed from *a* both in length and in quality, with *a*: being farther back and probably rounded.

Because *e*: is much less frequent than *ε*: and does not appear in the examples cited in this chapter, *e*: and *e* will be written instead of *ε*: and *ε*. The length of the vowels *o*(:) and *u*(:) is not indicated in Syriac orthography and will be shown here on an etymological basis, but it is not clear whether it was phonemic in Syriac.

Modern South Arabian vowel systems are complex, diverse, and not yet well understood; moreover, many aspects of their correspondences with the vowel systems of Common Semitic are still to be worked out. Using Mehri as our MSA-type language, we find an asymmetrical eight-vowel system with two phonetically short central vowels (in addition to an [ε], which is apparently not phonemic) and six phonetically long vowels, with a striking resemblance to the seven-vowel Ethiopian Semitic system, plus an /ē/, which seems to function mostly, but not always (cf. *bēr* ‘camels’ vs *bār* ‘he went at night’), as an allophone of /ā/. Since the structure of this vowel system is still not clear, following Johnstone (1987) and Rubin (2010b), we incorporate a length-notation into the vowel representation.

short	ə	a	([ε])			
long	ī	ē	ē	ā	ō	ū
diphth	ay	aw	əy	əw		

A striking feature of the vowel system is the interaction of the long vowels /ī, ū, ē/ with a preceding glottalized, pharyngeal, or liquid consonant, resulting in a diphthong or long vowel with initial mora /a/, as in: /ī/ > /ay/, cf. *θībər* ‘break’ with *ḳayrəb* ‘approach’; /ū/ > /aw/, cf. *həḫfūl* ‘he cheered up’ with *rəṣawn* ‘he tied up’; /ē/ > /āl/, cf., *ḳəbēr* ‘he was buried’ with *səḥāṭ* ‘it was slaughtered’.

As opposed to MSA, the structure and provenance of the Ethiopian Semitic is quite clear. The basic system of Ethiopian Semitic is:

monophthong	i	e	ä	a	ə	o	u
diphthong	ay	aw					

Here /ä ə/ are in fact phonetically short, while /i e a o u/ are phonetically long. Variations on this system occur in some Southern ES languages, but the above system is basic, and is in fact the vowel inventory for both Geez and Amharic. In this system Semitic long */ī ā ū/ become /i a u/, where phonetic length is non-distinctive, and /a/ is phonetically longer, but also lower and more back than /ä/, which in turn continues Semitic short */a/, and has a more advanced articulation. The origin of /e o/ is less clear-cut, but plausibly involves monophthongization of earlier /ay aw/. Semitic short */i u/ merge into /ə/, which, word-finally and in open syllables, simply disappears (with, as will be seen, dramatic effects on the system of case inflection: compare

Arabic *kalbu*[nom], *kalbi*[gen] with Geez *kälb*[nom.gen] ‘dog’, but *kalba*[acc] with Geez *kälbä*[acc]). Thus, word-interiorly, where disappearance of a vowel would give rise to unacceptable consonant clusters, */i u/ > /ə/ – **qutül* ‘killed’ > *qətul* – but otherwise > Ø: **labisa* ‘he wore’ > *läbsä*. This complementarity has given rise to endless discussions about the ‘phonematicity’ of /ə/. While the majority of its occurrences are automatically predictable from rules of syllable structure and acceptable and non-acceptable consonant clusters, as in *qtul* > *qətul*, there are instances of ‘non-automatic’ /ə/. These are difficult to establish in Geez, where pronunciation traditions can be contradictory, and the writing system is ambiguous (in the Geez syllabary, the same sign is used for C + Ø and C + ə). However, Amharic has unambiguous instances of distinctive /ə/ in an open syllable, as in *yəčəlal* ‘he can’, where ***yəčlal* is phonologically possible, but unacceptable (from the ‘middle-weak’ verb *čalä* ‘he could’, where the ablaut relation /a/ ~ /ə/ is part of the realization of a tense distinction).

4.4.3 Syllable-structure and word-structure constraints

There are a number of basic persistent word-shape tendencies running through Common Semitic:

- (1) in syllable structure: an avoidance ranging from disfavouring to disallowing of initial and final consonant clusters, and of internal clusters of more than two consonants – *CCC, *#CC, *CC# (where ‘#’ symbolizes word boundary);
- (2) a morphological template favouring one or two (mostly monosyllabic) prefixes, and one suffix (additional suffixes tend to be enclitics);
- (3) in the lexicon: a privileging of roots/stems with three consonants (and appropriate vowel patterns), and, to a markedly lesser extent, one, two, or four or more consonants.

Combined, these tendencies determine a relatively limited number of word-templates. Taking only (1) and (2) into account, one can enumerate, for example, some partial templates of inflected and non-inflected words of at least two consonants, where ‘-’ is a morpheme boundary:

- ... V-CCV... - ...
- ... - ... VCC-V...
- ... (V/C)-CVC... - ...
- ... - ... CVC-(V/C)...
- ... - ... VCCV... - ...

In addition to this general Semitic tendency, some languages impose specific syllable-structure constraints of their own. For example, Akkadian does not allow a succession of two open syllables word-internally: $** \dots C_1 V C_2 V C_3 V \dots$, which must become $\dots C_1 VC_2 C_3 V \dots$. This gives rise to alternations such as the perfect 3msg *iptaras*, but perfect 3mpl $**iptarasu > iptarsu$ (compare present 3msg *iparras*, 3mpl *iparrasu*; interestingly, $\dots C_1 V C_2 Vr V \dots$ (with /r/) is allowed, as in the noun *šikaru* ‘beer’). Arabic vernacular dialects vary greatly: some tolerate onset clusters but not coda clusters, and others the opposite, while in some it depends on the sonority of the adjacent consonants. Compare Egyptian *lašm* ‘meat’, *kitā:b* ‘book’, with Syrian *lašəm*, *ktā:b*, and Moroccan *lħəm*, *ktab*. Where morphological alternation or sound change create consonant clusters which violate the constraints just mentioned, different languages adopt different strategies.

Final vowels are particularly vulnerable to diachronic or systematic synchronic dropping. A particularly frequent environment for the latter in Semitic is the so-called ‘Construct’ environment, where the head noun of a possessive construction enters into a morphological-phonological unified construction with a following ‘possessing’ noun, frequently losing a final vowel or reducing a final syllable, in the process (see below, section 4.6.5).

An obvious case of word-final CC caused by sound change occurs in ES, where word-final /u, i/ > Ø, giving VCC# for every VCC-u/i noun stem in the language; as already mentioned: $*CVCC-u$ [nom], $*CVCC-i$ [gen] > CVCC[nom.gen] (as opposed to $*CVCC-a$ [acc] > CVCC-ä[acc]). In some languages this is resolved by systematic epenthesis (Tigrinya *kälbi* ‘dog’). In Geez the pronunciation tradition lends itself to a variety of interpretations (orthographic ‘*kälb*’ was probably generally realized as /*kälb*/ but perhaps earlier was /*kälbə*/ or /*käləb*/?), but it is clear in Amharic that systematic $\dots CC\#$ is realized as / $\dots C_1 C_2$ / or / $\dots C_1 ə C_2$ / according to a sonority hierarchy relationship between C_1 and C_2 , with a certain amount of individual variation. Compare: *kənf* ‘wing’ vs *gədəm* ‘area’; *bälg* ‘short rainy season’ vs *fätəl* ‘thread’; *dərək* ‘drought’ vs *kəbər* ‘honour’; *gäbs* ‘barley’ vs *gudəf* ‘dirt’.

Initial clusters are much less frequent in ancient Semitic languages, but ES, specifically Geez and Amharic, does have a few. Starting out from the foreign PN *krəstos* ‘Christ’, there is a whole series of /#kr/ clusters, e.g. *krəstənnə* ‘Christianity’, in both Geez and Amharic, with the native abstract-noun suffix *-ənnə*. Independently of this, Amharic has /#kr/ clusters in the native words *krar* ‘six-string lyre’ and *krämt* ‘rainy season’ (Geez, according to Leslau (1987), has both *krämt* and *kərəämt*). Many dialects of Arabic and modern Aramaic freely allow initial clusters.

A typologically common word-structure integrating strategy in languages is vowel harmony. Although this is not widespread in Semitic, there exists at least one limited example in Akkadian. In the Assyrian dialect, a short stem-final /a/ in an open syllable

is assimilated to the vowel of the suffix (case for nouns, number–gender for verbs): for *qaqqad-* ‘head’, nom ~ gen ~ acc = *qaqqudum* ~ *qaqqidim* ~ *qaqqadam* (compare Babylonian *qaqqad-um~im~am*); for preterite 3msg *išbat* ‘he seized’ the 2fsg and 3mpl are *tašbitī* and *išbutū* (compare Babylonian *išbat*, *tašbatī*, *išbatū*).

In Classical Arabic, the distinction between long and short vowels is neutralized in utterance-final position. Final short vowels are omitted in so-called ‘pausal’ position (though in poetry they may instead be lengthened). In addition, the *-t-* of the suffix *-at-* on nouns and adjectives, which most often marks feminine gender (but not in the *-at* suffix marking 3rd person feminine singular in verbs), and the *-n* marking the absolute state of nouns and adjectives are also deleted, so that almost all words have two forms, a full form and a shorter ‘pausal’ form: *kita:bun* : *kita:b* ‘book’, *madrasatun* : *madrasa* ‘school’. Modern vernacular dialects have, as a rule, reflexes of the pausal forms, though preservation of the *-t-* or *-n* in certain morphosyntactic environments shows that the alternation of full and pausal forms was a productive feature of the ancestor of the modern vernaculars, which must, therefore, have been similar to Classical Arabic. In this chapter, Classical (and Modern Standard) Arabic nouns and adjectives will often be given in pausal form indicated with a hyphen, as *kita:b-*, *madrasa(t-)*.

4.4.4 Stress

By the very nature of the data, we have no direct evidence for stress placement, much less for contrastive or distinctive stress in Akkadian and OSA. It is, however, generally assumed that the short open vowels that are elided in Akkadian, or that undergo vowel harmony in the Assyrian dialect, were not stressed. In the area of Ethiopian Semitic, observations have been made about stress in the Geez pronunciation tradition, but the evidence is inconclusive. Even for modern Ethiopian Semitic, which has not lacked phonetically sophisticated observers, stress has been notoriously hard to pin down. The same is true of Classical Arabic. Though the indigenous grammarians in the Classical period described the phonetics of consonants and vowels in great detail, they do not refer to stress in any way, and efforts to reconstruct the stress pattern of Classical Arabic on the basis of the modern dialects have proved inconclusive and contradictory, so it is most likely that Classical Arabic had no salient stress at all, like modern Moroccan Arabic. Most dialects outside Morocco, however, have quite significant word stress, and its place is determined, for the most part, by syllable structure. Syrian Arabic is typical: stress is placed on a final heavy syllable (one with a long vowel or ending in two consonants: *darastú*: ‘you-PL studied it-MASC’, *darást* ‘I/you-MASC.SG studied’, *biḥáss* ‘he feels’), otherwise on a heavy penultimate syllable (one with a long vowel or ending in a consonant: *byəsmáʃkon* ‘he hears you’, *madá:res* ‘schools’), otherwise on

the antepenult (*dárasu* ‘they studied’, *mádrase* ‘school’). It would be wrong, however, to conclude from this that stress is completely automatic and non-phonemic, as there are morphologically specified deviations from the default pattern in all known dialects. In Syrian Arabic, the 3rd person feminine singular past tense suffix *-ət* is stressed in certain environments (*fahhamətak* ‘she explained to you’), and verbs and deverbal nouns and adjectives with the intransitivizing affixes *-n-* or *-t-* are stressed on a short penult (*byənháka* ‘it is told’, *muḥtámar* ‘conference’). In Baghdadi Arabic, words with proclitic prepositions are stressed on the initial syllable (*baḡdá:d* but *l-báḡda:d* ‘to Baghdad’, *if-šá:rif* ‘the street’ but *mn-íf-šá:rif* ‘from the street’, with stress on the definite prefix!). In Cairo, plurals of certain patterns have penultimate stress (*libísa* ‘underpants’, *subúša* ‘lions’).

In Hebrew, stress placement is governed by complex morphological principles. The default position for stress is on the final syllable of a word (Biblical Hebrew *kāṯv-ú* ‘they wrote’), but there are suffixes that are unstressable (*kāṯáv-ti* ‘I wrote’), and stems that attract stress (*hílbif-u* ‘they dressed’, Israeli Hebrew *yerufálmí* ‘Jerusalemite’, *jerufálmijut* ‘Jerusalemite-ness’). Furthermore, these properties can vary according to more distant morphological context: *w-xāṯav-tí* ‘I will write’; *yáqóm* ‘he shall rise’ but *way-yáqóm* ‘he rose’).

Early Aramaic, as represented for example in the Aramaic chapters of the Bible, had, like Hebrew, morphologically conditioned stress. In the transition to Syriac, all unstressed final vowels were lost, so that Syriac had no phonemic stress. Most modern Eastern Aramaic languages have penultimate stress except in a very limited set of morphological environments, while modern Western Aramaic is similar to Arabic in having a stress pattern based on syllable weight.

4.5 Major lexical classes

The Semitic languages make a clear distinction between the major lexical classes: Verb, Noun, Adjective. This distinction is expressed not only syntactically (see below), but also in the sound structure, thanks to the unique, and well-known, root-plus-vowel pattern organization of the morphology and lexicon. While primary nouns do not always fit easily into this organization, by and large it is the case that lexical identity tends to be associated with a recurrent sequence of consonants – not always, but frequently, three in number, and commonly referred to as the ‘root’ – while inflectional and derivational variants are associated across the lexicon by characteristic stem-vowel sequences, in addition, of course, to large inventories of affixes, as in other languages. Although divergent ‘root’-types exist in all Semitic languages, the sequence with three obstruent (i.e., non-glide) consonants is by far the most frequent (e.g. *q-t-l* ‘kill’, *k-t-b* ‘write’, etc.), and is in a way the typological norm around which other root-types tend to gravitate;

because of this, examples in the next three sections will be overwhelmingly from this root-type, traditionally known as ‘sound’ roots. However, attention will be drawn on occasion to two important classes of divergent root-types: (a) CCCC roots with four obstruent consonants; and (b) roots having paradigm forms which show less than the canonical number of consonants and whose underlying/effective shape *is* (if they arise from historical assimilation/elision processes), or *is extrapolated/projected from* (if they have been formed proto-historically from pre-root forms such as CVC, CCV, etc.), a root sequence containing one or more ‘weak’ consonants, such as (the inventory may differ from language to language): /w, y, ʔ, n/ – traditionally known as ‘weak’ roots.

There is a striking difference in most Semitic languages between the stem shapes of nouns and adjectives on one hand and verbs on the other. All verbs, including loanwords, must conform to one of the quite limited set of canonical stem patterns (syllable structure and vocalism) for verbs in the language, while nouns and adjectives, especially loanwords, may conform but need not. Thus, Arabic has short nouns like *yad-* ‘hand’, *bn-* ‘son’, *f-* ‘mouth’, *fiʔa(t-)* ‘band’, and words with non-canonical stems like *ʃankabu:t-* ‘spider’, *firdaws-* ‘garden’, but no analogous verbs. Maltese is an exception, having many loan verbs with unassimilated stems but with Arabic affixes: *jiġġustifika* ‘he justifies’ (*ji-* 3rd person present), *tiddawnlowdjah* ‘you download it’ (*ti-* 2nd person, *-h* 3rd person masc. sg. object). Such verbs exist in Moroccan Arabic, too, in jocular use. So there is evidently no fundamental property of Semitic that makes such verbs impossible; nevertheless few languages have them, while most languages modify loanwords to fit canonical templates: Arabic *talfana* ‘he telephoned’.

4.6 Nouns and adjectives

Nominal and adjectival morphology largely involve the same categories and encodings in Semitic, and so will be considered together here (see section 6.4 below). Since number, gender, and case are fused categories in Semitic, fuller contrastive paradigms will only be given below in the section on case. In the next two sections we will simply give an overview characterization of gender and number marking in the various branches of Semitic.

4.6.1 Gender

All Semitic languages follow a strict two-gender system, masculine and feminine. As often as not, in primary nouns, there is no explicit encoding of gender: Akk *abum* ‘father’ vs *ummum* ‘mother’; but when gender is encoded, by far the most common nominal and adjectival suffix is *-Vt* ~ *-t*: Akk *šar-rum* ‘king’ ~ *šarr-at-um* ‘queen’, *bēl-um* ‘lord’ ~ *bēl-t-um* ‘lady’. See below for special adjectival gender encoding. Other

feminine nominal formations in Arabic are *-a*: (*ðikra*: ‘memory’, *kubra*: ‘bigger’) and *-a:ʔ*- (*ṣaḥra:ʔ*- ‘desert’, *ḥamra:ʔ*- ‘red’, *kibriya:ʔ*- ‘arrogance’). While *-a(t-)* is the most productive marker of feminine gender in Arabic, it is not exclusively such: it occurs on some masculine nouns (*xali:fa(t-)* ‘caliph’) and some plurals (*ḥara:miyya(t-)*, pl. of *ḥarami:ʔ*- ‘thief (masc.)’; *ʔalaba(t-)*, pl. of *ʔalib-* ‘student (masc.)’).

4.6.2 Number

Oldest Semitic had a three-way distinction between singular, dual, and plural in the noun (as well as adjective, verb, and pronoun). The three-way distinction remains valid in Classical Arabic, OSA (morphological evidence largely limited to third person contexts), and MSA, but gives way to a two-way singular ~ plural distinction, with occasional fossilized dual remnants, in the other Semitic languages. As far as the encoding mechanism is concerned, duals, where they exist, are always by suffixation; for plurals, however, a number of Semitic languages use two mechanisms: a default encoding by suffixation, and a largely lexically determined ‘internal plural’ encoding using the familiar ‘root’ plus stem-pattern formation.

First, an overview of number-encoding by *suffixation*. With a couple of marginal/doubtful exceptions, all number marking is done by suffixation in Akk, involving lengthened case or gender vowels for both dual and plural, and a characteristic final *-n* (nutation?) in the dual. OB Akk still shows a limited use of the dual in noun inflection, for ‘natural pairs of objects’; otherwise the dual has disappeared from the OB verbal and pronominal systems, and continues to be less and less frequently used in the nominal inflection of subsequent periods of Akk.

In Mehri, nominal duals are formed by suffixation with *-i*: *warx* ‘month’, du *warx-i*. The quite rare masculine plural suffixes are *-in* ~ *-ōn*, while the not rare, but still rather infrequent (but frequent in adjectives) feminine suffixes are *-tən* ~ *-ōtən* *-ūtən* ~ *-áwtən*. Both of these formations are usually accompanied by some internal (automatic?) vowel change: *kəṭōb* ‘book’, pl. *kəṭəb-in*; *ʔayn* ‘eye’, pl. *ʔāyēn-tən*.

In Ethiopian Semitic the suffix plural system is considerably simplified and extended. In Geez (and other Northern Ethiopian Semitic), although a healthy inventory of internal plural patterns is maintained, the widely employed nominal suffix plural for both genders is *-at*, generalized from an earlier feminine plural marking: *may* ‘water’, pl. *may-at*. Adjective plurals maintain a gender distinction, *-an* m ~ *-at* f: msg *śānay* ‘beautiful’, fsg *śānay-t*, mpl *śānay-an*, fpl *śānay-at*. In Southern Ethiopian Semitic, apart from Geez loanwords, the number of nouns with internal plural patterns is reduced to a handful (and some of these have patterns not derivable from the Common Semitic internal plural pattern inventory), and in most languages a single suffix is generalized for all nouns. In Amharic this productive suffix is *-očč* (there is a possible, but problematic, relation

Table 4.10 *Internal plural patterns in Semitic.*

Pattern	Lang.	Singular	Plural
aCCāC	Geez	<i>ləbs</i> ‘garment’	<i>albas</i>
	Geez	<i>səm</i> ‘name’	<i>asmat</i>
aCCūC	Geez	<i>hägār</i> ‘city’	<i>ahgur</i>
aCCi/uC-t	Geez	<i>gäbr</i> ‘slave’	<i>agbər-t</i>
aCāCu/iC(-t)	Geez	<i>bäg?</i> ‘sheep’	<i>abagə?</i>
CVCaC	Geez	<i>?əzn</i> ‘ear’	<i>əzän</i>
CVCaw	Geez	<i>?ab</i> ‘father’	<i>abāw</i>
CaCāCi/uC(-t)	Geez	<i>mäsfən</i> ‘prince’	<i>mäsafən-t</i>
	Geez	<i>bəhēt</i> ‘earth’	<i>bāhawər-t</i>
CuCu:C	CI Arb	<i>qalb-</i> ‘heart’	<i>qulu:b-</i>
?aCCa:C	CI Arb	<i>walad-</i> ‘boy’	<i>?awla:d-</i>
CiCa:C	CI Arb	<i>kalb-</i> ‘dog’	<i>kila:b-</i>
CuCuC	CI Arb	<i>kita:b-</i> ‘book’	<i>kutub-</i>
Ci/uCaC	CI Arb	<i>γurfa(t-)</i> ‘room’	<i>γuraf-</i>
	CI Arb	<i>fırqa(t-)</i> ‘group’	<i>fıraq-</i>
CaCa:CaC	CI Arb	<i>fınduq</i> ‘hotel’	<i>fana:diq-</i>
		<i>maktab-</i> ‘office’	<i>maka:tib-</i>
CaCa:CaC	CI Arb	<i>şandu:q</i> ‘box’	<i>şana:di:q-</i>
		<i>maktu:b-</i> ‘something written’	<i>maka:ti:b-</i>

with the *-at* of Geez; there is no *a > o* in ES, but there is an infinitive suffix *-ot*; an environment for palatalization might be the *-i* which always precedes pronominal suffixes with plural nouns in Geez); compare Geez *bet* ‘house’, pl *abyat*, with Amharic *bet* ‘house’, pl *bet-očč*.

The *internal plural* exists only in fossilized form in Akkadian and Aramaic (*qri:θa:* ‘town’, pl *qurya:*), but a fully developed, and apparently quite archaic form of internal plural is found in the Hebrew so-called ‘Segolates’. These are nouns with stems that underlyingly end in a consonant cluster, which, unless a suffix follows, must be broken by epenthesis (and the Hebrew name of the epenthetic vowel [ε], *segol*, provides the name for this class of nouns). Typical examples of this quite numerous class are *mélēx* ‘king’ and *malkā* ‘queen’, which share the base /malk/. In the plural, the base is extended to /malak/: *mlāxím* ‘kings’, *mlāxóθ* ‘queens’. This extension is entirely productive, and is likely cognate with the Arabic broken plural pattern that appears in *fıraq* ‘group of people’, plural of *fırqa(t-)*.

Beyond this, an extensive, and largely overlapping, system of internal plural patterns exists in Arabic, OSA, MSA, and Ethiopian Semitic. Table 4.10, using data from Geez and Arabic (CI Arb), is an enumeration of some of the most characteristic patterns (where you will note that sometimes an additional consonant or glide can be added to fit a nominal root to the pattern).

In Arabic, including Maltese, broken plurals are quite productive and can apply to loanwords, such as Arabic *film*, pl *ʔafta:m*; *bank*, pl *bunu:k*; *villa*, pl *vilal*; and Maltese *forn* ‘oven’, pl *fran*; *birra* ‘beer’, pl. *birer*; *vers* ‘verse’, pl *vrus*; *furketta* ‘fork’, pl *frieket*; *kamra* ‘room’, pl *kmamar*.

4.6.3 Case

Common Semitic has two sets of case encoding: a three-way (‘triptotic’) system, *-u* ‘nominative’, *-i* ‘genitive’, *-a* ‘accusative’; and a two-way (‘diptotic’) system, *-u* ‘nominative’, *-i* ‘genitive-accusative’. The full system is attested in Akkadian and Arabic, and in a phonologically reduced version in Geez (acc. *-ä*, non-acc. \emptyset , because of the merger of short /i, u/ to /ə/, which goes to \emptyset word-finally); it probably existed at least in early OSA but the necessary vocalic evidence is almost totally lacking (cf., however, special plurals of the kinship term *ʔb* ‘father’, which yield *ʔbw* ~ *ʔby* in some contexts appropriate for nominative and non-nominative case respectively). The system has been reconstructed on various grounds for Proto-Semitic, and seems to have gradually disappeared owing to the lability of final short vowels, as indeed is also the case in Ethiopian Semitic (where the final *-ä* of the accusative disappears, but not the final *-ä* of the 3msg past tense!), in modern Arabic dialects, and apparently in the last stages of Akkadian. In Classical Arabic, case (and verbal mood) marking is robust, in that it is written whenever possible and verse meter cannot be parsed without it. On the other hand, it is almost completely redundant, as syntactic properties are indicated by word order, prepositions, and other particles, so that there are very few sentences in which the case of a noun could be changed (the noun remaining in the same location) yielding a different interpretation. Classical Arabic syntax is thus very close to that of the modern vernaculars, which lack overt case.

The triptotic system is the default for the singular noun, the diptotic for the dual and plural. This is the state of affairs in Akkadian, where the sign of the plural is the lengthening of the initial suffix vowel, which is either the case vowel or the initial vowel of the feminine gender marker. The distinction is somewhat more complicated in Arabic, where suffixed plurals are diptotic but most broken plurals are triptotic, and, furthermore, the suffixed masculine plural is virtually limited to morphologically derived nouns, while the so-called ‘feminine plural’ suffix occurs on nouns of all types, including some that are grammatically masculine and loanwords.

Besides this core system, other case markings are attested in Semitic. One case, which may go back to Common Semitic, is found in older Akkadian: a *terminative* case in *-iš* (*il-iš* ‘to/in god’); from the same period there seems to be also a *locative* case in *-um*, harder to isolate because of its apparent homonymy with the nominative (*warx-um* ‘month’, but also ‘in the month’; cf. also the contrast *libb-uš-šu* < *libb-um-šu* ‘in its midst’ vs the prepositional construction *ina libbi-šu*: H312). Clearly a separate

Table 4.11 *Noun inflection in Akk and Arb.*

Gender	Number	Case	Akkadian-N	Akkadian-Adj	Arabic
masc	sg	nom	<i>šarrum</i>	<i>dannum</i>	<i>mudarrisun</i>
		gen	<i>šarrim</i>	<i>dannim</i>	<i>mudarrisin</i>
		acc	<i>šarram</i>	<i>dannam</i>	<i>mudarrisan</i>
	du	nom	<i>šarrān</i>	<i>dannūtum</i>	<i>mudarrisani</i>
		gen	<i>šarrīn</i>	<i>dannūtīm</i>	<i>mudarrisayni</i>
		acc.			
	pl	nom	<i>šarrū</i>	<i>dannūtum</i>	<i>mudarrisuna</i>
		gen	<i>šarrī</i>	<i>dannūtīm</i>	<i>mudarrisina</i>
		acc.			
fem	sg	nom	<i>šarratum</i>	<i>dannatum</i>	<i>malikatun</i>
		gen	<i>šarratim</i>	<i>dannatim</i>	<i>malikatin</i>
		acc	<i>šarratam</i>	<i>dannatam</i>	<i>malikatan</i>
	du	nom	<i>šarratān</i>	<i>dannātum</i>	<i>malikatanī</i>
		gen	<i>šarratīn</i>	<i>dannātīm</i>	<i>malikatayni</i>
		acc			
	pl	nom	<i>šarrātum</i>	<i>dannātum</i>	<i>malika:tun</i>
		gen	<i>šarrātīm</i>	<i>dannātīm</i>	<i>malika:tin</i>
		acc			

development in modern Ethiopian Semitic is the marking *-n* for direct object – see below, section 4.11.2.

4.6.4 Nominal/adjectival declension: number-gender(-case)

The interaction of nominal and adjectival number, gender, and case encoding can be seen in table 4.11, showing Akkadian (*šarrum* ‘king’, *šarratum* ‘queen’, *dannum* ‘mighty’) and Arabic (*mudarris-* ‘teacher’ and *malika-* ‘queen’), using the suffix plural.

4.6.5 State

Not to be separated from the case system is another category of nominal encoding, *the state*, basically a nominal shape adopted in certain syntactically conditioned environments. In Akkadian, there are two principal states.

In the *absolute* state, a noun appears in the shape of its bare stem (plus, if one is present, a gender marker), without the case marker, with the phonological adjustments required by any resulting final *-CC* clusters. This shape appears in various contexts, but, for example in Akkadian, sometimes in the vocative (*bēltum* ‘lady’, *bēlet* ‘lady!’), and in a number of numeral and quantifier contexts (*uṭṭetum* ‘grain’, *uṭṭet* ‘a single grain’ – see the fuller list and examples in H234ff., who remarks correctly that the absolute form of a noun can resemble or be identical with the form it takes in the stative construction).

In the other state, the *construct*, that of the head noun of an N-N_[GEN] construction, the noun appears in a reduced, frequently caseless form which, in some contexts or periods, can resemble the absolute (cf. *bēlet mātim* ‘the lady of the land’). This state will be discussed in detail in section 4.10.1.

The systems of states in Aramaic and Arabic are more elaborate. In Aramaic, the absolute and construct states are as described above, but there is in addition a *determinate* state, marked with the suffix *-a:*, which originally functioned – and in many Aramaic languages still functions – to mark semantic definiteness. In Eastern Aramaic, including Syriac and modern Eastern Aramaic, it lost this semantic function, and the determinate state is in fact the syntactically and semantically unmarked form of the word, while the absolute state is limited to numeral and quantifier contexts. Thus, the original functional relationship between *ʔi:la:m* ‘a tree’ and *ʔi:la:na:* ‘the tree’ was lost in Eastern Aramaic, where *ʔi:la:na:* means ‘a/the tree’ and *ʔi:la:m* has quite limited functions; some nouns lack an absolute state form.

In Classical Arabic, there is nothing that is analogous formally and functionally to the absolute state of Akkadian (though the pausal form is superficially similar). There are three states. The most unrestricted contextually is the *indeterminate* state. (Several other commonly used terms are misleading: it is often called ‘absolute’, though it does not resemble the absolute state of Akkadian and Aramaic, and it is often called ‘indefinite’, though it can occur on proper nouns, which are syntactically definite.) The *construct* state is as described for Akkadian. The *determinate* state appears in three situations: after the definite prefix *al-*, in vocative function, and in absolute negation (*la: ʔi:la:ha* ‘there is no god’).

4.6.6 Mimation/nunation

A pervasive feature of nominal morphology in some older Semitic languages (OSA, Akk, Cl Arb) is the presence of a suffixed /m/ (traditional term ‘mimation’) or /n/ (traditional term ‘nunation’), with an apparent original deictic or definiteness function. Mimation/nunation apparently contrasted with its absence under certain conditions of number (present in singular, absent in dual and plural) or state (absent in ‘absolute’ and ‘construct’ states – see below). The two contrast only in OSA where older texts especially can contrast *mlk-m* and *mlk-n* ‘king’, where there seems to be more deictic or previous-mention force in the *n*-suffixed form. This only occurs in the singular, and is significantly absent in ‘construct’ expressions like *mlk sb?* ‘king of Saba’. Outside OSA one finds only one or the other (Akk and Arb), or only fossilized remnants (Hebrew Ugaritic). In OB Akk (as well as in contemporary and older Old Assyrian and Old Akkadian) one still finds suffix /-m/ in non-construct, case-marked masculine singulars and feminine (singular or plural – see paradigms below). It has no

Table 4.12 *Nunation and state in Arabic.*

	Triptote			Suffixed plural	
	Indeterminate	Determinate	Construct	Indeterminate/Determinate	Construct
Nominative	<i>ʔabun</i>	<i>ʔabu</i>	<i>ʔabu:</i>	<i>mudarrisu:na</i>	<i>mudarrisu:</i>
Genitive	<i>ʔabin</i>	<i>ʔabi</i>	<i>ʔabi:</i>	<i>mudarrisi:na</i>	<i>mudarrisi:</i>
Accusative	<i>ʔaban</i>	<i>ʔaba</i>	<i>ʔaba:</i>		

Table 4.13 *Adjective inflection in Mehri.*

Type	sg		pl	
	m	f	m	f
1. gender in both sg and pl	<i>ḵōməḥ</i> ‘bad’	<i>ḵámhət</i>	<i>ḵəmhīn</i>	<i>ḵəmhōt</i>
2. gender in sg only	<i>gīd</i> ‘good’	<i>gədət</i>	<i>giyəd</i>	
3. no gender distinction	<i>ʔəwʔif</i> ‘flat’	<i>ʔələfəf</i>		
4. invariable for gender and number	<i>rēhək</i> ‘far’			

distinctive function, and gradually disappears in the later documented development of Akkadian.

There are two types of nunation in Classical Arabic (table 4.12). Triptotic nouns and nouns with the plural suffix *-at-* take a suffix *-n* in the indeterminate state, and duals and plurals suffixed with *-u/-i-* take *-ni* or *-na* respectively in the indeterminate and determinate states; note that the determinate state of plurals in *-u/i-* (as well as of duals) takes nunation, while the determinate state of other nouns does not. Few nouns are overtly different in all three states, but *ʔab-* ‘father’ is one, and it illustrates most clearly the intersecting categories of case and state.

4.6.7 Special adjectival morphology

Although, as mentioned above, adjectival morphology largely coincides with nominal, Akkadian does have a special marker for the masculine plural of adjectives: *-ūt*. In table 4.11, moreover, it should be noted that the Akkadian adjective does not have a dual form, and that the plural form is used in its place. This is also the state of affairs in Mehri, which inflects the adjective for gender (masculine, unmarked; feminine, *-(v)t*) and number (plural – suffix: m. *-īn*, f. *-ōt*; or internal; no dual), but where in addition many adjectives fail to make all possible gender–number distinctions. Rubin (2010: 78–82) (table 4.13) distinguishes four types of gender–number distinction.

In Arabic, two classes of adjectives have special inflectional forms. The first class comprises adjectives referring to colours and ‘defects’ (personal physical characteristics such as ‘deaf’, ‘bald’). The forms are: masculine ʔaCCaC- (*ʔahmar-* ‘red’), feminine CaCCa:ʔ- (*hamra:ʔ-*), masculine plural CuCC- (*humr-*), feminine plural CaCCa:wat- (*hamrawat-*). The second class is the *elative*, which is the comparative and superlative of adjectives, with these forms: masculine ʔaCCaC- (*ʔakbar-*), feminine CuCCa: (*kubra:*), masculine plural ʔaCaʔCiC- (*ʔaka:bir-*), feminine plural CuCCayāt (*kubraya:t-*), from *kabi:r-* ‘big, great’.

4.6.8 Nominal and adjectival derivation

A priori, with a semantic core tied to a (discontinuous) succession of segments, usually consonantal and frequently three, traditionally called the ‘root’, and lexical class tied in large part to fairly clearly defined sets of vowel patterns, one might expect in Semitic a relatively free combinability of roots and patterns, resulting in the kind of productive N ~ V derivations common in English (of the type ‘man’ N ~ V). In fact this is not the case. Derivational pairs of base verbs and primary nouns exist, as in Arb *ʔuḏn* ‘ear’ ~ *ʔaḏina* ‘listen’, Akk *ʔaklum* ‘food’ ~ (*ʔ*)*akālum* ‘eat’, but these are not especially common and certainly not productive. What does exist, aside from the inventory of patterns for the very productive derivation of nouns and adjectives from verbs covered below in section 4.7.2.1 – and some less productive, but still widely used, patterns for making denominative verbs, often via factitive D-stems (Akk *ruggubum* ‘to roof’ from *rughbum* ‘roof’) or causative S-stems (Akk *šumšū* ‘spend the night’ – from *mūšum* ‘night’) – are various derivational paths for the production of diminutives, singulatives, and collectives by both affixes and internal vowel patterns.

- *Diminutives* The pattern CuCayC is somewhat productive in Arabic (*kalb-* ‘dog’, dim. *kulayb-*). Its existence in one or two fossil forms (Akk *kusipum* < **kusayp-* ‘morsel’, < *ksp* ‘bite’; Aramaic *ʕule:ma:*, Syriac *ʕlayma:* ‘boy, servant’) may indicate that it is common Semitic. Otherwise independent encodings have evolved, such as *-ay* in Tigre (*bab* ‘door’, dim. *beb-ay;* *bet* ‘house’, dim. *bet-ay*), *-ōt* in Mehri (*rəḥbēt* ‘place’, dim. *rəḥbānōt;* *rəḥmēt* ‘vegetation’, dim. *rəḥmānōt*), *-on* in Aramaic and Hebrew (Syriac *bra:* ‘son’, dim. *bro:na:*, *mḏi:(n)ta:* ‘city’, dim. *mḏi:(n)to:ni:ḥa:*; Israeli Hebrew *séfer* ‘book’, dim. *sifrón*, *misʔadá* ‘restaurant’, dim. *misʔadónet*), and reduplication in Israeli Hebrew (*xatúl* ‘cat’, dim. *xataltúl*, *zakán* ‘beard’, dim. *zkankán*, *kaxól* ‘blue’, dim. *kxalxál*; a cute little female cat is a *xataltulónet*).

- *Noun of profession* CaCCāC *gallābum* ‘barber’ (*gullubu* ‘to shear’), Arabic *xabba:z-* ‘baker’ (*xubz-* ‘bread’), *falla:ḥ-* ‘peasant’ (*falaḥa* ‘he tilled’).
- *Singulatives* Tigre *-at*, as in the series *gabil* ‘tribes (collective)’, *gabilat* ‘a single tribe’; vs *gabāyəl* ‘several individual tribes’. These are very productive in Arabic, applying to abstract as well as concrete nouns: Syrian Arabic *xass* ‘lettuce’, *xasse* ‘head of lettuce’, *le:l* ‘night-time’, *le:le* ‘a night’, *fəkrə* ‘thought’, *fəkre* ‘a thought, idea’; some words have a four-way contrast, such as *dəbba:n* ‘flies’, *dəbba:ne* ‘a fly’, *dababi:n* ‘(many) flies’, (*tlətt*) *dəbba:na:t* ‘(three) flies’. Many basic terms for ethnicities or nationalities are plural or collective, and for these the suffix *-i* forms singulatives: *ʕarab* ‘Arabs’, *ʕarabi* ‘an Arab’, *ʕamerka:n* ‘Americans’, *ʕamerka:ni* ‘an American’.
- *Particularizing* Akk. Noun + *ān-* particular individual (sg) or group (pl) – *nādīn-um* ‘seller (< giver)’, *nādīn-ān-um* ‘the seller in question’; *il-ū* ‘the gods’, *il-ān-ū* ‘a particular group of gods’ (as Huehnergard (1997: 198), notes, in later Akkadian *ilānū* becomes simply an alternate plural to *ilum*).
- *Paucatives–pejoratives* Tigre *-etām* ~ *-etāt* – *sab(?)* ‘men, people’, *sabʔetām* ‘a few people’, *sabʔetāt* ‘some miserable people’.
- *Denominal adjectives* Akk. Noun + *ī* – *šap-lum* ‘bottom’, *šaplī-um* > *šaplûm*, *šaplī-tum* ‘lower (m,f)’. In Arabic these are extremely productive and may be derived from nouns, prepositions, and various other types of words: Syrian Arabic *ʕanu:b* ‘south’, *ʕanu:bi* (fem. *ʕanubiyye*, pl. *ʕanubiyyi:n*) ‘southern’; *zira:ʕa* ‘agriculture’, *zira:ʕi* ‘agricultural’; *sətt* ‘lady’, pl. *səttat*, *səttati* ‘ladies’ (e.g. clothes); *taḥət* ‘below’, *taḥta:ni* ‘lower’; *ʕaʕfar* ‘yellow’, *ʕaʕfara:ni* ‘yellowish’; *ʕarbʕi:n* ‘forty’, *ʕarbʕi:ni* ‘of the fortieth’; *maʕlu:ma:t* ‘information’ (grammatically plural): *maʕlu:ma:ti* ‘pertaining to information science’. Hebrew *-i* and Syriac *-ay* are equally productive.
- *Abstract nouns* Akk. Noun + *ūt* – *awīl-um* ‘man’, *awīl-ūt-um* ‘humanity, mankind’; Arabic *ištira:k* ‘participation’, *ištira:kiyya* ‘socialism’; Israeli Hebrew *ʔenōš* ‘human being’, *ʔenošut* ‘humanity’, *xovevān* ‘amateur’, *xovevanūt* ‘amateurism’.

4.7 Verbs

4.7.1 Finite verb: subject marking plus tense-aspect-mode (TAM)

Over the whole range of Semitic, finite verb morphology basically involves two intersecting sets of paradigms: one set of paradigms for the affixes which encode subject

Table 4.14 Semitic 'suffix' PNG markers.

		OB	CIArb	Hebrew	Syriac	Mehri	Geez	Amh
sg	1	-āku	-tu	-ti	-eθ	-(ə)k	-ku	-hu
	2	m -āta	-ta	-tā	-t	-(ə)k	-ka	-h
		f -āti	-ti	-t	-t	-(ə)š	-ki	-š
	3	m -∅	-a	-∅	-∅	-∅	-ä	-ä
	f -at	-at	-ā, -θā	-aθ	-ūt / -ēt	-ät	-äčč	
du	1					-(ə)ki		
	2		-tumā			-(ə)ki		
	3	m	-ā			-ō / -ē		
	f	-atā			-tō / -tē			
pl	1	-ānu	-nā	-nu	-n	-ən	-nä	-n
	2	m -ātunu	-tum(ū)	-təm	-to:n	-(ə)kəm	-kəmmu	-aččəhu
		f -ātina	-tunna	-tən	-te:n	-(ə)kən	-kən	
	3	m -ū	-ū	-u	-∅ ~ -w	-əm / -∅*	-u	-u
	f -ā	-na		-∅	-∅	-a		

* Mehri 3m pl ablaut

PNG agreement, another set of paradigms for the stem patterns which encode each language's core, frequently tripartite TAM system; these two sets of paradigms are highly homologous among the Semitic languages, and must closely reflect a situation in common/Proto-Semitic. In addition, more or less independently, each language or group of languages develops a set of extended, and periphrastic, tenses.

4.7.1.1 The person-number-gender paradigms

The subject paradigms specify the prefixes and suffixes which agree, to a varying extent, with the person, number, and gender of the verbal subject. Running the gamut of the family, with the exception of Modern Northeastern Aramaic, each language has two sets (table 4.14 and table 4.15). One, a suffixing set, is frequently considered to be a Semitic innovation, although parallels exist elsewhere in Afroasiatic. This may have ultimately arisen from an enclitic pronominal form attached to a verbal adjective. This origin is most apparent in Akkadian, where the verb form is basically a stative. You will observe in table 4.14 in the marking of the first person singular, and the second person singular and plural, that there is a basic division between a more westerly set of languages (Hebrew, Aramaic, Arabic) which have forms with *-t-*, and the more southerly group which have *-k-* (ES, MSA – OSA is not well attested, but seems also to participate in this isogloss). In one interpretation (Hetzron 1970), Akkadian, with both *-k-* (1sg) and *-t-* (2sg/pl), would reflect the original 'archaic heterogeneity', while the other two groups represent an analogical levelling of one or the other segments throughout the paradigm.

Table 4.15 Semitic 'Prefix' PNG markers.

	OB	Arb*	Maltese**	Hebrew	Syriac	Mehri	Geez	Amh
sg								
1	a-...-Ø	ʔ-...-Ø	n-...-Ø	ʔ-...-Ø	ʔ-...-Ø	ə-...-Ø	ə-...-Ø	ə-...-Ø
2	ta-...-Ø	t-...-Ø	t-...-Ø	t-...-Ø	t-...-Ø	tə-...-Ø	tə-...-Ø	tə-...-Ø
f	ta-...-ī	t-...-ī		t-...-i;	t-...-i:n	tə-...-(i)***	tə-...-i	tə-...-i
3	i-...-Ø	y-...-Ø	j-...-Ø	y-...-Ø	n-...-Ø	yə-...-Ø	yə-...-Ø	yə-...-Ø
f	ta-...-Ø	t-...-Ø	t-...-Ø	t-...-Ø	t-...-Ø	tə-...-Ø	tə-...-Ø	tə-...-Ø
du								
1						ə-...-ō		
2	t-...-ā					tə-...-ō		
3	y-...-ā					yə-...-ō		
f	t-...-ā					tə-...-ō		
pl								
1	ni-...-Ø	n-...-Ø	n-...-u	n-...-Ø	n-...-Ø	nə-...-Ø	nə-...-Ø	ən(nə)-...-Ø
2	ta-...-ā	t-...-ā	t-...-u	t-...-u;	t-...-u:n	tə-...-ə:n	tə-...-u	tə-...-u
f		t-...-na		t-...-nā	t-...-a:n	tə-...-ə:n	tə-...-a	
3	i-...-ā	y-...-ā	j-...-u	y-...-u;	n-...-u:n	yə-...-ə:n	yə-...-u	yə-...-u
f	i-...-ā	y-...-na		t-...-nā	n-...-a:n	tə-...-ə:n	yə-...-a	

* The Arabic prefixes have the vowel *a* or *u*, depending on the derivational type of the verb.

** The Maltese extension of *n-* to the first person singular and of *-u* to the first person plural are typical of North African Arabic.

*** Mehri 2f sg ablaut.

Although the second set (table 4.15) consists, properly speaking, of circumfixes, the paradigm, and the corresponding ‘tenses’ (in the sense of ‘verb form from the point of view of its place in the TAM category range’), are generally referred to as ‘prefixing’, as opposed to the ‘suffixing’, tenses. Note that the Arabic prefixing forms are in fact jussive, since the other two ‘prefixing tenses’ require the additional ‘modal’ suffixes *-u* ~ *-na/i* (for the indicative) and *-a* (for the subjunctive) – see below. It is almost astonishing that this paradigm has cognates in most of the non-Semitic branches of Afroasiatic, meaning that it has survived, complete with peculiarities such as the *t-* that marks second person but also third person feminine, from the Proto-Afroasiatic stage until today, a period of many thousands of years.

4.7.1.2 The core TAM paradigms

From the point of view of verbal stem morphology, the multi-dimensional TAM complex gets reduced in (classical) Semitic to an amazingly consistent, largely tripartite unidimensional formal stem system whose members we will call ‘Past’, ‘Present’, ‘Jussive’ (on a tense interpretation of the basic opposition involved; on an aspect reading one might use the labels ‘Perfective’, ‘Imperfective’, ‘Subjunctive’, which, however, would not change the paradigms). This, of course, does not prevent these languages from developing ways of encoding a richer set of intersecting TAM categories by various additional morphological and syntactic means.

In table 4.16, which gives the 3msg form for each tense, we have added the Akkadian stative tense – whose stem is a stative verbal adjective/participle of shape CV₁CV₂C, where V₂ is a short vowel, usually /i/ in action verbs, but sometimes /a/ or /u/ in ‘state’ verbs (*rapaš* ‘wide’, *maruṣ* ‘sick’) – to which the suffixes of table 4.14 can be added, and whose semantics, describing the ‘condition or state resulting from the action of the verb’, ranges from passive to resultative to descriptive: *šabit* ‘he is seized’, *šabtāku* ‘I am seized’, *maqtat* ‘she has fallen’. The form (which is not limited to verbal predicates: *šarrum* ‘king’, *šarrāku* ‘I am king’), is generally considered to be homologous to the West Semitic suffixing past, which also has the shape CV₁CV₂C. The stem-class category shows that verbal lexical items can differ in the characteristic short vowel between the last, and second-to-last root consonant, which can either be constant through all tenses, or change (‘ablaut’). In the latter case, the alternation is usually between the low vowel /a/ and a high vowel /i/ or /u/; in Geez, of course, where the short high vowels merge, there are only two stem- and ablaut classes, contrasting /ä/ and /ə/. The length seen in this second stem vowel in Mehri, which reduces to /ə/ in closed syllables may be a secondary, perhaps stress-related, development.

In table 4.16, note that Akkadian is the only language with a prefixing past tense, although ‘fossilized’ prefixing past-tense forms exist in most branches, either for subclasses of tenses – as in the negative past *lam*+Jussive in Arabic *lam yaqtul* ‘he did not

Table 4.16 CCC-root stem shapes in Semitic.

Stem-class		Tense			
		Stative	Suffixing		
			Past	Prefixing	
			Past	Present	Jussive
Akk	B-a~u	<i>paris-Ø</i>	<i>i-prus-Ø</i>	<i>i-parras-Ø</i>	<i>l-i-prus-Ø</i>
	B-i	<i>paqid-Ø</i>	<i>i-pqid-Ø</i>	<i>i-paqqid-Ø</i>	<i>l-i-pqid-Ø</i>
	B-a	<i>šabit-Ø</i>	<i>i-šbat-Ø</i>	<i>i-šabbat-Ø</i>	<i>l-i-šbat-Ø</i>
	B-u	<i>maqit-Ø</i>	<i>i-mqut-Ø</i>	<i>i-maqqut-Ø</i>	<i>l-i-mqut-Ø</i>
Arb	B-a		<i>katab-a</i>	<i>ya-ktub-Ø-u</i>	<i>ya-ktub-Ø</i>
	B-i		<i>šarib-a</i>	<i>ya-šrab-Ø-u</i>	<i>ya-šrab-Ø</i>
	B-u		<i>hasun-a</i>	<i>ya-ħsun-Ø-u</i>	<i>ya-ħsun-Ø</i>
Meh	B ₁		<i>kätüb-Ø</i> (~ <i>kätəb-C</i>)	<i>yə-kütəb-Ø</i> (~ <i>kətb-V</i>)	<i>yə-ktēb-Ø</i> (~ <i>ktəb-V</i>)
	B ₂		<i>θībər-Ø</i> (~ <i>θəbr-V/C</i>)	<i>yə-θbör-Ø</i> (~ <i>θbər-V</i>)	<i>yə-θbör-Ø</i> (~ <i>θbər-V</i>)
Geez	B-ä		<i>näggär-ä</i>	<i>yə-näggər-Ø</i>	<i>yə-ngər-Ø</i>
	B-i/u		<i>läb(ə)s-ä</i>	<i>yə-läbbəs-Ø</i>	<i>yə-lbäs-Ø</i>
Amh			<i>näggär-ä</i>	<i>yə-nägr-Ø-all</i>	<i>yə-ngär-Ø</i>

kill’ – or for individual lexical items, as in Geez *bhl* ‘say’, which, contrary to every other lexical verb in the language, forms a prefixing past *yəbəl* ‘he said’. Note further that Akkadian and Geez both have a present tense CVCCVC, with gemination of C₂ and a vowel between C₁ and C₂, while Mehri B₁, typical of MSA presents, has CVCVC, without the gemination of C₂ (in Mehri stem-class B₂, both the present and the jussive have template CCVC, as in Central Semitic). Although Mehri has phonological gemination, this ‘plays almost no role in derivational or inflectional morphology’ (Rubin 2010b), so that it is an open question whether the MSA present-tense forms lost gemination from a CVCCVC template, or never developed it from a CVCVC template. In Ethiopian Semitic, an interesting puzzle in this context is the ‘gemination switch’ in Amharic, whereby – just the opposite of Geez and Northern Ethiopian Semitic generally – the C₂ of all past-tense verbs is geminated, while C₂ is non-geminated in the present (there is a clue perhaps in the Tigrinya alternation *yənäggər* ‘he speaks’, but *yənägru* ‘they speak’ – could this be due to analogical extension of pre-vocalic stem-shape?). In all other West Semitic languages, the prefixing present has the same CCVC template as the jussive. The jussive CCVC is thus the one universal template for all Semitic languages.

Main clause vs subordinate clause You will note in the paradigm that Arabic (and perhaps historically other Central Semitic languages) distinguishes the indicative present

Table 4.17 CCC-root stem shapes in Semitic.

	Root-class	Stem	Root	Past	Present	Jussive
Geez	CCCC	B	<i>dngš</i> ‘surprise’	<i>dängäš-ä</i>	<i>yə-dänäggəš</i>	<i>yə-dängəš</i>
	CCC	D	<i>fšm</i> ‘finish’	<i>fäššäm-ä</i>	<i>yə-feššəmə</i>	<i>yə-fäššəmə</i>
Arb	CCCC	B	<i>trj̄m</i> ‘translate’	<i>tarj̄am-a</i>	<i>yu-tarj̄im-u</i>	<i>yu-tarj̄im</i>
	CCC	D	<i>ktb</i> ‘make write’	<i>kattab-a</i>	<i>yu-kattib-u</i>	<i>yu-kattib</i>

from the jussive by an additional indicative main-clause marker *-u*, which contrasts with a parallel marker *-a* for subordinate clauses (for a three-way contrast – indicative *yaktubu*, subjunctive *yaktuba*, jussive *yaktub* – but compare Akkadian, where the subordinate clause marker is *-u*). In Southern Ethiopian Semitic, the non-past main-clause affirmative forms (but not past or negative) typically have a special marking; in Amharic this is a conjugated enclitic form of the verb *allä* ‘to be’ (1sg *-allähu*, 2msg *-alläh*, 2fsg *-alläš*, 3msg *-all*, 3fsg *-alläčč*, 1pl *-allä*, 2pl *-allaččəhu*, 3pl *-allu*); subordinate and negative forms are distinguished by not having this marking.

The strategies by which CCCC roots and ‘weak’ roots are related and accommodated to the normative CCC-root paradigms across Semitic are much too complicated and diverse to be inventoried here. However, an idea of the processes involved for the CCCC roots can be obtained by observing, in Geez and Arabic, the parallels between their inflectional forms and the D (middle-geminated) ‘factitive’ derived stem, as laid out in table 4.17. To get an idea of ‘weak’ root morphology, compare the forms in table 4.18 with the ‘sound’ forms in table 4.16.

4.7.1.3 Extended TAM forms

There are too many formations for us to catalogue them all here. However, various mechanisms are developed to provide a number of typologically common TAM categories.

- *Akkadian* A perfect tense has been developed by means of a *t*-infix (homophonous with the ‘reflexive’ derivation infix): past-tense, *iprus* ‘he decided’ vs perfect-tense *iptaras* ‘he has decided’. Akkadian has also developed a verb-inflection category called ‘ventive’, indicating motion toward or orientation to the speaker or speech situation, by means of an *m*-suffix, related to the dative-pronoun-suffix series: *išpur* ‘he sent’, *išpur-am* ‘he sent in my direction, to me, for my benefit’.
- *Hebrew (Biblical)* Here a prefixed past (cognate with the Akkadian *i-prus*) is the normal form for referring to past perfective actions. It takes an additional prefix *waC-* (usually with gemination of the following consonant),

Table 4.18 'Weak'-root stem shapes in Semitic.

	Root-class	Root	Past	Present	Jussive
Akk	wCC	<i>wšb</i> 'sit'	<i>ušib</i>	<i>uššab</i>	<i>l-ušib</i>
	CwC	<i>kwn</i> 'become firm'	<i>i-kūn</i>	<i>i-kān</i> , pl. <i>i-kunn-ū</i>	<i>l-i-kūn</i>
	CCw	<i>xḏw</i> 'rejoice'	<i>i-xḏu</i>	<i>i-xḏdu</i>	<i>l-i-xḏu</i>
	CyC	<i>qyš</i> 'bestow'	<i>i-qīš</i>	<i>i-qīaš</i> , pl. <i>i-qīšš-ū</i>	<i>l-i-qīš</i>
	CCy	<i>bny</i> 'build'	<i>i-bni</i>	<i>i-banni</i>	<i>l-i-bni</i>
Geez	wCC	<i>wrd</i> 'descend'	<i>wărăd-a</i>	<i>yə-wärrəd</i>	<i>yə-räd</i>
	CwC	<i>mwt</i> 'die'	<i>mot-ä</i>	<i>yə-mäwwət</i>	<i>yə-mut</i>
	CCw	<i>bdw</i> 'be desert'	<i>bädw-ä</i>	<i>yə-bäddu</i>	<i>yə-bädäw</i>
	CyC	<i>šym</i> 'appoint'	<i>šem-ä</i>	<i>yə-šäyyəm</i>	<i>yə-šim</i>
	CCy	<i>bky</i> 'cry'	<i>bäkäy-ä</i>	<i>yə-bäkki</i>	<i>yə-bki</i>
Arb	wCC	<i>wšl</i> 'arrive'	<i>wašal-a</i>	<i>ya-šil-u</i>	<i>ya-šil</i>
	CwC	<i>qwm</i> 'rise'	<i>qam-a</i>	<i>ya-qu:m-u</i>	<i>ya-qum</i>
	CCw	<i>bdw</i> 'appear'	<i>bada:</i>	<i>ya-bdu:</i>	<i>ya-bdu</i>
	CyC	<i>syr</i> 'go'	<i>sar-a</i>	<i>ya-si:r-u</i>	<i>ya-sir</i>
	CCy	<i>bny</i> 'build' <i>nsy</i> 'forget'	<i>bana:</i> <i>nasiy-a</i>	<i>ya-bni:</i> <i>ya-nsa:</i>	<i>ya-bni</i> <i>ya-nsa</i>

Table 4.19 Biblical Hebrew prefixed conjugations, third-person masculine singular.

Root	Prefixed past	Imperfective
ktb	<i>wayyixtóv</i> /waC-yiktob/	<i>yixtóv</i> /yiktob/
qwm	<i>wayyáqəm</i> /waC-yáqum/	<i>yáqúm</i> /yaqu:m/
bny	<i>wayyiívén</i> /waC-yibn/	<i>yivné</i> /yibne/
ʔmr	<i>wayyómér</i> /waC-yáʔmar/	<i>yomár</i> /yaʔmar/

distinguishing it from the prefixed imperfective. Some verbs show additional phonological differences between the prefixed past and the imperfective: in the past tense the stem is shortened or the stress shifts to the antepenult. For most verbs, however, there is no difference other than the *wa-* prefix. Biblical Hebrew has similarly split the suffix conjugation. The basic form has past meaning (e.g. *kāṯáv* 'he wrote, has written, had written'), but with the prefix *w-* (not *waC-*) it marks a future, usually with modal meaning (intention, consequence) (*wxāṯáv* 'he shall write'). Here,

too, some verbs show a stress shift: *káθávti* ‘I wrote’, *wxáθavtí* ‘I shall write’. In addition, Biblical Hebrew has a non-finite form (known as the infinitive absolute, e.g. *káθóv*) that can substitute for an inflected verb of almost any tense or aspect.

- *Modern Hebrew* Following the pattern of post-Biblical Hebrew going back nearly 2,000 years, Modern Hebrew has a three-way tense system. The inherited suffix forms mark past tense, the prefixed forms refer to future, and the active participle functions verbally as a present tense: *katáv* ‘he wrote’, *yixtóv* ‘he will write’, *kotév* ‘writes / is writing (masc. sg.)’. In addition, the combination of the present tense preceded by the past tense of the verb ‘to be’ (both showing agreement with the subject) indicates either past habitual or counterfactual condition: *hayá kotév* ‘he used to write, he would write (if only . . .)’.
- *Aramaic Syriac* has a basic tense system similar to that of post-Biblical Hebrew; it has a suffixed past tense (*kθav* ‘he wrote, has written’), a participle with present meaning (*ka:θev*), and a prefixed imperfective with mostly future or modal meaning (*nextov* ‘he will/should/may write’). Various combinations of these with the past tense of the verb ‘to be’ are frequent, with a wide range of meanings. There is also a stative (not necessarily passive) participle, which may occur with the preposition *l-* (which otherwise means ‘to’) and a pronoun marking the subject, as in *šarri:ra: wa-θri:ša: hwe: l-i:* ‘true and-straightforward been to-me’, i.e. ‘I have been true and straightforward’.
- *Aramaic (Modern)* Northeastern Neo-Aramaic has entirely lost the Semitic prefix and suffix conjugations, and replaced them with a highly elaborated system of tenses, aspects, and moods based on the older Aramaic participles and gerunds. The verb ‘open’ has the stem shapes shown in table 4.20, listed with examples illustrating just some of the possibilities.
- *Arabic* In Classical Arabic the suffix and prefix conjugations represent aspect more consistently than tense: perfective (usually past) and imperfective (usually non-past) respectively. Preceded by the particle *qad*, the suffix form represents a perfect: a state, usually resulting from a prior event (so *qad waqafa*, literally ‘has stood’, can mean ‘is standing’). The imperfective can refer to past, present, or future, but it can be made explicitly future if preceded by *sawfa* or *sa-* (*sa-yaktubu* ‘he will write’). The imperfective with *qad* represents possibility (*qad yaktubu* ‘he might write’). The tense–aspect values are also represented in the choice of negator: most often *ma:* with the suffix-perfective (*ma: kataba* ‘he did not write’) and *la:* with the prefix-imperfective (*la: yaktubu* ‘he doesn’t write, will not write’),

Table 4.20 *Modern Aramaic*.

Stem	Functions	Examples
<i>patix</i>	subjunctive, habitual present, past, future	<i>pátx-a</i> ‘that she open’ <i>pátx-in</i> ‘that I open’ <i>patx-á:lu</i> ‘that she open them’ <i>k-patx-á:lu</i> ‘she opens them’ <i>k-patx-á:wa-lu</i> ‘she used to open them’ <i>b-patx-á:lu</i> ‘she will open them’ <i>b-patx-á:wa-lu</i> ‘she would have opened them’ <i>qam-patx-á:lu</i> ‘she opened them’
<i>ptix</i>	past	<i>ptix-á:lu</i> ‘they opened it (f)’ <i>ptix-á:wa-lu</i> ‘they had opened it (f)’
<i>ptix(t)</i>	stative participle	<i>le ptixa</i> ‘it is open’ <i>po:ya ptixa</i> ‘it (f) will be open’ <i>po:ya ptixa=llu</i> ‘she will have opened them’
<i>ptox</i>	imperative	<i>ptúx-lu</i> ‘open them’
<i>ptax-a</i>	gerund, progressive	<i>we:wa bi-ptá:xa=llu</i> ‘he was opening them’

but also *lan* with the prefix-subjunctive marking future time (*lan yaktuba* ‘he will not write’) and *lam* with the prefix-jussive, surprisingly marking past time (*lam yaktub* ‘he did not write’). The perfective and imperfective may be preceded by forms of the verb ‘to be’; the suffix conjugation of ‘be’ specifically marks past time: *kana yaktubu* ‘he.was he.writes’, i.e. ‘he used to write’, *yaku:nu (qad) kataba* ‘he will have written’.

- *Mehri* has developed progressive and circumstantial forms using a δ -verb prefix (< δ -relative pronoun): δ + imperfect = present/past progressive: *yōmər* ‘he (always) says’ vs δ -*yōmər* ‘he is/was saying’; δ + perfect = circumstantial, stative: *hēm δə-həzīn* ‘they were sad’.
- *Geez* has enlarged its tense–aspect inventory with the help of a number of verbs employed as auxiliaries (see useful enumeration in Dillman (1974 [1907]: 151–5) – *wd?* ‘finish’ + past = perfect: *wādā?nā qātärnä* ‘we have (already) decided’; *konähällo* ‘he was’ + past = pluperfect: *konä aqāmo* ‘he had set up’; *konähällo* ‘he was’ + imperf = future progressive/ingressive – *yəṣṣähñäf hällö* ‘it will be continually written up’ (Hen. 98.7), *yəmäsṣə? hällö* ‘he is about to come’ – OR = past progressive/habitual: *konä yəgäbbər* ‘he used to make’, *hällö yənäbbər* ‘he used to sit, he was sitting’.
- *Amharic* has verb-present + *näbbär* ‘was’ (usually invariant, but also conjugated – *näbbärä*, *näbbäräčč*, etc.) = habitual/progressive: *əbäla*

näbbär ‘I used to eat’; verb-present/past + *yəhonall* ‘it is/will-be’ = ‘probably’: *yənägru/näggäru yəhonall* ‘they probably speak/spoke’ (see also tense forms made out of the combination of converb/conjunctive form below, section 4.12.4.3); verb-converb/gerund + enclitic *allä* ‘to be (affirmative main-clause present-future)’ = perfect: *nägrwall* ‘he has spoken’, *nägralläčč* ‘she has spoken’, etc.

4.7.2 Derivation and compounding

4.7.2.1 Class-changing derivation: verb > adjective, noun

Although sub-branches of Semitic do develop new patterns, there are core patterns among those listed below which are widespread throughout Semitic (i.e., belong to Common Semitic), and are thus part of a derivational apparatus that has remained largely intact over millennia. A sample from Akkadian would include (see below for derived stem abbreviations): verbal adjective – CaCVC *damiq-* ‘good’, *rapaš-* ‘wide’, *zapur-* ‘malicious’; participle-base stem – CāCīC *pāris-um* ‘decider’; participle-derived stems – *mu* + DerivedStem (D *mu-parris-*, N *mu-n-par(i)s-* → *muppar(i)s*, S *mu-ša-pris*); Infinitive – CaCāC-*um parās-um* ‘to decide’; Noun of Place, Instrument – *maCCaC(t)-škn* ‘place, put’ *maškan-um* ‘location, place’; Noun from B stem with *t*-infix (‘reciprocal’) stem – *taCCāC- mxr* Bt (infinitive *mitxur-um*) ‘oppose one another’, *tamxār-um* ‘battle’; Noun from D stem – *taCCīC- lmd* D ‘teach’ *talmīd-um* ‘student’.

4.7.2.2 Valence-changing derivation: themes

A special sub-class of derivation, which we will refer to as ‘theme’, involves basically transformation, most directly of the argument structure, or ‘valence’, of the verbal scenario (causative, passive, etc.), but also of certain properties of the action involved in the scenario (intensive, frequentative, for the benefit of the subject). Here again, there is a remarkable uniformity over Semitic in the inventory of basic derivational classes, and the affixes which express them, even though there is a certain amount of fluctuation in the base semantic transformation. As can be expected in any derivational system, beyond the base semantic transformation, there is often a great deal of lexical specialization.

There are several conventional ways of naming these derivational themes. In Arabic the themes have been given standard numbers. In Hebrew and Aramaic, indigenous mnemonic terms are used. For most of the other languages, a set of abbreviations of descriptive terms form the labels. In the following, we will use the abbreviated labels together with the Arabic theme numbers. Following tradition, and for convenience, we will use a conventional Arabic third person masculine singular past of the root *qtl* for illustrative purposes (keep in mind that the suffixing tense has quite a different function in Akkadian!).

- **B-stem: Basic, unmarked (Theme I).** This is the underived, simplest form. Form: *qatala*.

A first group of derived stems involves internal stem changes, with no affixes.

- **D-stem: Doubled-C₂ (Theme II).** Form: *qattala*. This stem exists, at least formally, in almost all branches of Semitic, and frequently yields a factitive transitive of a base intransitive stative: Akk. *rappuṣ-um* ‘widen’ from *rapāš-um* ‘be wide’, Arabic *ʕallama* ‘teach’ from *ʕalima* ‘know, learn’. In Hebrew this stem is frequent but has no consistent semantic value, and in modern Hebrew it is a favourite form for denominal verbs (there are no geminate consonants in modern Hebrew): *miken* ‘he mechanized’ from *mexoná* ‘machine’, *tiyék* ‘he filed (papers)’ from *tik* ‘a file, folder’.
- **L(engthened)-stem: V₁-Lengthen (Theme III).** Form: *qātala*. It is less widespread than the D-stem, and covers a wide range of derivational semantics (including intensive, conative, denominative, and purely lexical). In Arabic it is usually transitive and is often conative (implying making an effort), often reciprocally (*sa:baqa-hu* ‘he tried to get ahead of him, competed with him in a race’ from *sabaqa-hu* ‘he preceded him’; Syrian Arabic *manaʕ* ‘he prevented’, *ma:naʕ* ‘he objected, forbade’, *laḥaḏ* ‘he glimpsed’, *la:ḥaḏ* ‘he watched’), and often applicative in function, meaning that the direct object corresponds with a prepositional adjunct of the basic verb: *sara maʕa-hu* ‘he went with him’ and *sa:yara-hu* ‘he went along with him’, Syrian Arabic *dəḥek* ‘he laughed’, *da:ḥak* ‘he laughed with (someone)’. In Mehri, referred to by Rubin (2010b) as D/L since it does not contrast with a D-stem, it has an *a-* affix in certain phonological contexts: *aḳōdəm* ‘put in front of’ vs *ḳədūm* ‘go before’.

Note that in Ethiopian Semitic the B, D, and L stems exist formally, but as a purely lexical class. The stems do not contrast, and a given root will be assigned to one or the other throughout its inflection, with little if any semantic rationale: Geez *nägärä* ‘speak’ B-stem, *fäṣṣämä* ‘finish’ D-stem, *baräkä* ‘bless’ L-stem.

Other internally derived stem forms are:

- **R-stem: C₂-reduplicated.** Form: *qatattala*. This stem is present but marginal in most branches. However, it is fully exploited as a frequentative-intensive in modern Ethiopian Semitic: Amharic *nägaggärä* ‘to speak frequently, to converse’.

The principal derived stem classes based on affixes are as follows. Note that the addition of an affix is in many cases accompanied by a change in vowels and/or syllable structure.

- **S-stem [š, h~ʔ]: causative (Theme IV).** Form: *ʔaqtala*. This stem involves across Semitic a basic correspondence, *š* vs *h~ʔ*, which occurs only in the context of two morphemes: the third person pronoun series (e.g. Akk. *šu* vs Heb. *hu* ‘he’) and the causative derived stem of the verb (e.g. Akk. *u-šapris* ‘make decide’, caus. of *prs* ‘decide’, Heb. *hilibiš* ‘he dressed (someone)’, caus. of *lāvāš* ‘he wore (garment)’. There is a certain amount of discussion in the literature as to whether the correspondence is purely phonological in origin (see Huehnergard 2004: 143) or morpho-lexical (analogy-driven assimilation of initial segment of two distinct morphemes) – in any case it points to a possible systematic link between the causative prefix and the form of the pronoun. Akkadian has *š* in both causative and pronoun, while Hebrew, Aramaic, Arabic, and Ethiopian Semitic have *h~ʔ* in both; Ugaritic has *š* in the causative and *h* in the pronoun. The situation is more complicated in OSA, where one language/variety, Saba (and its later successor Ḥimyar), has *h* in both, while the others (NB, for the most part attested earlier) – Maʿīn, Qataban, Ḥaḍramawt – have *š* in both. MSA has a complication of its own, where, in Mehri (and other MSA languages) the third masculine pronouns have *h* (*hē* ‘he’, *hēm* ‘they-m’), whereas the third feminine have *s* (*sē* ‘she’, *sēn* ‘they-f’). On the verb, however, the productive causative in Mehri is with *h*: *bəruk* ‘kneel [of camels]’, *həbrūk* ‘make kneel’. On *š*-causatives in Mehri, see below S + T (+ L). In modern Ethiopian Semitic, Amharic has developed a genuinely causative stem in *-as-* (perhaps by back-formation from *asta-* due to influence of Cushitic?) for causation of transitive verbs, giving rise to derived-stem series such as: *därräqa* ‘to dry (intrans.)’ ~ *adärräqä* ‘to dry (trans.)’ ~ *asdärräqä* ‘to cause someone to dry something’; *bälla* ‘eat’ ~ *abälla* ‘feed (i.e., to provide food)’ ~ *asbälla* ‘make eat, force to eat’.
- **N-stem: passive (Theme VII).** Form: *inqatala*. This stem, mainly passive in function, occurs in Akkadian (*ipparis* ‘it was decided’, inf. *nāprus-um*), as well as in Hebrew (*nixtav* ‘it was written’) and Arabic (*inkataba* ‘it was written’). This stem may be related to a probably composite stem *tän*-(intrans.) ~ *an*-(trans.) which occurs in Old South Arabian, Mehri, and Ethiopian Semitic, frequently, but not necessarily, occurring with quadriradical roots and L stems, and associated with frequentative and expressive meanings, often involving movement, emotion, light (Amharic *tänfäraggätä* ‘wriggle’, *ankä rabbätä* ‘mistreat’). This stem should also be compared with the Akkadian *-tan-* infix stem, below. In Hebrew this is the productive passive of Basic-stem verbs (*katāv* ‘he wrote’, *nixtav* ‘it was written’), but there are also semantically basic verbs, such as *nixnäs* ‘he entered’.

- **T-affixed-stem: mainly passive-reflexive (Theme VIII).** Form: *iqtatala*. This affix occurs in Akkadian, Mehri, and Old South Arabian as an infix. It occurs in these languages with the Base stem to form reflexive-reciprocals: Akk. *mitxuṣ-um* ‘strike one another, fight’, Mehri *yaṭbər* ‘meet one another’ (from *yaḅūr* ‘meet’, infix adjacent to second radical). In Akkadian it occurs productively with the D- and S- stems, usually forming the passive of that stem: *ilappat* ‘he touches’, *uṣalpat* ‘he destroys’, *uṣtalpat* ‘he/it is destroyed’ (note that there is an additional *ṣt-* stem, with a long-form present *uṣtaparras*, with a number of unpredictable derived meanings, which can sometimes function as causative of the Base -t or reflexive of the S- stem). In Mehri a *t*-infix adjacent to the first radical can form the passive of the D/L- stems mentioned above: *əmtəḥul* ‘become easier’ from *amōhəl* ‘ease’. Perhaps related to the *-t*-infix stem are the *-tan-* infixed derived stems of Akkadian, fairly productively used as frequentatives (examples in present tense: Base *iptanarras*, D *uptanarras*, S *uṣtanapras*, N *ittanapras*). In the Arabic Theme VIII, an intransitivizing *t* occurs as an infix (*ṣarafa* ‘he knew’, *iṣtarafa* with the preposition *bi-* ‘he acknowledged, admitted’). As a prefix, *ta-* is the regular passive marker in Ethiopian Semitic: Geez *täqätlä*, Amharic *tägäddälä* ‘is killed’, from *qätälä*, *gäddälä* respectively.

There are a number of stems involving a more-or-less morphologized combination of stem-types. (Not included here are either the productive combinations of the *t*-affix in Akkadian, or the derived stems of the completely lexicalized D and L stems in Ethiopian Semitic.) Some of the most important involve the morphologized combination of the *t*-affix with another stem-type.

- **T + D (Theme V) and T + L (Theme VI).** Forms: *taqattala*, *taqa:tala*. In these combinations in Arabic the *t* appears in the prefix *ta-* on the D and L stems (*taṣarrafa bi-* ‘he became acquainted with’, *taṣarrafu:* ‘they became acquainted with one another’). Hebrew too has the T + D combination (with epenthetic *hi-*), forming intransitive verbs with a wide range of meanings, and which may be derived from D-type verbs, B-type verbs, or nouns and adjectives: *hiṯhalléx* ‘he walked around’ vs *hálláx* ‘he walked’, *hiṯqaddéš* ‘it becomes consecrated’ vs *qiddeš* ‘he consecrated’, *hiṯnabbé* ‘he prophesied’ from *náví* ‘prophet’.

Aramaic has a symmetrical system of three unprefixing themes, B, D, and S, and three corresponding passive themes with T (table 4.21). All except the T-S theme are highly productive.

Table 4.21 *Aramaic theme system.*

B	<i>kθav</i> ‘wrote’	<i>ʔeθkθev</i> ‘was written’
D transitive, frequentative, denominal	<i>qabbel</i> ‘received’	<i>ʔeθqabbal</i> ‘was received’
S causative, inchoative	<i>ʔalbeš</i> ‘dressed (someone)’	<i>ʔettałbaš</i> (< * <i>et-ʔalbaš</i>) ‘(garment) was put on’

- S + T (+ L): asta- (Theme X).** Form: *istaqtala*. In Arabic, Old South Arabian and in Ethiopian Semitic, this derived stem covers a wide variety of unpredictable derived meanings besides the more obvious ‘causative of reflexive’ and ‘reflexive of causative’, or, with the L stem, ‘causative of reciprocal’: cf. Geez *astāqatälä* ‘cause to fight’ (cf. *tāqatälä* ‘fight’), but also ‘help to kill’; Amharic *astānabbärä* ‘direct people to their places’ (cf. *anābbärä* ‘place’). More productive in Amharic is a specially formed *at* + L stem not found in Geez, but presumably a variant form of S + T + L: *aggadälä* ‘cause to kill one another’. To be ranged with this category also are two causative-like *š*-stems in Mehri: *š₁* (*šəkhūr* ‘consider to be too much’, cf. *kīθər* ‘be abundant’) and *š₂* (*šəgēməl* ‘take all of something’, cf. *gəmlēt* ‘total’). But given their typical semantic range (Rubin (2010b: 102–9) – *š₁*: causative-reflexive, causative-passive, ‘believe s.t. is X’, purely lexical; *š₂*: reciprocity, purely lexical), they are probably better classed with the complex ST stems of other Semitic languages, below.

Arabic has three derived themes with geminated third consonant, for example (Theme IX) *iħmarra* ‘it turned red’ (from *ħħmar* ‘red’), (Quadrilateral Theme IV) *iqšafarra* ‘he shuddered, had goose flesh’ (perhaps related to *qišr* ‘peel, skin, crust’).

Some of the languages have a few verbs with rare or even unique combinations of affix and stem modification that are atypical for the language. This is true of Biblical Hebrew and Classical Arabic, but especially so in vernacular Arabic. Syrian Arabic, for example, has *stmánna* ‘he wished’ (S-T-D stem), and Maltese has several verbs with an N-T stem with the T being infix: *insteraq* ‘it was stolen’ from *seraq* ‘he stole’, *inhtieg* ‘it was necessary’ from *ħaġa* ‘thing’.

- P(assive)-stem: Passive by internal vowel change.** In Arabic, verbs of any of the stem types described above may be made passive through change of the internal vowels to *u-i* (in the suffixed conjugation) or *u-a* (in the prefixed conjugation): *kutiba* ‘it was written’ vs *kataba* ‘he wrote’; *ustuxrija* ‘it was extracted’ vs *istaxraja* ‘he extracted’ (Theme X), from *xaraja* ‘he went out’; *uštūqila* ‘he was arrested’ vs *ištāqala* ‘he arrested’ (Theme VIII),

from *ʕaqala* ‘he confined’. Nearly all modern vernacular Arabic dialects have lost the internal passive. Also in Modern South Arabian, there is *kətēb* ‘it was written’, passive of *kətūb* (but no internal passive of *θībər* base stem). In Hebrew, passives are also formed with the same vowels, from D-stem or S-stem verbs: *sippér* ‘he told’, *suppár* ‘it was told’, *hišlīx* ‘he threw’, *hušlāx* ‘it was thrown’.

4.7.2.3 *Compounding*

This is frequent in Modern ES, where it might be an areal feature (cf. Cushitic, [ch. 6](#)): its form is generally that of an invariant root, frequently onomatopoeic in character, followed by an inflected auxiliary, often a form of a verb ‘to say’ (for example, *alä* in Amharic). In Amharic, compounding of this kind yields expressive verbs of sound, movement (*šwa alä* ‘fizz’, *futt alä* ‘slurp’, *həqq alä* ‘hiccup’, *suləll alä* ‘run here and there’), but also other verbs (*qučč alä* ‘sit down’, *zəmm alä* ‘be quiet’). Transitive, passive, and causative themes are expressed by the corresponding forms of the verb ‘to do’: *adärrägä*, *tädärrägä*, *asdärrägä* – *zəqq alä*, *zəqq adärrägä*, *zəqq tädärrägä*, *zəqq asdärrägä*, respectively ‘be low’, ‘lower’, ‘be lowered’, ‘have something lowered’.

4.8 **Pronouns, demonstratives, numerals**

4.8.1 Personal independent pronouns

The independent personal pronoun shows a great uniformity across Semitic, particularly in the first and second person forms; for the third person, note in [table 4.22](#) the divergent forms in Geez and Amharic, in Geez based on a different set of pronominal formants, in Amharic on a reduced form of the noun *ras* ‘head’ (with a unique prefixed plural form in *ənnä-*). The paradigm is completely transformed in Mehri, as also happens in certain MES languages such as Harari.

4.8.2 Personal suffix: possessive and object

Both possessors of nouns and objects of verbs are expressed by pronominal suffixes on the respective noun or verb. Only Akkadian, among the ancient languages, distinguished direct and indirect object, but this distinction has been introduced in colloquial Arabic and modern Aramaic. [Table 4.23](#) shows once more the striking uniformity in these suffixes across the language family. An apparently stable characteristic asymmetry of Semitic is the use of a different suffix for these functions in the first person singular:

Table 4.22 Independent Pronoun.

	Akk	Heb	Syr	Arb	Meh	Geez	Amh
sg p1	<i>anāku</i>	<i>ʔānīlʔānoxī</i>	<i>ʔenā</i>	<i>ʔana(:)</i>	<i>hō</i>	<i>ana</i>	<i>əne</i>
sg p2 m	<i>atta</i>	<i>ʔattā</i>	<i>ʔatt</i>	<i>ʔanta</i>	<i>hēt</i>	<i>antä</i>	<i>antä</i>
sg p2 f	<i>atti</i>	<i>ʔatt</i>	<i>ʔatt</i>	<i>ʔanti</i>	<i>hēt</i>	<i>anti</i>	<i>ančī</i>
sg p3 m	<i>šū</i>	<i>hu</i>	<i>hu</i>	<i>huwa</i>	<i>hē</i>	<i>wəʔətu</i>	<i>əssu / ərsu</i>
sg p3 f	<i>šī</i>	<i>hi</i>	<i>hi</i>	<i>hiya</i>	<i>sē</i>	<i>yəʔəti</i>	<i>əsswa / ərswa</i>
du p1						<i>əkay</i>	
du p2 m				<i>ʔantumā</i>	<i>ətay</i>		
du p2 f				<i>ʔantumā</i>	<i>ətay</i>		
du p3 m				<i>humā</i>	<i>(hay)</i>		
du p3 f				<i>humā</i>	<i>(hay)</i>		
pl p1	<i>nīnū</i>	<i>ʔānāhnu</i>	<i>naḥnan</i> ~ <i>ḥnan</i>	<i>naḥnu</i>	<i>nḥā</i>	<i>nəḥnä</i>	<i>əḥña</i>
pl p2 m	<i>attunu</i>	<i>ʔattém</i>	<i>ʔatton</i>	<i>ʔantum(u)</i>	<i>ətēm</i>	<i>antəmy</i>	<i>ənnantä</i>
pl p2 f	<i>attina</i>	<i>ʔattén(nā)</i>	<i>ʔattēn</i>	<i>ʔantunna</i>	<i>ətēn</i>	<i>antən</i>	
pl p3 m	<i>šunu</i>	<i>hém(mā)</i>	<i>hennon</i>	<i>hum(u)</i>	<i>hēm</i>	<i>əmntu</i>	<i>ənnəssu / ənnərsu</i>
pl p3 f	<i>šina</i>	<i>hénā</i>	<i>hennēn</i>	<i>hunna</i>	<i>sēn</i>	<i>əmantu</i>	

Geez *bet-yä* ‘my house’ vs *rəʔyā-ni* ‘he saw me’, as opposed to *bet-kä* ‘your house’ vs *rəʔyā-kä* ‘he saw you’).

Only Mehri, which develops other minor differences between the object and possessive suffix, fails to show the characteristic 1 sg obj *-n-*.

A verb in Arabic can take two object suffixes: *isqi-ni:-ha:* ‘cause me to drink it’, *yuri:-kumu:-hum* ‘he shows them to you’, *ʔaʔlamtu-ka-hu* ‘I told you it’. In colloquial Arabic, a verb, including a participle, can be suffixed with an indirect object marker, consisting of *-l-* (an enclitic form of the preposition meaning ‘to’) and a pronominal suffix, as in Syrian *fatāḥlak* ‘he opened for you’, *ʔa:ləto* ‘she said to him’, *biʔrəʔfli* ‘you know for me’, *məʔtaʔtəʔkon* ‘(fem.sg) has been yearning for you’, *xa:ʔəʔflak* ‘afraid for you’; the stress pattern shows that each of these is a single word. In some dialects (North African, from Egypt to Morocco, as well as Maltese), a verb may have both a direct and an indirect object suffix. Some examples from Cairo Arabic are: *katabhū:lu* ‘he wrote it to him’, *ḥakuhā:li* ‘they told it to me’. The negative circumfix *ma-...š*, as well as the stress pattern, show that these are single words: *makatabhulū:š* ‘he did not write it to him’, *matwarruhālū:š* ‘(you pl.) do not show it to him’. Similarly, Maltese has: *kitbuhielha* ‘they wrote it to her’, *indentjahieli* ‘he dented it for me’, *tibghathomlna* ‘you will send them to us’, and with the negative marker *š* (written *-x* in Maltese orthography), *ma sraqnihilhiex* (*ma sraq-ni-hi-l-hie-x*) ‘we did not steal it from (‘to’) her’. Similarly, in Neo-Aramaic, verbs can take indirect object suffixes: *qamyawənnu:lux* (*qam-yaw-ən-lu-lux* past-give-1masc.sg-3pl-2masc.sg) ‘I gave them to you’.

Table 4.23 Possessive/object personal suffixes.

	Akk	Heb	Syr	Arb	Meh(N)	Meh(V)	Geez	Amh
sg p1	-ī / ya ~ (a)nni	-ī ~ -ni	-ø / -y ~ -ni	-ī / -iya ~ -ni	-i	-āy / -ōy	-yā ~ -ni	-e ~ -ñ
sg p2	-ka	-(E)xā	-āk	-ka	-(ə)k	-āk	-kā	-h
sg p2	-ki	-ex	-ek	-ki	-(ə)s	-āyās	-ki	-s
sg p3	-šu	-o / -hu	-eh	-hu / -hi	-(ə)h	-īh	-hu	-u
sg p3	-ša ~ šī	-āh / -Ehā	-āh	-hā	-(ə)s	-īs	-ha	-wa
du p1					-(ə)ki	-ōki		
du p2				-kumā	-(ə)ki	-ōki		
du p2				-kumā	-(ə)ki	-ōki		
du p3				-humā / -himā	-(ə)hi	-ōhi		
du p3				-humā / -himā	-(ə)hi	-ōhi		
pl p1	-ni	-(e)nu / -ānu	-an	-nā	-(ə)n	-īn	-nā	-aččən
pl p2	-kumu	-xəm	-kon	-kam(u)	-(ə)kəm	-īkəm	-kəmu	-aččəhu
pl p2	-kina	-xən	-kēn	-kanna	-(ə)kən	-īkən	-kən	
pl p3	-šumu	-həm / -ām(o)	-hon	-hum(u) / -hin(u)	-(ə)həm	-īhəm	-homu	-aččəw
pl p3	-šina	-hən, -ān	-hēn	-hanna / -hinna	-(ə)hən	-īhən	-hon	

Table 4.24. *Semitic pronominals.*

gloss	Akk	Hebrew	Syriac	Arabic	Geez	Amharic
'this'	<i>annūm</i> (m)	<i>zē</i> (m)	<i>ha:n(a):</i> (m)	<i>ha:ða:</i> (msg)	<i>zə- / zəntu</i> (msg)	<i>yəhi/-zzih</i> (m)
	<i>annūtum</i> (f)	<i>zəb</i> (f)	<i>ha:ð(e):</i> (f)	<i>ha:ðihī</i> (fsg)	<i>za- / zati</i> (fsg)	<i>yəhəčč</i> (f)
	<i>annūtum</i> (mpl)	<i>ʔēlle</i> (pl)	<i>ha:le:n</i> (pl)	<i>ha:ða:nī</i> (mdu)	<i>əllu / əllontu</i> (mpl)	<i>ənnā:zih</i> (pl)
	<i>annūtūum</i> (fpl)			<i>ha:ta:ni</i> (fdu)	<i>əlla / əllantu</i> (fpl)	
'that'	<i>šū</i> (msg)	<i>hahū</i> (m)	<i>ha:w</i> (m)	<i>ha:ʔula:ʔ</i> (pl)		<i>yə</i> (m)
	<i>šī</i> (fsg)	<i>hahī</i> (f)	<i>hary</i> (f)	<i>ða:zlika</i> (msg)	<i>zək(t)u</i> (m)	<i>yəčč</i> (f)
	<i>šunu</i> (mpl)	<i>hāhem</i>	<i>ha:nom</i> (mpl)	<i>tilka</i> (fsg)	<i>əntəku</i> (f)	
	<i>šina</i> (fpl)	<i>hāhen</i>	<i>ha:ne:n</i> (fpl)	<i>ða:nnika</i> (mdu)	<i>əlləku</i> (pl)	<i>ənnā:zziya</i> (pl)
'who'	<i>mannum</i>	<i>mi</i>	<i>man</i>	<i>man</i>	<i>mānmu</i>	<i>man</i>
	<i>mānum</i>	<i>ma</i>	<i>ma:n(a):</i>	<i>ma:(ða:)</i>	<i>mənt</i>	<i>mən</i>
'which'	<i>ayyumi</i>	<i>ʔeze</i> (m)]	<i>ʔajna:</i> (m)	<i>ʔayy-</i> (m)	<i>äyy</i>	<i>yät(u)</i>
		<i>ʔezo</i> (f)	<i>ʔayda:</i> (f)	<i>ʔayyat-</i> (f)		
		<i>ʔelu</i> (pl)	<i>ʔayle:n</i> (pl)			
Rel	<i>ša</i>	<i>ʔäšér,</i>	<i>d-</i>	<i>allaði:</i> (msg)	<i>zä-</i>	<i>yä-</i>
		<i>šəC-</i>		<i>allati:</i> (fsg)		<i>yāmmə-</i>
				<i>allaða:ni</i> (mdu)		
				<i>allatani</i> (fdu)		
				<i>allaði:na</i> (pl)		

4.8.3 Demonstrative, interrogative, relative

The same basic uniformity can be seen across the family in the expression of the demonstrative, interrogative, and relative functions. In table 4.24, the major gender and number distinctions are given, but not the marginal case distinction (between nominative and oblique) which is expressed in the Arabic dual via infixation of *-y-* (e.g., ‘this’ *ha:ðami* / *ha:ðayni*, mdu nominative/oblique). The opposition ‘who’ ~ ‘what’ seems to have originally been carried by the vocalic opposition *-a- ~ -i-* (levelled in Arabic and Aramaic, and reversed in Hebrew; ‘which’ is basically *ay-*). Both the demonstratives and the relative are built around a pronominal element *ð-*, which shows up (with various augments) as *š-* in Akkadian, as *d-*, *z-*, respectively, in Aramaic and Hebrew, and *z-* in ES (> *y-* in some Amharic contexts). The Akkadian ‘this’ is from a different deictic source, and a special development has taken place in the Hebrew relative.

4.8.4 Article

Semitic has no common inherited morphological or syntactic way to encode definiteness, although that may once have been a function of mimation/nunation (see under ‘Nominal morphology’, above). However, individual languages have independently developed clitics or redefined affixes to encode this function.

Definiteness is marked in Arabic and Hebrew with prefixes and in Aramaic with a suffix. The Arabic prefix is *al-*, with the *l* assimilating to a coronal (dental, alveolar, or post-alveolar) consonant: *al-bayt-* ‘the house’, *aṭ-ṭayr-* ‘the bird’, *aθ-θalṭ-* ‘the snow’, *aš-šams* ‘the sun’. In Hebrew the prefix is *haC-*, that is, *ha-* followed by a copy of the next consonant: (*hab-báyit* ‘the house’). The Aramaic suffix is *-a:*, as in *mark-a:* ‘the king’. In Eastern Aramaic, including Syriac, the suffix no longer marks definiteness (see the description in section 4.6.5, ‘State’).

Perhaps related to one of the definite article forms in Central Semitic, Mehri (similarly other MSA languages) has a prefixed article: *a-* (*bayt* ‘house’, def. *abayt*) ~ *h(ə)* (*brūt* ‘daughter’, def. *həbrūt*) ~ *h(ə)* (*bēr* ‘camels’, def. *həbēr*). The conditioning factor for the three forms is unclear, and in some cases seems to be lexical (Rubin 2010: 68–73; note the *h/ħ* form of the article incorporated in the nouns *hayb* ‘father’, *hām* ‘mother’, *həbrē* ‘son’). Ethiopian Semitic has developed several ways of encoding definiteness, one of which is a form homophonous with that of the noun suffixed with 3sg possessive, cf. Gz and Amh. *bet* ‘house’ ~ *bet-u* ‘his house’ or ‘the house’.

4.8.5 Numerals

The numeral series shows the expected lexical conservatism. Only Geez has replaced the common Semitic ‘two’ by a lexical item *kilʔ- ~ kalʔ* ‘both’ (MES has also largely replaced the numeral ‘nine’, cf. Amharic *zätäññ*).

Table 4.25 *Semitic numerals.*

num	Akkadian ('absolute')		Arabic		Geez	
	m	f	m	f	m	f
'1'	<i>ištēn</i>	<i>išēt</i>	<i>wa:hid-</i>	<i>wa:ḥida(t-)</i>	<i>aḥādu</i>	<i>aḥāti</i>
'2'	<i>šinā</i>	<i>šittā</i>	<i>iθna:ni</i> (nom) <i>iθnayni</i> (obl)	<i>iθnata:ni</i> (nom) <i>iθnatayni</i> (obl)	<i>kəlʔetu</i>	<i>kəlʔeti</i>
'3'	<i>šalāšat</i>	<i>šalāš</i>	<i>θala:θa(t-)</i>	<i>θalaθ-</i>	<i>šälāstu</i>	<i>šālas</i>
'4'	<i>erbet(ti)</i>	<i>erbe</i> / <i>erba</i>	<i>ʔarbaʕa(t-)</i>	<i>ʔarbaʕ-</i>	<i>arbaʕtu</i>	<i>arbaʕ</i>
'5'	<i>xamšat</i>	<i>xamiš</i>	<i>xamsa(t-)</i>	<i>xams-</i>	<i>xāməstu</i>	<i>xāms</i>
'6'	<i>šeššet</i>	<i>šediš</i> (?)	<i>sitta(t-)</i>	<i>sitt-</i>	<i>sədəstu</i>	<i>səssu</i>
'7'	<i>sebet(ti)</i>	<i>sebe</i>	<i>sabʕa(t-)</i>	<i>sabʕ-</i>	<i>sābʕatu</i>	<i>sābʕu</i>
'8'	<i>samānat</i>	<i>samāne</i>	<i>θama:niya(t-)</i>	<i>θama:niy-</i>	<i>sāmantu</i>	<i>sāmāni</i>
'9'	<i>tišīt</i>	<i>tiše</i>	<i>tisʕa(t-)</i>	<i>tisʕ-</i>	<i>təsʕatu</i>	<i>təsʕu</i>
'10'	<i>eš(e)ret</i>	<i>ešer</i>	<i>ʕašara(t-)</i>	<i>ʕašr-</i>	<i>ʕäšärtu</i>	<i>ʕäšru</i>
'20'	<i>ešrā</i>		<i>ʕišru:na</i> (nom) / <i>ʕišri:na</i> (obl)		<i>ʕəšra</i>	
'30'	<i>šalāšā</i>		<i>θala:θu:na</i> (nom) / <i>θala:θi:na</i> (obl)		<i>šālasa</i>	
'100'	<i>meat</i>		<i>miʔa(t-)</i>		<i>məʔt</i>	
'1,000'	<i>līm(i)</i>		<i>ʔalf-</i>		<i>ʕäšärtu</i> <i>məʔt</i>	

However, the most striking aspect of the morphology of numerals in Semitic is the 'polarity switch' in gender marking. Uniformly, the masculine numerals from '3' to '10' show the *-(a)t-* formative that would ordinarily be expected in feminine nouns, while the corresponding feminine numerals show the zero marking characteristic of the masculine. This is to be correlated with the special syntactic behaviour of numerals, to be taken up below in section 4.10.3.

4.9 Prepositions

Apart from MES, the Semitic languages use prepositions for the expression of dimensional and 'oblique' relationships, even in the case of Akkadian, whose basic word order, as we shall see below, is SOV. Only in MES, which is uniformly strict SOV, is there movement in the direction of 'harmonic' postpositions. This is only partially so in Amharic, which remains mainly prepositional, with an ambifix for 'on', and an optional ambifix for 'in'. Harari, however, is unique in having a wholesale transformation of inherited Semitic prepositions to postpositions.

Table 4.26, which gives the most frequent equivalences for some of the most frequent prepositions, shows a general uniformity across Hebrew, Syriac, Arabic, MSA, and ES, with development of new forms for 'for' in Hebrew and Syriac, and bisyllabic forms of 'on', 'to' and 'with' in Geez; also with a surprising *f-* showing up in Arabic

Table 4.26 *Prepositions in Semitic.*

	Akk	Heb	Syriac	Arabic	Mehri	Geez	Amh	Harari
‘in’	<i>ina</i>	<i>b-</i>	<i>b</i>	<i>ft:</i>	<i>b-</i>	<i>bā</i>	<i>bā- ~ (ə/bā) . . . wəst</i>	<i>-be</i>
‘on’	<i>eli</i>	<i>ʕal</i>	<i>ʕal</i>	<i>ʕala:</i>	<i>θār</i>	<i>dibā</i>	<i>(ə/bā) . . . lay</i>	<i>-la’ ay-be</i>
‘for’	<i>ana</i>	<i>lmáʕan</i>	<i>meʔto:l</i>	<i>li-</i>	<i>h-, l-</i>	<i>lä-</i>	<i>lä-</i>	<i>-la</i>
‘to’		<i>l-</i>	<i>l-</i>			<i>xābā</i>	<i>wādā</i>	<i>-de</i>
‘from’	<i>ištu</i>	<i>min</i>	<i>men</i>	<i>min</i>	<i>mən</i>	<i>əm</i>	<i>kä-</i>	<i>-be</i>
‘with’	<i>itti</i>	<i>ʕim, ʔeθ</i>	<i>ʕam</i>	<i>maʕa</i>	<i>k-</i>	<i>məslä</i>	<i>kä- . . . gar</i>	<i>-bah</i>

Table 4.27 *Prepositions with pronominal suffixes in Arabic.*

			<i>li-</i> ‘to’	<i>bi-</i> ‘in, at’	<i>ʕala:</i> ‘on’	<i>maʕa</i> ‘with’	<i>min</i> ‘from’
sg	p1		<i>li:</i>	<i>bi:</i>	<i>ʕalayya</i>	<i>maʕi:</i>	<i>minni:</i>
sg	p2	m	<i>laka</i>	<i>bika</i>	<i>ʕalayka</i>	<i>maʕaka</i>	<i>minka</i>
sg	p2	f	<i>laki</i>	<i>biki</i>	<i>ʕalayki</i>	<i>maʕaki</i>	<i>minki</i>
sg	p3	m	<i>lahu:</i>	<i>bihi:</i>	<i>ʕalayhi</i>	<i>maʕahu:</i>	<i>minhu</i>
sg	p3	f	<i>lahā</i>	<i>bihā</i>	<i>ʕalayhā</i>	<i>maʕahā</i>	<i>minhā</i>
du	p2	m/f	<i>lakumā</i>	<i>bikumā</i>	<i>ʕalaykumā</i>	<i>maʕakumā</i>	<i>minkumā</i>
du	p3	m/f	<i>lahumā</i>	<i>bihimā</i>	<i>ʕalayhimā</i>	<i>maʕahumā</i>	<i>minhumā</i>
pl	p1		<i>lanā</i>	<i>binā</i>	<i>ʕalaynā</i>	<i>maʕanā</i>	<i>minnā</i>
pl	p2	m	<i>lakum</i>	<i>bikum</i>	<i>ʕalaykum</i>	<i>maʕakum</i>	<i>minkum</i>
pl	p2	f	<i>lakunna</i>	<i>bikunna</i>	<i>ʕalaykunna</i>	<i>maʕakunna</i>	<i>minkunna</i>
pl	p3	m	<i>lahum</i>	<i>bihim</i>	<i>ʕalayhim</i>	<i>maʕahum</i>	<i>minhum</i>
pl	p3	f	<i>lahunna</i>	<i>bihinna</i>	<i>ʕalayhinna</i>	<i>maʕahunna</i>	<i>minhunna</i>

‘in’. The agreement between Mehri and Amharic ‘with’ (also Amharic ‘from’?) is suggestive. Probably the most surprising item of data in this table is the complete independence of Akkadian from the rest of Semitic in the core prepositions – is this due to Akkadian archaism and common West Semitic innovation, or vice versa? (Note also the conceivable, but problematic, relation between West Semitic *b-* and Egyptian *m’* ‘in’ (perhaps with Akkadian *ina* as a different resolution of an inherited Afroasiatic preposition – see Testen (1998)).

The pronominal object of a preposition takes the form of a suffix (e.g. *min* ‘from’, *minka* ‘from you’). The Arabic forms in table 4.27 are typical of the Semitic languages.

4.10 NP syntax

With the exception of one group, default NP structure is quite uniform across Semitic, with the head N coming first, preceded at most by a proclitic article (see section 4.8.4) and in some languages a demonstrative or numeral, and followed by possessive, adjectival,

and relative-clause modifiers. This holds even in Akkadian, where the basic sentence SOV structure might lead one to expect the ‘harmonic’ N-final NP structure. This latter structure does in fact occur in the Modern Ethiopian Semitic languages, which are uniformly SOV in sentence structure. In the sections that follow we will consider each of the non-sentential (for the relative see below, 12.4.1) NP constituents.

4.10.1 Possessive construction

Semitic approaches possessive modification of nouns in two ways: (1) by a quasi-morphologized, so-called ‘construct-state’ construction (already referred to in section 4.6.5); (2) by more syntactically explicit structures, frequently involving particles or pronominal elements, here globally referred to simply as ‘non-construct’. In those languages in which the construct state is a shortened form of the basic noun, most clearly in Akkadian, the construct state of a noun is formed by phonological reduction, affecting the final (usually case-marking) vowel of the first noun in a two-noun N + Case – N + Gen construction, presumably where phonological prominence is given to the second noun, while the second element can consist of a full noun phrase, which may itself contain determiners, adjectives, relative clauses, etc. In Hebrew the phonological reduction of the noun in the construct state is internal to the stem. (Often, as we will have occasion to note later on, the phonological reduction in the construct is the same as, or nearly the same as, the phonological reduction before the possessive suffix.) Whereas in some languages (such as Akkadian), the formation of the construct state remains on the level of phrase-level phonology, in other languages we see different degrees of morphologization (cf. Nichols (1986) on ‘head-marking constructions’), ranging from incipient (Hebrew, Arabic) up to full (Geez). By definition this construction only occurs in N-initial NP, and is incompatible with languages (Modern Ethiopian Semitic) in which the possessive modifier must precede the head noun.

Languages differ with respect to the form of the construct state and have their own non-construct versions of the possessive. In the following, for each of the major branches we will provide an example of each construction.

- *Akkadian* For the OB construct, mimation and case marking are dropped on the first noun, except in the masc. pl. and the dual, thus: ***bēlum/am/im + mātīm > bēl mātīm* ‘the lord(nom,acc,gen) of the land’, ***šarrātum/im + mātīm > šarrāt mātīm* ‘the queens(nom, acc-gen) of the land’; but *bēlū mātīm* ‘the lords(nom) of the land’, *ana bēlī mātīm* ‘to the lords(acc-gen) of the land’, *uznā bēlim* ‘the (two) ears(nom) of the lord’. If the dropping of the case vowel leaves the first noun ending in a consonant cluster, one of three basic strategies is called upon. There is considerable

complexity in the criteria for choosing the strategy, and variation according to locality and period (H55–63 gives a very useful overview for OB). The three strategies are: (1) epenthesis before final consonant (***bēltum/am/im mātim* > *bēlet mātim*); (2) suffixation of epenthetic *-i* (***napišum/am/im mātim* > *napišti mātim* ‘the life of the land’); (3) simplification of final geminate (***šarrum/am/im mātim* > *šar mātim* ‘the king of the country’ – *šarri mātim* is also sometimes possible). For a non-construct alternative the construction N ša N is always possible: *bēlum ša mātim*, *napištam ša mātim*, *šarrum ša mātim*, etc.

- *Hebrew Nouns* are reduced in the construct state if reduction is phonologically possible (*dāvār* ‘word’, const. *dvar*; *báyiθ* ‘house’, const. *beθ*; *šemóθ* ‘names’, const. *šmoθ*). In addition, feminine nouns ending in *-ā* change the ending to *-aθ* (*nḏāvā* ‘generosity’, const. *niḏvāθ* < **nḏvaθ*), and plurals ending in *-im* change the ending to *-e* (*bānīm* ‘sons’, const. *bne*). There are many special cases and irregularly formed construct states, and for many words there is no overt change to mark the construct state. In a construct phrase, the head (the first noun, the one in the construct state) may not have the definite prefix, and if the second noun is definite it applies semantically to the whole: *béθ ham-mélex* ‘house [of] the king: the king’s house’. A noun with a possessive suffix has essentially the same syntactic structure as a construct phrase, with the noun stem functioning as the head and the suffix as the second element; that is why a noun with a possessive suffix may not take the definite article (*beθxá* ‘your house’, not **hab-beθxá*). If the second noun in a construct phrase has a possessive suffix, it is definite and so is the whole phrase: *kissé malxuθ-ó* ‘chair kingdom-his: his throne’. Construct phrases may be embedded (or ‘chained’): *ḥāšár ginnáθ biḥán hammélex* ‘the courtyard of the garden of the pavilion of the king’. But nothing may intervene between the head and the second noun. Therefore an adjective or relative clause that modifies the head must be placed at the end of the whole phrase: *ḥattéret zāháv gḏolá* ‘crown(fem) gold(masc) large(fem) : a large gold crown’, *ḥiggéret hap-purím haz-zóθ haš-šeníθ* ‘letter the-Purim the-this the-second: this second letter of the Purim festival’, Israeli Hebrew *megilót ha-kát ha-atiká še avdú* ‘scrolls the-sect(fem) the-ancient(fem.sg) that were.lost : the scrolls of the ancient sect that were lost’. The second term of the construct phrase, however, may consist of a noun-phrase structure of any complexity, so, for example, the two nouns may be followed by two adjectives, each modifying one of the nouns, in the reverse order: Israeli Hebrew *masá hasatá adatít akšaní* ‘campaign(masc) incitement(fem) communal(fem) persistent(masc): a persistent campaign

of communal incitement'. Hebrew has a set of analytical alternatives to the construct phrase, with a word analogous to English *of*. In Biblical Hebrew, the structure is N (*ʔāšer*) l-N (that is, 'N which [is] to-N', e.g. *haš-šón ʔāšer l-ʔāvīhā* 'the flock of her father'); this is particularly useful when the second noun is definite but the whole phrase is not (*mizmór l-ḏāwīḏ* 'a psalm of David'). In modern Hebrew, there are three possibilities: a construct phrase (*bigdēy ha-tinók* 'the clothes of the baby' or 'the baby-clothes'), a 'šel-phrase', N šel N, with šel corresponding to *of* (*ha-bgadīm šel ha-tinók* 'the clothes of the baby'), and a compound of the two, with the first noun suffixed with a possessive suffix agreeing with the second noun, N-poss_i šel N_i (*bgad-āv šel ha-tinók* 'his-clothes of the baby : the baby's clothes'). The functional and semantic differences among these are quite complicated, and vary with register; in colloquial Hebrew, for example, the construct phrase occurs mainly in terms that are semantic units (though not limited to lexicalized compounds).

- *Aramaic*[*Syriac*] The chief formal sign of the construct state is the lack of the determinate suffix *-a*; though in many words this entails changes in syllable structure; the determinate plural suffix *-e* is replaced by *-ay*. The syntactic patterns in Aramaic are quite similar to those in Hebrew, with the Syriac all-purpose linker *d(a)*- (relativizer, complementizer, possessive marker) serving as the *of*-equivalent. Syriac has the same three structures as modern Hebrew, and, as in colloquial Hebrew, the simple construct phrase is most common in semantic units: *qa:l zmi:ra:θa:* 'the sound of songs', *malka: d-va:vel* 'the king of Babylon', *ʔala:h-ho:n da-xristya:ne:* 'the(ir) God of the Christians'.
- *Arabic* In Classical Arabic, the chief morphological sign of the construct phrase is the genitive case marking of the second noun. Other signs are applicable only in limited morphological, lexical, or semantic environments: the head noun may not take the definite article nor the *-n* or *-na* / *-ni* suffix, and two types of nouns have special construct state forms (plurals suffixed with *-una* / *-ina* and four or five nouns like *ʔab-* 'father'). Unlike Akkadian, the first noun does not lose its case-marking suffix. Thus, 'a library of a university' is *maktabat-u/ali ʔa:miʕat-i-n* (library-NOM/ACC/GEN university-GEN-ABSOLUTE, with the case of the first noun determined by the syntactic environment), and 'the university library' is *maktabat-u/ali al-ʔa:miʕat-i*. In modern vernacular Arabic, nouns generally resemble their Classical Arabic pausal form, i.e. *maktaba*, *ʔa:miʕa*, but the first word in a construct phrase retains the *-t-* of the (mostly feminine) suffix *-at-*, so the corresponding phrases in Syrian colloquial Arabic are

maktabet ža:mŷa, *maktabet əl-ža:mŷa*. Most syntactic properties remain the same, especially the fact that nothing may intervene between the two nouns, so an adjective agreeing with the first noun must follow the second. Thus the syntactic properties remain similar, while morphologically the construct phrase in Classical Arabic is marked chiefly on the second element, with genitive case, while in vernacular Arabic it is marked, if at all, on the head, by the *-t-* suffix. Here the morphological signs of the construct phrase are underlined:

Isolated noun ('the library') **Construct phrase** ('the university library')

al-maktab-at-u/al-i
əl-maktab-e

maktab-at-u/al-i al-ža:miŷat-i
maktab-et əl-ža:mŷa

Vernacular Arabic, in the head-marking character of the construct phrase, strikingly resembles Hebrew and Aramaic, as opposed to Classical Arabic.

Another way of forming possessive phrases in Classical Arabic is with the preposition *li-* 'to' as the analogue of the English *of* (*maktabatun li-(a)l-ža:miŷati* 'a library of the university') when it is needed because the second noun is definite and the first is indefinite. In modern vernacular Arabic, *of-* analogues are quite frequent (Cairene *bita:ŷ*, Syrian *tabaŷ*, Iraqi *ma:l*, Moroccan *dya:l*, Arabian *hagg*, etc.). In Egyptian Arabic (and sometimes elsewhere), this word agrees in gender and number with the head noun (masc. *bita:ŷ*, fem. *bita:ŷit*, pl. *bitu:ŷ*). The syntactic freedom of these structures is much greater than that of the construct phrase; for example, Syrian *tabaŷ mi:n hal-ktab* 'of who this-book : whose is this book?' or *hayy tabaŷna* 'this of-us : this is ours' have no direct equivalent construct phrase.

- *Mehri* In Mehri the construct has largely disappeared except for with a handful of head nouns: *bər*, *bərt* 'son-of, daughter-of', *bət* 'house[=clan]-of', *bāl* 'owner-of', etc. In all other cases, the possessive construction is expressed as $N_1 \delta\alpha N_2$. Thus one can have either *bərt hōkəm* or (*hə*)*brīt δə hōkəm* for '(the) daughter of the ruler', but only *xā δ-abayt* for 'door of the house'.
- *Geez* In Geez, as mentioned, disappearance of final *-u*, *-i* has reduced the case system to a single marked case, the accusative with *-ä*: *bet* 'house (unmarked)' vs *bet-ä* 'house (accusative)'. In a complete morphologization of the construct construction, this case marker has been taken over as the marker of the head noun in the N_1 -of- N_2 construction: N_1 -*ä* N_2 , as in *bet-ä nəguś* 'house of (the) king'. The possessive construction can

also be expressed using the relative-possessive clitic *zä-*: N_1 *zä-N_2* – *bet zä-nəguś* ‘house of (the) king’. Finally, especially where it is important to express the definiteness of the head noun, there is a construction N_1 -PossSuff *lä-N_2* as in *bet-u lä-nəguś* ‘the house of the king (lit. “his-house to-the-king”)’.

- *Amharic* The construct exists in Amharic only in learned and religious borrowings from Geez, such as *bet-ä kristiyan* ‘church (lit. “house-of-Christians”)’. Otherwise the possessor noun is marked by the proclitic *yä-*, and precedes the possessed: N_1 -of- N_2 is expressed as *yä-N_2 N_1*, *yä-nəguś bet* ‘house of the king’. Akin to this construction are quasi-compounds without the marker *yä-*, such as *buna bet* ‘café (lit. “coffee house”)’, *ṭəməḥərt bet* ‘school (lit. “learning house”)’.

4.10.2 Adjectival modification

In general, the order of adjectival modifier and noun is the same as possessive-modifier and noun.

- *Akkadian* The adjective follows the noun, and agrees with it in gender, case, and number – except that adjectives do not have a dual form, and appear in the plural when modifying a dual noun: *šarratam tābtam* ‘the good queen (acc)’, *šarrī dannūtīm* ‘the mighty kings (acc-gen)’, *qātān dannātum* ‘two mighty hands’. Cf. above 6.4 and table 4.11.
- *Hebrew* The adjective follows the noun and agrees with it in gender, number, and definiteness: *zŕāq-ā ŷḏol-ā u-mār-ā* ‘a great and bitter cry’, *beš-īm ŷāzuv-ōθ* ‘forsaken eggs’ (*bešā* ‘egg’ is feminine, though it has the *-im* plural suffix), *hab-bāyit haq-gāḏōl* ‘the great house’.
- *Aramaic (Syriac)* The adjective follows the noun and agrees with it in gender and number (*malka:θa: ṭa:va:θa:* ‘good queens’). Agreement in state is not so rigid. Nouns and their attributive adjectives are normally in the determinate state, which is functionally the unmarked state. A noun in the absolute state may be accompanied by an adjective in the absolute state (*zavni:n saggi:ʔa:n* ‘many times’) or in the determinate state (*tarte:m nešši:n i:ḏi:ʕa:θa:* ‘two known women’), and the opposite is also possible, a determinate noun with an absolute adjective. A predicate adjective is regularly in the absolute state: *mayya: gni:ve: ḥle:m* ‘water(dtrm) stolen(dtrm) sweet(abs) : stolen water is sweet’.
- *Arabic* An attributive adjective follows the noun and agrees with it in gender, number, and definiteness (*al-bint-u al-kabir-at-u* ‘the big girl’),

with one noteworthy feature that pervades the agreement patterns of the language: a non-human plural may be treated as feminine singular. In Modern Standard Arabic, as in some periods of Classical Arabic, this is obligatory, feminine singular agreement being ungrammatical: *buyu:tun kabi:raturun* ‘houses(masc) big(fem.sg)’, **buyu:tun kiba:run* ‘houses big(masc.pl)’. In modern vernacular Arabic, as in earlier Classical Arabic, both patterns are possible, with a semantic difference: feminine singular agreement for generics or collectives, plural agreement for individuated objects. To express a superlative, the structure is formally a construct phrase: the adjective appears before the noun, and the noun is in the genitive case; this is a usual construction with ‘elatives’ (the comparative/superlative of the form – masc *ʔaCCaC-*, fem *CuCCa:*), as in *kubra: al-muduni* ‘the biggest(fem.sg) of the cities(fem.pl)’, *kubra: šarikaati attaʔmiini* ‘the biggest of the insurance companies’. The adjective often does not show agreement with the noun: *ʔafḍalu imraʔatin* ‘the best(masc) woman’, *ʔaqša: hurriyyatin mumkinatin* ‘the most extreme(masc) possible freedom(fem)’, *ʔaqša: alʔuhu:di* ‘the utmost(masc.sg) of efforts’. Not only elatives but also ordinal numerals and some other adjectives can appear before a noun, with superlative sense, likewise with no agreement: *θa:ni:jawmin* ‘the second day’, *xayru mumaθθilin* ‘the best representative’, *šarru xaşlatayni* ‘the worst two qualities’. Examples of positive adjectives with superlative meaning in this construction are *şalıhu al-ʔaxla:qi* ‘good(masc.sg) the-manners(pl) : the best of manners’, *kabi:ru kutta:bi al-ʔima:ra:ti* ‘the greatest of the writers of the Emirates’. Elative adjectives in other constructions may be marked as definite, showing normal agreement (*al-kumbiyu:tara:tu ad-daftariyyatu al-ʔaʔla: ʔada:ʔan* ‘the notebook computers the highest [with respect to] performance : the notebook with the highest performance’). An adjective that is the first element in a construct phrase may be marked definite in agreement with the head noun, unlike in nominal constructs (*ad-dawa:ʔu al-ba:hiḏu at-taka:li:fi* ‘the-medicine(nom) the-outrageous(nom) the-expenses(gen) : the outrageously expensive medicine’).

- *Mehri* The adjective follows the noun, and agrees with it in gender and number – except that adjectives do not have a dual form, and appear in the plural when modifying a dual noun. See above, 6.7 and table 4.13 (for examples, see Rubin (2010b: 77f.)).
- *Geez* The adjective usually, but not always, follows the noun, and agrees with it in gender, case (acc. only!), and number. Gender is consistently distinguished for animate nouns, but there is a tendency toward a ‘natural’

gender system, whereby inanimates concord as unmarked (hence, masculine); a certain amount of fluctuation can be seen in the biblical texts: cf. Mk 4:8, where *sānay* (m) / *sānayt* (f) ‘good’ occur as textual variants modifying *mādr* ‘earth’. For word order, note also the variation in a single manuscript *mādr sānay* (Mk 4:13) and *sānay mādr* (Mk 4:20) for ‘good earth’ (in the Zuurmond 1989 edition of Mark for the Novum Testamentum Aethiopicum).

- *Amharic* The adjective always precedes the noun (and any possessive modifier): *təlləq* (*yä-nəguś*) *bet* ‘a big house (of the king)’. Agreement is complex, and depends on the definiteness of the NP (see discussion in Leslau (1995: 208–13, with table on p. 214)). Briefly, definiteness is always marked on the adjective, if present: *bet-u* ‘the house’, *təlləq-u bet* ‘the big house’. If the NP is indefinite, the direct object marker *-n* occurs only on the noun; the plural marker occurs on the noun, but may optionally appear on the adjective also: *təlləq bet-n* ‘a big house’, *təlləq/təlləq(-očč)* *bet-očč* ‘big houses’. In definite NPs, case is marked only on the adjective, and number must be marked on the adjective as well as the noun: *təlləq-u-n bet* ‘the big house (dir. obj.)’, *təlləq-očč-u(-n) bet-očč* ‘the big houses (dir. obj)’.

4.10.3 Syntax of numeric expressions

In many Semitic languages the syntax of numeric expressions does not follow the same rules as ordinary nominal or demonstrative modification. A peculiarity common to all Semitic languages which morphologically distinguish gender in the numeral is that for the numerals ‘3’–‘10’, the form that goes with masculine nouns is morphologically feminine, and the form with feminine nouns is morphologically masculine – see table 4.25. Note that even in Amharic, which has only one form for all numerals after ‘1’, the form which is retained for numerals ‘2’–‘8’ is recognizably feminine. This inverse (‘chiastic’) agreement pattern is often cited as one of the clear examples of Semitic polarity (‘polarity switch’ in this case).

- *Akkadian* The numeral usually precedes the noun and is in a caseless construct-like ‘absolute’ state; the plural, not the dual, is normally used with ‘2’, otherwise the noun has the number and case required by the syntactic context: *xamšat alpī* ‘five oxen’. In the less common cases where the numeral follows the noun, the numeral is in the unmarked state and has the context-appropriate case: *šadī sebettam* ‘seven mountains (acc)’.
- *Hebrew* The numeral ‘one’ is syntactically an adjective, following the noun, and agreeing in gender, definiteness, and number (in the plural it

means ‘several’). The other numerals normally appear before the noun, and the numerals from ‘3’ to ‘10’ take what appears to be reversed gender: *šlošá ʔānāšīm* ‘three men(masc)’. The numeral ‘2’ is in the construct state (*šne ʔānāšīm* ‘two men’), and ‘3’ to ‘10’ may also be in the construct state, especially if the noun is definite (*šlōšēθ hā-ʔānāšīm* ‘the three men’). Occasionally, especially in lists, the numeral follows the noun, agreeing in gender, and in the absolute state. With numerals other than ‘1’, the noun is in the plural, except that following numbers higher than ‘10’ a few frequently counted nouns are often in the singular (*ʔaḥáð ʕāsār yom* ‘eleven days’). The same structures are standard in modern Israeli Hebrew, but in casual speech it is as usual (though severely deprecated!) for the numeral not to agree in gender (the feminine form is used), and for the noun to be in the singular even with low numbers (*štey šékel* ‘two shekels’, with a feminine numeral and masculine singular noun).

- *Aramaic (Syriac)* The numerals agree with the noun in gender (in the polar fashion, for ‘3’–‘19’), and most often precede the noun, but they may follow. A noun preceded by a numeral may be in the absolute or the determinate state, but a noun followed by a numeral is in the determinate state; with numbers other than ‘1’, the noun is plural.
- *Arabic* The syntax of numeric expressions in Arabic is quite complicated. The number ‘1’ follows the noun, and other numbers usually precede the noun, with the numerals ‘3’–‘19’ agreeing with the noun in gender (in polar fashion). After the numbers ‘3’–‘10’, the noun is in the genitive plural (*xamsatu riǰa:lin* ‘five men’, *xamsu nisa:ʔin* ‘five women’); after ‘11’–‘99’, in the accusative singular (*xamsata ʕašara raǰulan* ‘fifteen men’); and after ‘100’ and higher, in the genitive singular (*xamsu-miʔati raǰulin* ‘500 men’). The numerals (except for the teens, which are invariable) are marked for case, according to their position in the larger syntactic context. The numeral ‘2’ is different: the dual number is productive, and the separate numeral ‘2’ is not normally used instead of the dual morphology. Nouns, adjectives, verbs, and demonstratives show dual morphology: *ha:tani al-muʕallimata:ni al-ǰadi:data:ni wašalata: . . .* ‘these(fem.du) the-teachers(fem.du) the-new(fem.du) arrived(fem.du) . . . : these two new teachers arrived’.

In modern vernacular Arabic, the numeral system is much simpler, as there is no case marking and no agreement in gender. The numerals ‘3’–‘10’ still have two forms, but these are no longer feminine and masculine, but rather are used with a noun or without, respectively: *xams ʔulla:b* ‘five students’, but in answer to ‘how many students?’, *xamse* ‘five’. The dual functions less like a grammatical category and more like a numeral that

happens to take the form of a suffix: only nouns take dual morphology, not adjectives, verbs, or demonstratives, and agreement with a dual noun is generally plural, unlike non-human plurals which take feminine singular agreement: *s-sante:n əl-ʔawwala:niyyi:n* ‘the first two years’.

- *Mehri* The numerals ‘1’ and ‘2’ usually follow the noun, which is usually in the dual with ‘2’; otherwise the numerals ‘3’–‘10’ usually precede the noun. The special forms of ‘3’–‘10’ for enumeration of days (*yūm*) is reminiscent of the Akkadian absolute form of the numeral, and precedes the noun: *šāḇayt məhré* ‘three Mehri men’, *šhəlīḥ sənayn* ‘three years’, *šēləḥ yūm* ‘three days’.
- *Geez* Numerals normally precede the noun, which, after ‘1’, are normally in the singular, but can be in the plural; gender agreement is not always maintained, and in such cases the generalized form is the masculine (i.e. morphological feminine – cf. situation in Amharic): *sədəstu sābʔ* ‘six men’, *səssu ʔanəst* ‘six women’.
- *Amharic* Numerals precede the noun; from ‘2’ on, the noun may be either singular or plural in form, and the verb agrees with the *form* of the noun: *hulätt säw mäṭṭa / hulätt säw-očč mäṭṭu* ‘two men came’. As with the modifying adjective, the numeral normally takes the definite and direct-object marker: *hulätt-u-n säw-očč ayyä-hw-aččäw* ‘I saw the two men’ vs *säw-očč-u-n ayyä-hw-aččäw* ‘I saw the men’.

4.11 Verbal syntax

4.11.1 Expression of tense, mood, subordination, negation

In the morphology section, in order to clarify homologies and correspondences, a unified terminology (not always that of traditional pedagogical and reference grammars for a particular language) was used for a core set of TAM verbal forms which structure verbal morphology ‘in a remarkably uniform fashion across Semitic’: past, present, jussive. In this section we try to be more precise about the actual semantics and syntactic context of these forms, and of the principal additional forms, periphrastic and single-word, elaborated within the various major branches of Semitic.

4.11.1.1 Akkadian

Tense In Akkadian the simple past (‘preterite’) *iprus* ‘he decided’ contrasts both with the present (‘present–future’, ‘durative with time-reference from context’) *iparras* ‘he decides, will decide, is deciding, was deciding’) and with a perfect (‘perfective’, ‘past with focus’, partially homophonous with the *t*-infix reflexive stem) *iptaras* ‘he

has decided'. In addition, all tenses and modes can be suffixed with a dative element *-m* (post-consonantal *-am*, post-*ā/ū* *-nim*) which covers a wide semantic spectrum, but basically gives the verb in question an orientation to, for, or near the speaker: *allik* 'I went' vs *allik-am* 'I came'.

Mood The base modal form, the jussive, suppletes the second person imperative *purus(-ī/ā)* 'decide (fsg/pl)!', with first and third person command forms *lu-prus* 'may I decide', *i niprus* 'may we decide', *li-prus/li-prus-u* 'may he/they decide'. It consists of a stem homophonous with the past, preceded by *li-* 'third person', *lu-* 'first person singular', *i ni-* 'first person plural'. Its main use is as a main clause precativ, but it can also occur in certain subordinate clauses of command or purpose: *špur li-ṭrud-ūni-m* 'command (imperative) that they send-here (ventive)' [H147].

Subordinate The marker for verbs in subordinate clauses is *-u*, suffixed only to verbs with no other inflectional ending (*-ī, -ū, -ā, ot* Ventive): *ša ašpur-u/tašpurī* 'which I/you(fem.sg) decide'.

Negation Main-clause indicative forms are negated by *ul* 'not' placed before the verb: *ul iprus/iparras/iptaras* 'he did/does/will/has not decided'; subordinate clauses by *lā*: *ša lā išpur-u* 'who did not decide'. A negative command ('prohibitive') is formed for all persons by *lā* with the present: *lā taparras/iparras* 'do not decide / he shall not decide'; a negative wish ('vetative') is formed for all persons by *ayy-*(before V)/*ē-*(before C) with the past: *ayy-aprus/ē-taprus* 'may I/you not decide'.

4.11.1.2 Arabic

Tense, Mood, Subordinate, Negation Negation in Arabic is intimately connected with tense and mood. There are several negative particles: *ma*: (as in *ma: kataba* 'he did not write') occurs chiefly with the suffixed past tense and sometimes with nominal predicates; *la*: (*la: yaktubu* 'he does not write') occurs with the present tense and with the jussive to form negative imperatives; *lam* (followed by the jussive) refers to past time (*lam yaktub* 'he did not write'); *lan* (followed by the subjunctive) refers emphatically to the future (*lan yaktuba* 'he will definitely not write').

4.11.1.3 Mehri

Tense The simple past contrasts with the 'present', which 'can, in various contexts, indicate almost any tense or aspect . . . a general, habitual, or immediate present; a habitual past; a future; a present or past progressive; or a circumstantial complement . . . [or] a narrative past' (Rubin 2010b: 123f.). A specific future tense is formed by the present

participle (msg *kətbōna* fsg *kətbīta*, mdu *kətbōni*, fdu *kətbáwti*, mpl *kətyēba*, fpl *kətbūtən*): *šhəṭōna tīk* ‘I’ll slaughter you’. The present can be prefixed with *δə-* to give a present progressive (*δə-yōmər* ‘he is saying’), as can the past to yield a variety of tense modifications, principally circumstantial and stative (*δə-ħəzīn* ‘they were sad’).

Mood As can be seen in the morphology, the ‘jussive’ differs from the ‘present’ by stem-shape, and otherwise has almost identical PNG affixes to the ‘present’ (except prefixation of *l-* to first person sg and du; and suffix *-ē* in dual instead of *-ō*). In main clauses it has cohortative or precative function: *hībō l-āmōl* ‘what should I do?’ As a subordinate, it occurs in clauses of desire, command, purpose, etc.: *ʔəṭəb-k tīk təkṭēθ lay* ‘I ask you to tell me’. A special conditional form is formed by the ‘jussive’ + *-ən*.

Subordinate Other than the subordinate use of the jussive, there is no special inflected subordinate form (see below, on *δə-* as complementizer).

Negation There are a number of negative particles with special meaning, but general clause negation, main or subordinate, is expressed by *(ə)l-* Verb . . . *lā* (where *lā* usually comes at the end of the clause): *hō əl kəs-k yəniθ lā* ‘I didn’t find women’.

4.11.1.4 *Geez*

Tense The indicative tenses are used in main and subordinate clauses to signify the simple past – *nəgärä* ‘he spoke’ – in contrast with a ‘present’, *yənəbbər*, which can signify ‘he sits, he is sitting, he will sit, etc.’

Mood The jussive, which differs from the present in stem shape, can be optionally preceded by *la-*. In main clauses it has a cohortative or precative function: *(la-)yəngər* ‘let him speak’; in subordinate clauses it can be used alone or with *kämä* to express commands or desire, or as a general equivalent of English infinitive complements: *ʔazäzo kämä yəngər* ‘he commanded him to speak’, *wätänä yəngər* ‘he began to speak’.

Subordinate Other than this, there is no special subordinate form.

Negation Clause negation, both main and subordinate, is with the prefix *ʔi-* (*ʔi-nəgärä* ‘he did not speak’), which with the jussive functions as a negative imperative (*ʔi-təngər* ‘do not speak!’, *ʔi-yəngər* ‘let him not speak’).

4.11.1.5 *Amharic*

Tense The main-clause preterite tense is the simple past tense form: *nəggärä* ‘he spoke’. For the main-clause present–future, however, the simple present *yənəgr* must

have an enclitic form of the verb *allä* ‘exist’ (3msg in short form *-al*): *yənāgral* ‘he speaks, he will speak’. A number of compound tenses have been developed, involving various prefixed conjunctions, but genuine main-clause forms are present + EXIST-PAST (*nābbārä*, usually *nābbār* in 3msg) for a past habitual: *yənāgr nābbār* ‘he was speaking’; and compound forms of the so-called ‘converb’ (CäCC + PossSuf; see below, ‘conjunctive’) with the present and past existential to form a perfect and pluperfect tense: *nāgro-al* ‘he has spoken’, *nāgro nābbār* ‘he had spoken’.

Mood The jussive, preceded by *lə-* in the 1sg, is a main-clause form only: *yəngär* ‘may he speak’, *l-əngär* ‘may I speak’.

Subordinate The cases of the relative and the other subordinates have to be distinguished; in both cases, the COMP element appears as a prefix on the verb. The relative past is simply *yä* + past: *yä-nāggärä* ‘who spoke’; similarly other subordinate past clauses: CONJ-*nāggärä* ‘(that/when/etc.) he spoke’. The present–future relative has the prefix *yämmə-* (with *ə-yə- > -i-*): *yämm-i-nāgr* ‘who speaks’; other present-future subordinates: CONJ-*i-nāgr* ‘(that/when/etc.) he speaks’.

Negation Negation is with *al-* (*al-yə- > ay-*; *al-tə > at(t)-*) prefixed to the verb in both main and subordinate clauses. In main clauses the verb is suffixed with *-mm*: *al-nāggärä-mm* / *al-nāggärhu-mm* ‘he/I did not speak’; *ay-nāgr-əmm* / *al-nāgr-əmm* ‘he/I do not speak’. Subordinates are without the *-mm*: COMP-*al-nāggärä* / COMP-*al-nāggärhu* ‘(which/that/etc.) he/I did not speak’; COMP-*ay-nāgr* / COMP-*al-nāgr* ‘(which/that/etc.) he/I do not speak’.

4.11.2 Valency and argument structure

4.11.2.1 Akkadian

Nominal complements precede the verb, marked with the appropriate case (accusative) or preposition + N + genitive: *šarr-am i-dūk* ‘he killed the king’, *ana bīt-im illik* ‘he went to the house’. Usually only one accusative complement is possible, but a few verbs of ‘providing’ or ‘receiving/taking’ can take two accusative objects, both the patient provided-with or taken-from, and the object provided or taken: *amt-am šikar-am ta-pqid* ‘you provided the female-slave with beer’ (H34) and *awil-am eql-am a-bqur* ‘I claimed the field from the man’ (H35). More generally, under conditions yet to be fully worked out, adverbial phrases of place, time, and origin can also be replaced by the accusative, apparently under the general proviso that the relationship of the complement to the verb be contextually clear: *šarrāq-am abull-am i-šbat-ū* ‘they seized the thief(acc) at the city-gate(acc)’ (H172), *qīšāt-ī-šunu lā te-leqqē-šunūti* ‘you will not accept their

gifts(acc) from them(acc)’ (H172). Given this general possibility of double accusatives, it is not surprising that causative verbs (S-stem) can also express as accusative object both the subject and the object of the caused verb: *awāt-t̄-ki axx-t̄-ya u-še-šmi* ‘I caused my brothers(acc) to hear your words(acc)’ (H300).

4.11.2.2 Mehri

In general, verb complements follow the verb, and a pronominal complement generally precedes a non-pronominal. There is a large development of prepositional complements, with prepositions marking what might be ordinarily thought of as direct objects. For *bə-* in this context see the long list of such verbs in Rubin (2010b: 174ff.), and in particular the list of examples (R177) for *nūka* (Prep-) NP₁ *b*-NP₂ ‘bring NP₂ to NP₁’ (*naka-k t̄-k b̄-həm* ‘I have brought them for you’). Otherwise many verbs take a direct object where one would expect an indirect object, and with *wəzūm* ‘give’, a double direct object is possible: (R191) *wəzm-ōna t̄-š xəmaīn karš* ‘I will give you fifty dollars’, *əl wəzəm-k t̄-n t̄-həm lā* ‘you have not given them to us’. Note that in verbs of saying, *zāmōr* ‘say’ takes *h-* for indirect object, while *kəlūθ* ‘speak’ takes *l-* (R185).

4.11.2.3 Geez

Objects generally follow the verb, and are marked with the accusative *-ä*: *afqärä bəʔsīt-ä* ‘he loved a woman’. However, definite object nouns are often marked with the preposition *lä-*, with a direct object pronominal suffix on the verb: *afqär-a lä-bəsʔsīt* ‘he loved the woman (lit. “he loved her to the woman”)’ (note above, section 4.8.4, a similar construction for the definite noun in the possessive construction). An indirect object appears before a direct one: *təwälləd läkä wäld-ä* ‘she will bear you a son’ (R227); *wähäbku-kä-hu* ‘I have given it to you’ (R227).

4.11.2.4 Amharic

Objects precede the verb and are marked with *-n* only with proper nouns or nouns in semantically or syntactically definite NPs, e.g., *bet särra* ‘he built a house’ vs *bet-u-n särra* ‘he built the house’, *sāw ayyä* ‘he saw a man’ vs *Käbbädä-n ayyä* ‘he saw Kabbada’. ‘Semantically definite’ is not a hard-and-fast criterion, but includes those NPs headed by general or abstract nouns (L182): *əgziʔabəher sāw-ən fäʔtärä* ‘God created man’, *mot-ən ay-färu-m* ‘they do not fear death’. The complements of certain verbs of motion also take the *-n* suffix: *bet-u-n gäbba* ‘he entered his house’, *agär-u-n tämälläsä* ‘he returned to his country’. Under certain conditions the indirect object can also be marked by *-n*: *ləʃ-u-n məsa-w-n säʔt-äč* ‘she gave the child his lunch’. Finally, the *-n* enclitic can also mark NPs of manner and circumstance – *ləʃ-u-n əʃʃ-u-n yaz-äčč* ‘she grasped the child by the hand’ – or time: *qän-u-n mulu tännä* ‘he slept the whole

day' (L894). In doubly transitive verbs, formed by the *as-* causative of a transitive verb ('X caused Y to Verb Z'), both the (definite) subject and the (definite) object of the causativized verb can be marked with *-n*: *ləḵ-u-n dəmmät-u-n as-yaz-ä-w* 'he had the child hold the cat', *Käbbädä-n bet-u-n as-ṭäbbäqä-w* 'he had Kabbada guard the house' (L483).

4.12 Sentential syntax

We list here some examples of major sentence types, with discussion of order of constituents.

4.12.1 Simple verbal sentence

4.12.1.1 *Akkadian*

The normal word-order is SOV:

- (1) *bēl-um bīt-am i-bni*
 lord-nom house-acc 3msg-build.past
 'the lord built the/a house'.

4.12.1.2 *Hebrew*

The normal word order in Biblical Hebrew is VSO, but topicalization frequently puts a noun, which may be a subject, an object, or any other noun, before the verb; this usually entails a change in the verb morphology (discussed under consecutive structures, section 4.12.4.3). In Israeli Hebrew, SVO order is the most neutral, but here, too, verb-initial clauses are not infrequent.

4.12.1.3 *Aramaic (Syriac)*

Word order in Aramaic is extremely flexible, though SVO is probably the most neutral order.

4.12.1.4 *Arabic*

The basic word order is VSO. However, topicalization structures frequently create SVO and other orders.

4.12.1.5 *Mehri*

Here are examples of various sentence word-order – SVO:

- (2) *sənnawrot tə-ħbōb a-ɣayg*
 cat 3fsg love.pres def man
 ‘the cat loved the man’ (R124)

VOS:

- (3) *yə-ktəlīθ b-ay a-ḳəbōyəl*
 3m-talk.refl.pres.pl about-obj.1sg def-tribe.pl
 ‘the tribes will talk about me’ (R125)

SV+O:

- (4) *a-bēli šə-wədē-kəm*
 def-God 3Theme-protect-obj.2mpl
 ‘may God preserve you’ (R122)

V+OS:

- (5) *a-bəsīr-ək a-bēli bə-xayr*
 dTheme-give:good:news-obj.2msg def-God n-good
 ‘may God give you good news’ (R122)

4.12.1.6 *Geez*

The unmarked main clause word order is VSO:

- (6) *sārĥ-ä nəgus bet*
 build-3msg.past king house
 ‘the/a king built the/a house’

4.12.1.7 *Amharic*

Word order in both main and subordinate clauses is invariably SOV:

- (7) *nəgus-u bet-u-n sārra-w*
 king-m.def house-m.def-acc build.past.3msg-3msg.obj
 ‘the king built the house’,

nəgus bet sārra
 king house build.past.3msg
 ‘a king built a house’.

As can be easily seen from other sections – above, 4.10.1–3, 4.11.1–2, and below 4.12.4.3 – with the exception of the persistence of prepositions (only occasionally augmented or replaced by postpositions), most of the other word-order properties of Amharic are harmonious with those of a typical OV language.

4.12.2 Copula sentence

4.12.2.1 *Akkadian*

Two constructions are possible: (a) simple juxtaposition – NP₁ NP₂/Adj ‘NP₁ is NP₂/Adj’:

- (8) *šarr-at-um dann-at-um*
 queen-f-nom.sg mighty-f-nom.sg
 ‘the queen is mighty’

(b) use of the stative form (see above, section 4.6.5) of noun or adjective:

- (9) *šarr-at-um dann-at*
 queen-f-nom.sg mighty-f
 ‘the queen is mighty’.

(See H223) on the difference between *Xammurapi šarrum* and *Xammurapi šar*, both of which mean ‘Hammurapi is king’.) There is no clear past-tense equivalent – one has to add adverbials or some verbal paraphrase.

4.12.2.2 *Hebrew*

Equational sentences can consist of simple juxtaposition of the two elements – *hammizbéaḥ ʕeṣ* ‘the altar [is] wood’ – but there is frequently also a third-person pronoun, either between the two elements or following the predicate:

- (10) *šévaʕ šānīm hénnā*
 seven years they
 ‘They are seven years.’
 (Genesis 41:26)

In modern Hebrew, the copular pronoun is required, optional, or avoided, depending on the various syntactic environments.

4.12.2.3 *Aramaic (Syriac)*

Sentences without a copula occur relatively rarely. Two constructions with explicit copulas are far more frequent. The first has a form of *ʔiθ* (originally meaning ‘exist’), agreeing with the subject:

- (11) *qri:θa: ʔi:θ-e:h ʕa:lma:*
 field(f) is-3fsg world(m)
 ‘The field is the world.’
 (Matthew 13:38)

- (12) *bayt(y) be:θ slo:θa: ?i:θ-aw*
 my:house(m) house(const) prayer(f) is-3msg
 ‘My house is a house of prayer.’
 (Luke 19:46)

The other structure involves a third-person enclitic pronoun, agreeing with the subject but following the predicate:

- (13) *?urħa: da-šra:ra: ?ali:ša:=(h)y*
 path(f) of-truth(m) narrow(f)=3fsg
 ‘The path of truth is narrow.’

Often the copular pronoun follows the head of the predicate, rather than the entire predicate:

- (14) *zayn-e:h šfal=(h)u men di:l-an*
 weapon-3msg weak=3msg from of-1pl
 ‘His weapon is weaker than ours.’

4.12.2.4 *Aramaic (Modern)*

Northeastern Neo-Aramaic has an overt copula in nearly all such sentences, and, as in Syriac, it is enclitic to the head of the predicate:

- (15) *bná:θa bšš ?úr-w-e=lu mǝnn-i*
 daughters more big-pl=3pl from-1sg
 ‘The daughters are bigger than me.’

4.12.2.5 *Mehri*

Here there is juxtaposition of subject and predicate, with tense usually taken from the context:

- (16) *ħāgōr bōyər*
 slave cunning
 ‘the slave is/was cunning’.

Some nuances of meaning in copula-like sentences can be expressed by verbs such as *wīka* ‘become, stay, happen’ (Rubin 2010a: 260–3), *yəkūn* ‘be habitually, generally’ (Rubin 2010a: 263f.).

4.12.2.6 *Geez*

Copula sentences can be formed by simple juxtaposition:

- (17) *xäṭawəṭ-i-homu Ṣäbiy-at*
 sin.pl-pl-3mpl great-fpl
 ‘their sins are great’

More often, there is a structure NP Pro NP/Adj, where the pronoun is usually simply the third person:

- (18) *Dawit wəṭətu nəguś*
 David he(pro.3msg) king
 ‘David is king’
ana wəṭətu nəguś
 I(pro.1sg) he(pro.3msg) king
 ‘I am king’

Agreement in person is possible, but marked: *ʔänä nəguś ʔänä* ‘I am king’. For modal and temporal nuance, ordinary verbal sentences with *konä* or *hällö* ‘be, exist’ are used.

4.12.2.7 Amharic

Amharic has developed an explicit affirmative and negative copula – affirmative: *nä* + object-pronominal suffixes (*nä-nän*, ‘I am’; *nä-h*, ‘you (msg) are’; *nä-š*, ‘you (fsg) are’; *nä-w*, ‘he is’; *nä-čč/n-at*, ‘she is’; *nä-n*, ‘we are’; *n-aččəhu* [respect: *nä-wot*], ‘you (pl) are’; *n-aččäw*, ‘they are’); negative: a conjugated frozen negative form of verb *dlw* (*aydällähum*, ‘I am not’; *aydällähəmm*, ‘you (msg) are not’; *aydälläšəmm*, ‘you (fsg) are not’; *aydällämm*, ‘he is not’; *aydälläččəmm*, ‘she is not’; *aydällänəmm*, ‘we are not’; *aydälläččəhum*, ‘you (pl) are not’; *aydällumm*, ‘they are not’); the past tense, affirmative and negative, is with the verb *näbbärä*. This copula occurs in the usual sentence-final verb position:

- (19) *mist-u dägg n-at/aydäll-äčč-əmm/näbbär-äčč/al-näbbär-äčč-əmm*
 wife-poss.3msg kind cop-3fsg/cop.neg-3fsg-negenc/be.past-3fsg/not-be.past-3fsg-negenc
 ‘his wife is/isn’t/was/wasn’t kind’.

In subordinate clauses, copulative sentences are expressed with the appropriate forms of the verb *honä* ‘to be’ (or, alternatively, *näbbärä* for the relative past):

- (20) *astämari yämm-i-honä-w ləjǰ ahun tämari nä-w*
 teacher rel-3msg-be.pres-def boy now student cop-3msg
 ‘the boy who will be a teacher is now a student’,

astāmari yä-näbbär-ä-w ləjǰ ahun tämari nä-w
 teacher rel-be.past-3msg-def boy now student cop-3msg
 ‘the boy who was a student is now a teacher’

4.12.3 Topicalization and focalization

4.12.3.1 Akkadian

Under appropriate pragmatic conditions, the object may simply be fronted:

- (21) *bīt-am bēl-um i-bni*
 house-acc lord-nom 3msg-build.past
 ‘the lord built the house’

In a distinct construction, a topicalized noun may be extracted from a clause, marked as nominative (classically termed the *casus pendens*, see H211f.), and replaced in the clause by a pronoun:

- (22) *šarr-um mār-šu i-mraš*
 king-nom son-poss.3msg 3msg-sick.past
 ‘the king – his son fell ill’
 (H212)

sinništ-um šī ax-ū-ka
 woman-nom pro.acc.3fsg brother-nom.pl-poss.2msg
ixxassi (for *i-xxaz-ši*)
 3msg-take.pres-acc.3fsg
 ‘the woman – your brothers will marry (‘take’) her’
 (H212)

As opposed to the nouns, the verb remains almost invariably in clause-last position. Note that, in spite of this unmarked SOV word order, the other word-order properties of Akkadian are ‘harmonious’ with an unmarked VO word order.

4.12.3.2 Arabic

Arabic has a highly differentiated variety of topicalization and focus constructions. The simplest, consisting merely of preposing a constituent, is limited to adverbials; simple fronting of an object is extremely rare. Topic–comment structures are common; the topic is a noun phrase in the nominative case, and the comment is a complete sentence, which usually contains a resumptive pronoun agreeing with the comment, unless it would be in the position of subject of the comment clause. Resumptive pronouns are underlined:

- (23) *al-huʒratu allati: yaʕmalu fi:-ha: ʒawwu-ha: xa:niquṇ*
 def-room(f) which(f) he:works in-3fsg air(m)-3fsg suffocating(m)
 ‘The room that he works in, its air is suffocating.’
- (24) *aṭ-ṭabi:batu al-ʔamri:kiyyatu la: yabdu: ʕala: waʒhi-ha: ʔayyu*
 def-doctor(f) def-American(f) neg appears(m) on face-3fsg any
taʕbi:rin
 expression(m)
 ‘The American doctor, no expression appears on her face.’

A subject that precedes the verb should be considered to be in topic position. The topic may be introduced by *ʔinna* (which also occurs as the complementizer after the verb ‘to say’), in which case the topic is in the accusative case:

- (25) *ʔinna ha:ḏa: al-ʔixfa:q-a mutawaqqaʕ-un*
 comp this def-failure-acc expected-nom
 ‘This failure is expected.’
- (26) *ʔinna an-nisa:ʔ-a la: yaksibna ʕayʔan min ḏa:lika*
 comp def-women-acc neg gain.3fsg thing from that
 ‘Women do not gain anything by that.’

A still more explicit and flexible topicalization structure still consists of *ʔamma:* preceding the topic and the conjunction *fa-* preceding the comment:

- (27) *ʔamma: muntij-u: aḫ-ḫaqa:ʕati, fa huwa la:*
 as.for producers-nom.pl(const) def-culture, conj he neg
yasmaʕu isma-hum
 hears name-3mpl
 ‘As for the producers of culture, he does not hear their name.’

The topic marked by *ʔamma:* is most often in contrast to an entity mentioned previously.

4.12.3.3 Geez

Both subject and object can be fronted under a variety of pragmatic conditions, principally foregrounding; S is often fronted in subordinate clauses:

- (28) *əgziʔ-ä-bher wäḥäb-ä-kəmu z-ä ʕälä-ä sänbät*
 god(lord-const-earth) give.past-3msg-obj.2mp this-acc day-acc sabbath
 ‘God has given you this Sabbath day’

- (29) *xätiʔ-əyä ə-z-zekkär (<ə-t-zekkär) yom*
 sin-poss.1sg 1sg-refl-remember.pres today
 ‘I remember today my sin’
- (30) *əsmä ab y-a-fäqqəd wäld-o (< wäld-ä-hu)*
 because father 3msg-caus-love.pres son-acc-poss.3msg
 ‘for the father loves his son’.

VOS is also possible:

- (31) *a-rxäw-ä mäskot-a lä-tabot Nox ənt-ä*
 cause-open.past-3msg window.f-acc to-ark Noah which.f-acc
gäbr-ä
 make.past-3msg
 ‘Noah opened the window of the ark which he made’

Note in (31) that the position of the subject, *Nox* ‘Noah’, could be conditioned by the fact that it is also S of the relative clause which follows. Foregrounding can also be accomplished by a series of enclitics of varying degrees of strength:

- (32) *nəguś-ni/-ssä/-mmä ʔədw-ä šäbʔ-ä*
 king-fgenc1/fgenc2/fgenc3 enemy-acc fight.past-3msg
 ‘the king fought the enemy’.

Closely related to this is the use of cleft sentences:

- (33) *nəguś-əssä wəʔətu/kon-ä zä-šäbʔ-ä*
 king-fgenc he(pro.nom.3msg)/be.past-3msg rel.ms-fight.past-3msg
ʔədw-ä
 enemy-acc
 ‘it is/was the king who fought the enemy’,
ʔədəw-ssä zä-šäbʔ-ä nəguś
 enemy-fgenc rel.ms-fight.past-3msg king
 ‘it is the enemy that the king fought’

The example below shows a negative cleft construction:

- (34) *akko nəguś zä-šäbʔ-ä ʔədw-ä*
 not king rel.ms-fight.past-3msg enemy-acc
 ‘it is not the king who fought the enemy’

4.12.3.4 *Amharic*

The principal mechanisms of topicalization in Amharic are with foregrounding or topicalizing enclitics such as *-ss* –

- (35) *mar-əss yällä-m*
 honey-fgenc not:be-negenc
 ‘(as for) honey there is none’

– and a widespread use of cleft sentences, formed with a relativized verb and a copula:

- (36) *yä-mätta əssu n-äw*
 rel-come.past(-3msg) 3sg cop-3msg
 ‘it is *he* who came (the one who came is he)’.

4.12.4 Major types of complex sentence

14.12.4.1 *Relative clauses*

Akkadian The relative clause complementizer is the indeclinable *ša*, the verb, which is always clause-final, takes the subordinate clause-marker *-u*:

- (37) *šarr-um ša bīt-am ina āl-im ēpuš-u*
 king-nom rel house-acc in city-gen make.past.3msg-rel
i-māt
 3msg-die.past
 ‘the king who built a house in the city died’,
bīt-um ša šarr-um ina āl-im ēpuš-u
 house-nom rel king-nom in city-gen make.past.3msg-rel
i-mqut
 3msg-collapse.past
 ‘the house which the king built in the city collapsed’,
āl-am ša šarr-um ina libb-ī-šu bīt-tam
 city-acc rel king-nom in heart-gen-poss.3msg house-acc
ēpuš-u i-šbat
 make.past.3msg-rel 3msg-seize.past
 ‘he seized the city in whose midst the king built a house’ etc.

Under certain circumstances, the complementizer *ša* can be deleted, in which case the head noun appears in the construct: compare *bītum ša šarrim*, *bīt šarrim* ‘the house of the king, the king’s house’ with *bītum ša šarrum ēpušu*, *bīt šarrum ēpušu* ‘the house (which) the king built’ (cf. H188).

Hebrew In Biblical Hebrew, relative clauses are most often introduced with the invariant complementizer *ʔāšēr*, and the clause contains a resumptive pronoun (except for the subject and sometimes the object); word order is flexible. The resumptive pronoun is underlined in these examples:

- (38) *hāʔiš ʔāšēr hammélex hāfés b-iqâr-ó*
 the.man comp the.king wishes for-honour-3msg
 ‘The man whom the king wishes to honour’
 (Esther 6:6)

- (39) *sus ʔāšēr ráxáv ʔāl-áw hammélex*
 horse comp rode on-3msg the.king
 ‘a horse on which the king has ridden’
 (Esther 6:8)

Arabic A relative clause attached to an indefinite noun has no overt marker:

- (40) *ziya:raturun tastayriqun ʔusbu:ʕan*
 visit lasts week
 ‘a visit that lasts a week’
- (41) *mašdarun rafada al-kašf-a ʕan ismi-hi*
 source refused def-revelation-acc about name-3msg
 ‘a source that refused to reveal its name’

If the head is definite, the relative pronoun is present and agrees with it in gender, number, and case (though case is overt only in the dual). The relative pronoun is in the case appropriate to the matrix clause, not the subordinate clause:

- (42) *fi: al-ʕals-at-ayni alla-t-ayni inʕaqad-at-aa ʔamsi*
 in def-session-f-du.gen rel-f-du.gen were.held-3f-du yesterday
 ‘in the two sessions that were held yesterday’

Thus a relative clause, like an adjective, agrees with its head noun in gender, number, case, and *definiteness*.

Mehri The basic relative pronoun is the indeclinable $\delta(\alpha)$:-

- (43) *ʔāšər δə-ʕayg δə-y-āgōb b-a-ʕəgg-ēt*
 friend poss-man rel-3msg-love.pres in-def-girl-f
 ‘the friend of the man who was in love with the girl’,

Amharic The relative markers in Amharic are *yä-* (with past-tense verbs) and *yämmə-* (with present–future). As is the case with all nominal modifiers, the relative clause precedes the head, and the relative marker is attached to the relative-clause-final verb:

- (50) *addis-u-n bet bä-Addis-Abäbä wəst*
 new-def-acc house in-Addis-Ababa midst
yä-särra/yämm-i-sära säw ayyä-hu
 rel-build.past.3msg/rel-3msg-build.pres man see.past-1sg
 ‘I saw a man who built / will-build the new house in Addis Ababa.’

Likewise, as with all nominal modifiers, head-noun definite and direct-object markers are attached to the end of the relative clause, i.e., the verb:

- (51) *addis-u-n bet bä-Addis-Abäbä wəst*
 new-def-acc house in-Addis-Ababa midst
yä-särra-w-n/yämm-i-sära-w-n säw
 rel-build.past.3msg-def-acc/rel-3msg-build.pres-def-acc man
ayyä-hu
 see.past-1sg
 ‘I saw the man who built / will-build the new house in Addis Ababa.’

This is as opposed to:

- (52) *säw-iyye-n ayyä-hu*
 man-def-acc see.past-1sg
 ‘I saw the man.’

Note that the relativized verb clause has noun-like status in very common cleft-sentence constructions of the sort ‘that X is Y’;

- (53) *yämm-i-mäta-w bä-mäkina n-äw*
 rel.pres-3msg-come.pres-def in-car cop-3msg
 ‘he will come in a car (= that he will come is in a car)’

4.12.4.2 *Subordinate clauses*

Akkadian The principal complementizer with object clauses of verbs of ‘saying’, ‘knowing’, etc., is *kīma* ‘that’. As is the case with subordinate clauses generally (note that *kīma* also appears in ‘when’ clauses with the meanings ‘when, as soon as’), the object clause always precedes the main clause:

- (54) *šāpir-um kīma immer-ī nēmett-a-ka ana ekall-im lā*
 prefect-nom that sheep-pl tax-acc-poss.2msg to palace-gen not
t-ubl-am u-lammid-an-ni
 2msg-carry.past-ven 3msg-learn.fact-ven-obj.1sg
 ‘the prefect informed me that you had not brought the sheep, your tax,
 to the palace’,
- (55) *eql-um kīma zīt-ī ul ī-de*
 field-nom that share-poss.1sg not 3msg-know.past
 ‘he did not know that the field is my share’
 (H287)

Direct quotation, although it can be unmarked and simply inferred from context, usually involves the quotative particle *umma* – frequently translated by ‘as follows’ – following the speech verb, most often *qabû* ‘say’; *umma* in turn is most often followed by a noun or pronoun referring to the speaker, followed by the ‘consecutive suffix’ (see below, 12.4.3) *-ma*, followed by the direct quote, as in the very frequent epistolary introductory formula:

- (56) PN *kiam i-qbi-am umma šū-ma* X
 PN thus 3msg-speak.past-ven quote pro.ind.3msg-conj X
 ‘PN spoke thus to me, and he [said as follows] “X”’.

The formula can be abbreviated to the last phrase:

- (57) *umma awīl-um-ma* X
 quote man-nom-conj X
 ‘the man [said as follows] “X”’.

That a phrase is direct speech can also be indicated by adding the suffix *-mi* to one or more salient words in the phrase:

- (58) *awīl-um-mi ulā-mi i-mxur-an-ni*
 man-nom-fgenc not-fgenc 3msg-approach.past-ven-obj.1sg
 ‘“the man did not approach me”’
 (H136)

Otherwise, subordinate clauses generally are introduced by a complementizer such as *inūma* ‘when’, *ištu* ‘after’, *aššum* ‘when/because’; the object clause always precedes the main clause, and the verb of the clause has the subordinate clause marker *-u*:

- (59a) *inūma axx-ū i-zuzz-u*
 when brother-pl 3m-divide-pl/rel
 ‘when the brothers make a property division’,

- (59b) *ištu i-nn-emd-u*
 after(from) 3m-ingr-stand.past-pl/rel
 ‘after they moved in together’,
- (59c) *aššum kiam i-qb-û-ši*
 because thus 3msg-say.past-rel-obj.3fsg
 ‘because he spoke thus to her’.

Finally, although the infinitive in Akkadian, as in most other Semitic languages, is almost always strictly a verbal noun (hence more like the English gerund), there are a certain number of verbs that can govern an infinitive in the accusative case in ways that approximate an infinitive complement. Thus, with *le’ûm* ‘be able’, we can find:

- (60) *apāl-am te-le”-ī*
 answer.inf-acc 2s-be.able.pres-f
 ‘you can answer’

With *šapārum* ‘write, order’, we find:

- (61) *ana bār-îm nadān-am a-špur-ak-kum*
 to diviner-gen give.inf-acc 1sg-write.past-ven-2mp
 ‘I write to you to give to the diviner.’

Moreover, infinitives in the genitive after a preposition can function as purpose or temporal clauses:

- (62a) *ana kunn-im turd-aš-šu*
 for establish.inf-gen send.imptv-ven-obj.3msg
 ‘send him here to verify (for verification)’
- (62b) *ina sanāq-im i-mūt*
 in arrive.inf-gen 3msg-die.past
 ‘when he arrived (upon arrival), he died.’

Arabic Arabic has several subordinating complementizers, all of which appear at the start of their clause. The most frequent and basic of them are *ʔan* and *ʔanna*. The main syntactic difference between the two is that *ʔan* is followed by a verb in the subjunctive, while *ʔanna* is followed by a noun in the accusative. As a gross generalization, *ʔan* clauses are hypothetical, representing a verbal situation that is possible, necessary, desired, and the like, while *ʔanna* marks clauses that are asserted. Some examples of *ʔan* clauses:

- (63a) *qarrar-a* *ʔan* *y-asir-a*
 decided-3msg comp 3-go-sbjn
 ‘He decided to go.’
- (63b) *y-umkinu-hu* *ʔan* *y-alʕab-a*
 3-be:possible-3msg comp 3-play-sbjn
 ‘It is possible for him to play.’
- (63c) *xaʕar-a* *li:* *ʔan* *ʔ-uxbir-a* *zawʕ-i:*
 occurred-3msg to.me comp 1-inform-sbjn husband-1sg
 ‘It occurred to me to tell my husband.’
- (63d) *ʔaʕarr-a* *ʕala:* *ʔan* *y-alʕab-u:*
 insisted-3msg on comp 3-play-pl(sbjn)
 ‘He insisted that they play.’

For the same functions as a *ʔan* clause with a finite verb, gerunds are a frequent alternative; thus, the same meanings as in (a–d) can be rephrased as *qarrara as-sayra*, *yumkinuhu al-laʕbu*, *xaʕara li: ʔixba:ru zawʕi:*, *ʔaʕarra ʕala: laʕbi-him*; the gerunds are marked definite, and if the subject is different from that of the main clause it is indicated by a suffixed pronoun, as in *laʕbi-him* ‘their playing’.

Examples of *ʔanna* clauses are:

- (64a) *ʕarraha* *ʔanna* *wiza:rat-a* *aʕ-ʕihhati* *satadrusu*
 he.announced comp ministry-acc def-health will.study
 ‘He announced that the Ministry of Health will study . . .’
- (64b) *al-muʕkilatu* *ʔanna* *al-falla:h-i:na* *la:* *yusaddidu:na*
 def-problem comp def-peasants-pl.acc neg they.pay.off
 ‘The problem is that the peasants do not pay off (their debts).’

Asyndetic subordinate clauses (i.e. those without a complementizer) occur in two situations: first, when the subordinate clause represents the circumstances surrounding the main clause:

- (65) *inʕalaq-at* *fi:* *aʕ-ʕa:riʕi* *t-abhaʕu* *ʕan* *ʔaʕfa:liha:*
 departed-3fsg in def-street 3fsg-search(pres) for her.children
 ‘She went into the street looking for her children’

Second, they occur after verbs of certain semantic types that frequently require clausal complements:

- (66a) *daɣ-ni: ʔ-usa:ʕid-ka*
 give-1sg 1sg-help(juss)-2msg
 ‘Let me help you.’
- (66b) *la: ʔ-aḥṣabu-ka t-ahtammu*
 neg 1sg-think-2msg 2-are.interested
 ‘I do not think you are interested.’

Mehri Mehri uses a variety of subordinate constructions. Temporal clauses are introduced by a complementizer *tē*, *hīs*, *mət* ‘when’, followed by a clause with the verb usually in the past:

- (67a) *tē nūka aɣ-ay, yə-ɣərəb-ay*
 when come.past.3msg brother-poss.1sg 3msg-recognize.pres-obj.1sg
 ‘when my brother came, he recognized me’
 (R301)
- (67b) *ʔəś a-ɣayg hīs hōma a-šawt δə-həybīt*
 rise.past.3msg def-man when hear.past.3msg def-voice poss-camel
 ‘the man arose when he heard the sound of the camel’
 (R302)
- (67c) *mət nūka a-kaɣδ, hə-wfi*
 when come.past.3msg def-summer h Theme-pay.imptv
 ‘when summer comes, pay me’
 (R294)

Purpose clauses are usually simply clauses with the verb in the jussive:

- (68) *wəzəm-ih moh yə-ttəḳ*
 give.past.3msg-obj.3msg water 3msg-drink.subj
 ‘he gave him water to drink’
 (R292)

Circumstantial clauses usually involve a prefix *δə-* (complementizer or circumstantial prefix, cf. Ruben 2010b: 291):

- (69) *ʔə-śəni-həm δə-yə-ɣətəryəm*
 1sg-see.pres-obj.3mpl rel-3m-speak.t1Theme.subj.pl
 ‘I saw them speaking’
 (R291)

There are a few verbs like *yəṣ* ‘be afraid’, which takes an optional pronominal object with the matrix verb, and then a clause in the jussive introduced by *mən* ‘from’:

- (70) *yəšš-ək tī-k mən tə-htəwül*
 fear.past-1sg obj-2msg from 2msg-go.crazy.t2Theme.subj
 ‘I am afraid that you will go crazy’
 (R286)

Otherwise, clauses are split – sometimes according to principles that have not yet been worked out – between those involving the complementizer $\delta\text{-}$ ‘that’ and a finite verb, and others simply requiring a complement clause with the verb in the jussive. A clear case of the latter is with the verb *hōm* ‘want’, which takes a jussive complement:

- (71) *ham-k tə-šnē tēθ-i*
 want.past-1sg 2sg-see.subj wife-poss.1sg
 ‘I want you to see my wife’
 (R166)

Otherwise, in many verbs of thinking, knowing, believing, swearing, promising, etc., the choice of subordinate construction seems to depend on the individual verb, and with some verbs (perhaps more than the corpus allows us to realize) both constructions are possible – compare:

- (72) *mōn ʔāmōr hū-k δ-hō ʔōmər*
 who say.past.3msg to-obj.2msg that-pro.1sg sing.dTheme.subj
 ‘who told you that I sing?’
 (R290, with $\delta\text{-}$)

with:

- (73) *ʔāmawr yə-štōm kāl-šīən*
 say.past.3mpl 3msg-buy.pres every-thing
 ‘they said (that) he buys everything’
 (R290, without $\delta\text{-}$)

and:

- (74) *yərōb δə-hē zərūḳ ʔār a-zēməl*
 know.past.3msg that-pro.3msg stab.past.3msg only def-camel.gear
 ‘he knew that he had only stabbed the camel-gear’
 (R288, with $\delta\text{-}$)

and:

- (75) *hō ə-yōrəb h-əmbərawtən yə-bady-əm lā*
 pro.1sg 1sg-know.pres def-boys 3m-lie.pres.dTheme-3mpl neg
 ‘I know (that) the boys don’t lie’
 (R288, without $\delta\text{-}$)

Geez With certain verbs of perception, indicative object clauses can occur without a complementizer:

- (76a) *rəʔy-ä* *tä-sätq-ä* *sämay*
 see.past-3msg pass-split.past-3msg heaven
 'he saw the heavens split'
- (76b) *räkäb-o(< räkäb-ä-hu)* *yə-qäwwəm*
 find.past-3msg-obj.3msg 3msg-stand.pres
 'he found him standing.'

Otherwise, indicative object clauses with verbs of speech and cognition are introduced by a complementizer such as *kämä* 'that', *əsmä* 'because', *ənzä* 'while':

- (77) *a-ʔmär-ä* *kämä tä-nätg-ä* *may*
 (caus)-know.past-3msg that pass-recede.past-3msg water
 'he knew that the water had receded.'

A special case is formed by the impersonal verb *mäsälä* 'seem', which takes as subject a clause with a relativized verb:

- (78) *mäsäl-omu(<ä-homu)* *zä-tä-ħäwwər* *xäbä* *mäqabər*
 seem.past-3msg-obj.3mp rel-3fsg-go.pres toward tomb.pl
 'it seemed to them that she was going to the tombs.'

Non-indicative clauses of purpose or volition take a verb in the jussive, with or without a complement *kämä*:

- (79a) *fäqäd-ä* *kämä tə-baʔ*
 want.past-3msg that 2msg-come.juss
 'he wanted you to come'
- (79b) *fätäw-u* *yə-rʔäy-u*
 desire.past-3pl 3m-see.juss-pl
 'they desired to see'
- (79c) *mäsʔ-ä* *yə-rʔäy*
 come.past-3msg 3msg-see.juss
 'he came to see.'

Finally, a number of verbs, *kəhlä* 'be able', *dägämä* 'repeat, do again', have the accusative of the infinitive in their object clauses:

- (80a) *ʔi-yə-kəl xädig-ä ʔäbu-hu*
 not-3msg-be:able.pres leave.inf-acc father-poss.3sg
 ‘he cannot leave his father’
- (80b) *dägäm-ku nägirot-ä-kəmu*
 do:again.past-1sg speak.inf-acc-obj.2mp
 ‘I spoke to you again.’

Amharic Amharic has an extremely rich repertory of subordinate clause mechanisms based on: relative clause constructions, infinitive constructions, simple present constructions, and direct speech.

- (a) *Relative clause constructions* Structure is Complementizer + Relative-clause for temporal or content clauses, some of the most common complementizers being: *əndä* ‘that’, *sälä* ‘because’, *əyyä* ‘while’. There are two things to keep in mind: one is that, as always in Amharic, the complementizer is procliticized to the verb so that we get a structure Comp + *yä-lyämmə*- + Verb; the other is that initial *yä-*, whether that of the relative or that of the possessive construction, disappears after a preceding particle (so that **bä + yä-nəgus bet* ‘in the king’s house (lit. “in of-the-king house”)’ is realized as *bä-nəgus bet*. Thus we have:

- (81) *tənantənna əndä-mätta* (from **əndä-yä-mätta*)
 yesterday that-come.past.3msg
awq-allä-hu
 1sg.know.pres-aux-1sg
 ‘I know that he came yesterday.’

We can be sure that the verb form is relative since in the present the sentence will be:

- (82) *nägä əndä-mm-i-mäta* (from **əndä-yämm-i-mäta*)
 tomorrow that-rel.pres-3msg-come.pres
awq-allä-hu
 1sg.know.pres-aux-1sg
 ‘I know that he will come tomorrow.’

There are also preposed + postposed complex complementizers such as *bä... gize* ‘when’, *kä... bəhwala* ‘after’, *əskä... dəräs* ‘until’:

- (83) *nägä kä-mm-i-mäta bəhwala*
 tomorrow from-rel.pres-3msg-come.pres after
ay-llä-hu-t
 1sg.see.pres-aux-1sg-obj.3msg
 ‘after he comes tomorrow, I will see him.’

- (b) *Infinitive constructions* The simple infinitive, usually with the subject as possessive suffix and marked as direct object with the suffix *-n*, can be used as the clausal object of verbs of saying, knowing, hearing, etc.:

(84) *bet-u bā-dāhna mā-drās-u-n*
 house-def in-safety inf-arrive-poss.3msg-acc
nāggār-ā-nīn
 tell.past-3msg-obj.1sg
 ‘he told me that he had arrived home safely.’
 (L744)

Causal and temporal clauses can be expressed by Preposition + Infinitive + Possessive constructions:

(85a) *ənnat-u-n bā-m-ayāt-u bātam dāss*
 mother-poss.3msg-acc in-inf-see.inf-poss.3msg very please
alā-w
 say.past-obj.3msg
 ‘he was very pleased because he saw his mother’.
 (L745)

(85b) *bārr-u-n kā-mā-kfāt-e əsswa-n*
 door-def-acc from-inf-open.inf-poss.1sg pro.3fsg-acc
ayyā-hw-at
 see.past-1sg-obj.3fsg
 ‘as soon as I opened the door I saw her.’
 (L736)

- (c) *Simple present constructions* A wide variety of clauses can be expressed by Particle + Simple-Present constructions, e.g., with:

bə ‘if, when’

(86) *b-i-čəl-u šərrəššər yə-hed-u nābbār*
 if-3m-be:able.pres-pl walk 3m-go.pres-pl be.past.3msg
 ‘if they could, would they go for a walk?’
 (L813)

sə- ‘while’

(87a) *ləjǰ-u s-iy-a-lāqs wal-ā*
 child-def while-3msg-(caus)-cry.pres spend.day.past-3msg
 ‘the child spent the day (while) crying’

- (87b) *mən sə-ttə-sära wal-kä*
 what while-2msg-do.pres spend.day.past-2msg
 ‘while doing what did you spend the day? what did you spend
 the day doing?’
 (L340)

***əndə, lə, . . . zänd* (postposition!) ‘that / in order to’**

- (88a) *mäkwännən-u wättaddär-u-n bet-u ənd-i-hed*
 officer-def soldier-def-acc house-def that-3msg-go.pres
fäqqäd-ä-llä-t
 permit.past-3msg-to-obj.3msg
 ‘the officer permitted the private to go home’
- (88b) *kä-rsəwo gar l-i-n-nägaggär (< l-i-t-nägaggär)*
 with-pro.2pol with to-3msg-refl-speak.pres.freq
mätta
 come.past.3msg
 ‘he came to speak with you’,
- (88c) *gänzäb a-gänn zänd ə-sär-allä-hw*
 money 1sg.(caus)-earn.pres in:order 1sg.-work.pres-aux-1sg
 ‘I work in order to make money.’
 (L349–50)

- (d) *Direct speech constructions* All embedded direct speech (including thought) must be expressed as object of the verb *alä* ‘say’:

- (89) *bet-e bä-dähna darräs-ku al-ä*
 house-poss.1sg in-safety arrive.past-1sg say.past-3msg
 ‘he said “I arrived at my house safely.”’

If another verb of speaking is needed in the main clause, direct speech must still be an object clause with *alä*, itself in consecutive-clause (converb) form (see below, 12.4.3) as object of the main-clause verb:

- (90) *bet-e bä-dähna darräs-ku bəl-o*
 house-poss.1sg in-safety arrive.past-1sg say.ger-3msg
ast-awwäq-ä-nñ/näggar-ä-nñ
 caus:refl-know.past-3msg-obj.1sg/tell.past-3msg-obj.1sg
 ‘“I have arrived at my house safely” (saying) he told/informed
 me.’

The direct speech construction is very widely used in Amharic, and in the preceding example a direct speech construction is much more likely to be used than one of the indirect speech constructions corresponding to ‘He informed/told me that he arrived home safely’, such as the one cited in (89). In fact, a wide variety of purpose and content clauses are expressed using direct speech constructions where European languages would use a subordinate object clause:

(91a) *dabbo ə-gäz-allä-hu bəl-o suq hed-ä*
 bread 1sg-buy.pres-aux-1sg say ger-3msg market go.past-3msg
 ‘he went to the market to buy bread (lit. “I will buy bread”
 he-saying he went to the market)’

(91b) *dabbo ə-gäz-allä-hu bəyy-e suq hed-ku*
 bread 1sg-buy.pres-aux-1sg say ger-1sg market go.past-1sg
 ‘I went to the market to buy bread (lit. “I will buy bread”
 I-saying I went to the market)’
 (cf. L750)

kubbanəyya-w wəl-u-n al-(ə)särrəz-əmm
 company-def contract-def-acc not-(1sg)-annul.pres-negenc
al-ä
 say.past-3msg
 ‘the company refused to annul the contract (lit. the company
 “I will not annul the contract” said).’
 (L778)

4.12.4.3 *Conjunction and consecutive constructions*

Akkadian Akkadian has two conjoining constructions: (1) *X u Y*, where *X* and *Y* can be either clauses or clause constituents, where *X u Y* is logically and semantically equivalent to *Y u X*, and where *u* might be glossed ‘and also / but also’ (i.e., there is no separate expression for ‘but’ as opposed to ‘and’); (2) *X-ma Y*, where *X* and *Y* must be clauses and *-ma* is encliticized to the clause-final verb or predicate, where *X-ma Y* is not logically and semantically equivalent to *Y-ma X*, and where *-ma* might be glossed ‘and/but so / and/but then’ (note that in a non-clause-conjunction context *X-ma* can be a means of foregrounding a sentence constituent: *šarrum-ma illik* ‘it is the king who went’). This distinction is nicely made and illustrated in H49–51:

- (92) *bīt-am i-ššur-ū u kasp-am itti*
 house-acc 3m-keep(*nšr*).past-pl and silver-acc from
šarr-im i-mxur-ū
 king-gen 3m-receive.past-pl
 ‘they kept the house and-(also) they received silver from the king’

vs

- (93) *bīt-am i-pšur-ū-ma kasp-am itti šarr-im*
 house-acc 3m-sell(*pšr*).past-pl-conj silver-acc from king-gen
i-mxur-ū
 3m-receive.past-pl
 ‘they sold the house and-(then) they received silver from the king’

Hebrew Biblical Hebrew has a specialized inflectional verb form that indicates sequential events, especially those that constitute the plot of a story. These are expressed with the prefixed past tense, which is a fusion of a conjunction (*waC-*) and a verb:

- (94) *wat-táhar wat-téleð ʔeθ qáyin*
 conj-she.conceived conj-she.bore obj Cain
 ‘She conceived and bore Cain.’

This fused consecutive prefixed-past verb form must always be first in its clause, and any verb that is not clause-initial, either because another word is topicalized or because the clause is negated, must be in the suffixed past rather than in the prefixed past. Actions or states that are not the next event in the plot sequence but are rather background information or are simultaneous with the previous clause will be expressed with one of these structures, – a suffixed past or a participle – and not the prefixed past. In the following examples, the prefixed past verbs and their glosses are underlined, and suffixed past verbs are marked ‘past’:

- (95) way-y-ávóʔ-u *šné ham-malʔáxim sđóm-á bāʔérev*
 conj-3m-enter-pl two def-angels Sodom-to in.the.evening
w-lót yošév b-šáʕar sđóm way-y-ár lót way-y-áqəm
 and-Lot sit(pcpl) in-gate Sodom conj-3m-saw Lot conj-3m-rose
liqráθám way-y-ištáhu
 towards.them conj-3m-bowed
 ‘The two angels entered Sodom in the evening, while Lot was sitting in the gateway of Sodom; Lot saw them and rose to (greet) them and bowed.’
 (Genesis 19:1)

- (96) *way-y-irʔ-ú ʔeḥáw ki ʔoθó ʔáháv ʔáviḥém*
 conj-3m-saw-pl his.brothers comp him loved(past.3msg) their.father
mikkol ʔeḥáw way-y-isnʔ-ú ʔoθó w-lo
 of.all his.brothers conj-3m-hated-pl him conj-neg
yáxl-ú dabbr-ó l-šálóm
 able(past)-3pl speak-him for-peace
 ‘His brothers saw that his father loved him more than all his brothers and
 (so) they hated him and could not speak with him peaceably.’
 (Genesis 37:4)
- (97) *wa-y-qanʔ-u vo ʔeḥáw, w-ʔávív šámár*
 conj-3m-be:envy-pl him his.brothers, conj-his.father kept(past.3msg)
ʔeθ had-dávár
 obj def-matter
 ‘His brothers got jealous of him, but his father kept the matter (in mind).’
 (Genesis 37:11)

Arabic Arabic, like Akkadian, has a distinction between two conjunctions: *wa-*, which links constituents that are parallel or simultaneous, and *fa-*, which links constituents that are sequential. Thus *fa-* may imply:

temporal sequence

- (98) *ša:r-at al-mawta fa yalab-at-hu*
 wrestled-3fsg def-death conj overcame-3fsg-3msg
 ‘She wrestled with death and (then) defeated it.’

causal consequence

- (99) *lam yastaṭiʔ ʔan yataʕa:wana maʕahu fa istaqa:la*
 neg.past be.able comp cooperate with.him conj resigned
 ‘He was unable to work with him and (so) he resigned.’

logical reason

- (100) *šammamat ʔan tuxbira muḥammad fa huwa xaṭi:buha:*
 she.resolved comp she.inform Muhammad conj he her.fiancé
 ‘She resolved to tell Muhammad, for he was her fiancé.’

In contrast, *wa-* often marks a temporal clause indicating simultaneity (often marked, as in Hebrew, by the presence of a preverbal phrase, noun, or pronoun):

- (101) *yatana:walu ʔaʕa:mahu wa ʕala: raʔsihi ḥarīsun*
 he.receives his.food comp on his.head guard
 ‘He receives his food while a guard is (standing) over his head.’

- (102) *ma:t-at wa hiya t-alidu*
 died-3fsg conj she 3fsg-give.birth
 ‘She died while giving birth.’

Mehri The conjunction *wə- ~ u-* (< *əw?) is used for both clause and clause-constituent conjunction:

- (103) *ʔagb-ək b-īs wə-sē ʔagəb-ōt b-ay*
 love.past-1sg in-obj.3fsg conj-pro.3fsg love.past-3fsg in-obj.1sg
 ‘I fell in love with her, and she fell in love with me.’
 (R236)

Geez Ordinary clause and clause-constituent conjunction are formed with *wä-*. With foregrounding enclitics such as *-ni* ‘even’ and *-əssä* ‘on the one hand’, various conjunctive and adversative effects are possible:

- (104a) *bä-kämä bä-sämay wä-bä-mədr-ni*
 in-as in-heaven and-in-earth-fgenc
 ‘on earth as it is in heaven’
- (104b) *qal-əssä qal-ä Yaʕqob wä-ʔədäw zä-ʕesaw*
 voice-fgenc voice-const Jacob and-hands poss-Esau
 ‘as for the voice, it is the voice of Jacob, but the hands are of Esau.’

The ‘and-so/then’ consecutive construction uses the infinitive-like converb (‘gerund’, base-stem form, CäCiC-) in a structure . . . Converb-Accusative-Possessive-suffix before a main clause structure. The resulting Clause₁ – Clause₂ proposition can signify:

temporal priority of Clause₁

- (105a) *sämiʕ-o* (< *sämiʕ-ä-hu) *Herodəs dängäd-ä*
 hear.ger.(acc-)3msg Herod alarm.past-3msg
 ‘Herod heard this and was alarmed (lit. he-hearing, Herod was alarmed)’
- (105b) *ħäwir-ä-kəmu tä-säʔäl-u*
 go.ger.acc-2mp (pass-)ask.imptv-pl
 ‘go and ask (lit. you(pl)-going ask (imptv-pl))’

simultaneity and manner (Clause₁) of Clause₂

- (106) *tä-ʕägiš-ä-kä a-əməʔ-(ä)ni*
 (pass)-patient-acc-2msg (caus)-hear.imptv-obj.1sg
 ‘hear me patiently (lit. you(sg)-being-patient hear me).’

Amharic Clause constituents can be conjoined in the structures X-(ə)nnā Y, or X-(ə)mm Y-(əmm) . . . :

- (107) *čäw-ənnā bārbārrē / čäw-əmm bārbārrē-mm*
 salt-conj pepper / salt-conj pepper-conj
 ‘salt and pepper’.

Both structures also occur with clauses, -(ə)mm fairly freely for arbitrary conjunction:

- (108) *qän-u-n mulu yə-bäl-all-əmm*
 day-def-acc full 3msg-eat.pres-aux.3msg-conj
yə-tät-all-əmm
 3msg-drink.pres-aux.3msg-conj
 ‘the whole day he eats and drinks.’
 (L726)

The conjunction -ənnā has more restrictions: with compound tenses it has causal semantics:

- (109) *bätam y-aṭän-all-ənnā fätäna-w-ən*
 much 3msg-study.pres-aux.3msg-conj exam-def-acc
y-alf-all
 3msg-pass.pres-aux.3msg
 ‘because he studies a lot, he will pass the exam.’
 (L747)

Even as a conjunction, it more frequently has a connotation of temporal sequence:

- (110) *mäshaf-očč-u-n yə-yəz-ənnā (**yə-yəz-all-ənnā) wädä təməhərt*
 book-pl-def-acc 3msg-take.pres-conj toward study
bet yə-hed-all
 house 3msg-go.pres-aux.3msg
 ‘he takes his books and goes to school.’
 (cf. L727)

As in Geez, the ‘and-so/then’ conjunction is handled by the very widely used con-verb construction. This can be used both for clauses describing a succession of activities:

- (111) *bält-o suq hed-ä*
 eat.ger-3msg market go.past-3msg
 ‘he ate and then went to the market’

and for simultaneous actions:

- (112) *roṭ-o hed-ä*
 run.ger-3msg go.past-3msg
 ‘he went running (he-running went).’

In this latter sense it is practically a kind of complement for verbs of finishing:

- (113) *bält-oç ärräs-ä*
 eat.ger-3msg finish.past-3msg
 ‘he finished eating.’

Out of the latter use arise a large number of virtually fixed adverbial expressions, which are usually inflected for person, but which sometimes can be used in a frozen 3msg form, of which a few of the more common are:

- abro* ‘together’ (from *abbärä* ‘join up / be united’)**
- (114) *abr-ä-n ənnə-hed-allä-n*
 join.ger-1pl 1pl-go.pres-aux-1pl
 ‘we will go together’
- dägmō* ‘also, again’ (from *däggmä* ‘repeat, do again’)**
- (115) *gänzäb dägm-o yə-fälləg-all*
 money repeat.ger-3msg 3msg-want.pres-aux.3msg
 ‘he also wants money’
- mälləso* ‘again, back, in return’ (from *tämälläsä* ‘return’)**
- (116) *mälləšš-e mätta-hu-t*
 return.ger-1sg hit.past-1sg-obj.3msg
 ‘I hit him back’
- qädmo* ‘before, already’ (from *qäddämä* ‘advance, be first’)**
- (117) *qädm-o/qädəmm-e awq-äw*
 advance.ger-3msg/advance.ger-1sg 1sg.know.pres-obj.3msg
näbbär
 be.past(-3msg)
 ‘I knew him (from) before.’
 (L364–74)

Note also the tense forms made out of a combination of the converb/conjunctive form – above, section 4.7.1.3.

Chadic

Zygmunt Frajzyngier and Erin Shay

5.1 Geographical distribution

The Chadic family, the largest of the Afroasiatic phylum, comprises between 140 and 160 languages spoken in northern Nigeria, southern Niger, northern Cameroon, and southern Chad Republic (see [Map 5.1](#)). Ethnologue 2005 gives the number of languages as 195, an estimate that suggests some dialects may have been counted as separate languages (www.ethnologue.com/show_family.asp). The Chadic family is the most typologically diverse of the Afroasiatic phylum with respect to phonology, morphology, the structure of phrases, clauses, and sentences, and with respect to the functional domains coded in the grammatical systems.

Many Chadic languages have been in contact with languages from the Niger-Congo and Nilo-Saharan families. A few languages also have direct contact with Nigerian and Chadian Arabic, members of the Semitic family. Chadic languages also exhibit features that characterize Africa as a linguistic area (see Heine and Nurse 2008), including the presence of labial-velar stops, glottalized stops, and lateral continuants; verbal extensions and logophoric pronouns; the distinction between inclusive and exclusive categories in the first-person plural; two tense and aspectual systems and the functions for which the two systems are used; head-coding, including the coding of semantic relations on the verb; coding definiteness of the object on the verb; and, in some languages, the absence of a gender system. Some formal characteristics of individual Chadic languages and the functions they encode may be due to multiple language contacts over thousands of years. In some cases we know which linguistic characteristics are due to contact (e.g. the Niger-Congo type of vowel harmony in Tangale (West Chadic)), but we will not have a clear picture of which characteristics have resulted from language contact and which are products of independent language-internal change until we have reconstructed the phonological, morphological, and syntactic characteristics of Proto-Chadic, a task that has yet to be accomplished.

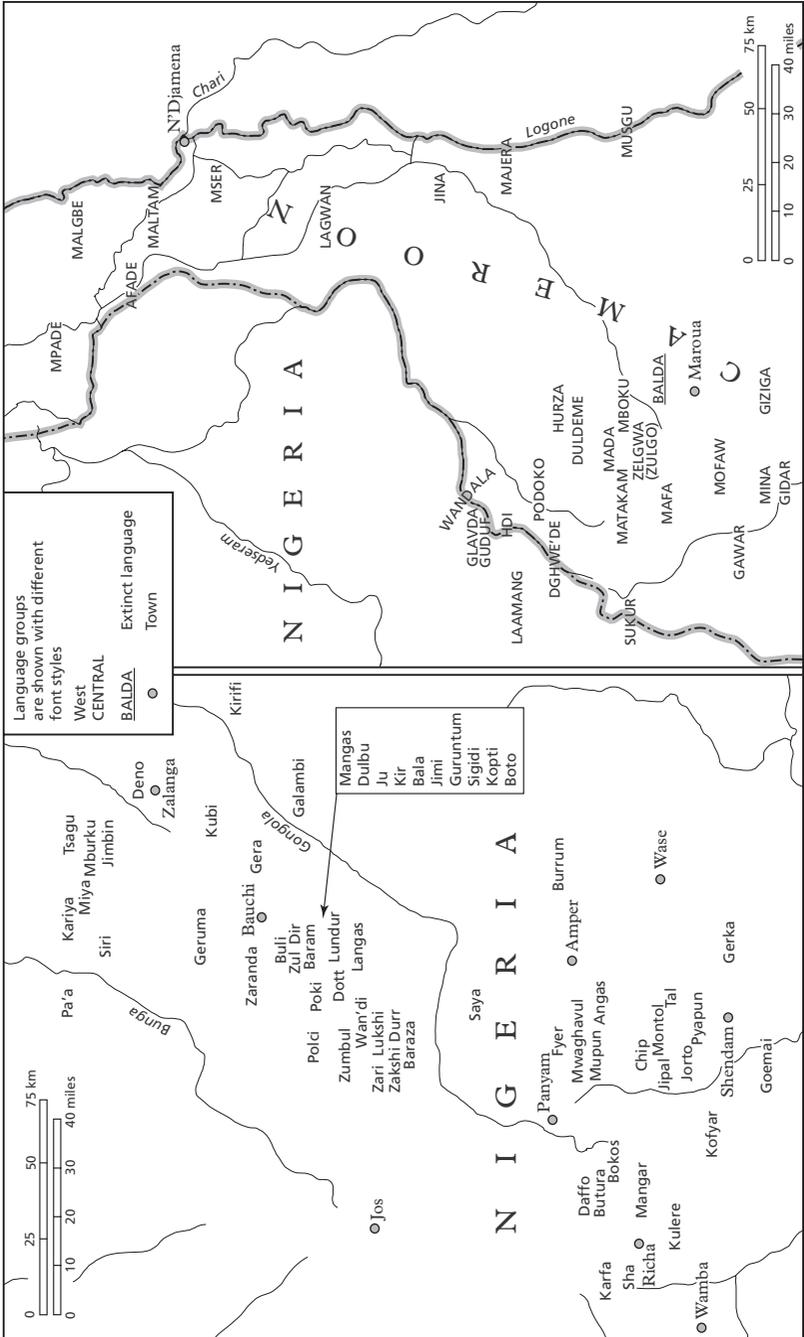
The largest language of the Chadic family, Hausa, is spoken as a first language by well over 20 million people in northern Nigeria, Niger, and in immigrant communities

throughout Western and Central Africa. Hausa is also the second language for many people in northern Nigeria. No other Chadic language exceeds half a million speakers, and only about eight languages have as many as 100,000 speakers (Barreteau with Newman 1978). Many Chadic languages are endangered, some having fewer than 1,000 speakers. Some languages (Zumaya, Masa branch) have disappeared within the last thirty years. Even in languages with a large number of speakers, bilingualism is quite common, the second language being one of the vehicular languages of West and Central Africa, such as Hausa, Fula (West Atlantic), or Kanuri (Nilo-Saharan). Bilingualism may also involve languages that are vehicular in only a very limited area. It is likely that bilingualism in the urban environment will eventually evolve into monolingualism as speakers abandon socially and economically less important languages.

5.2 Internal classification

A brief history of the classification of Chadic languages within the Afroasiatic family and of the internal classification of these languages can be found in Barreteau with Newman (1978). Friedrich Müller (1876) posited the existence of a ‘Hamito-Semitic’ family consisting of the Semitic languages on the one hand and the ‘Hamitic’ languages Egyptian, Berber, and Cushitic on the other, a classification based largely on historical and racial argumentation. The Hamito-Semitic family did not include Chadic. As early as 1924, Marcel Cohen stated that the languages classified as ‘Hamitic’ do not represent a genetic entity different from other Hamito-Semitic languages, nor do they have a specific set of linguistic characteristics. Greenberg (1950b) strongly supported Cohen’s stance and proposed the term ‘Afroasiatic’ for a family to include the Chadic languages in addition to Semitic, Cushitic, Egyptian, and Berber. Languages now included in the Chadic family were classified in Westermann and Bryan (1952, partially following Lukas 1936a) into two major groups, Chadic and Chado-Hamitic, and several isolated entities. The distinction between Chadic and Chado-Hamitic was based on the presence of grammatical gender in ‘Chado-Hamitic’ and its absence in Chadic; on the forms of some plural markers; and on a small ‘Hamitic’ lexicon (Westermann and Bryan 1952: 169–70). The Angas group (now a member of the West Chadic branch), in spite of noted vocabulary similarities with the Chado-Hamitic languages, was classified as an isolated unit chiefly because Angas languages have no grammatical gender (Westermann and Bryan 1952: 138). The division between Chadic and Chado-Hamitic has now been abandoned.

The first inclusive list of Chadic languages as we know it today was proposed by Greenberg (1966a), who postulated nine branches within the Chadic family. Newman and Ma (1966) and Newman (1977a) propose a classification of Chadic languages based on the study of regular sound correspondences. Newman (1977a and 1990) postulates four branches of Chadic. We list here a selection of languages, mainly those



Map 5.1b Chadic family (insets)

for which relatively extensive descriptive materials are available, based on Newman's classification:

5.2.1 West

- | A | B |
|------------------|--------------------------|
| 1. Hausa | 1. Bade, Ngizim |
| 2. Bole | 2. Miya, Pa'a |
| Tangale | 3. Guruntum, Saya (Za:r) |
| Bole | 4. Dott (Zofì) |
| Pero | |
| 3. Angas | |
| Sura (Mwaghavul) | |
| Mupun | |
| 4. Ron, Fyer | |

5.2.2 *Biu-Mandara*

- | A | B |
|--|---------------------------|
| 1. Ga'anda, Hwana (Hona), Jara, Tera | 1. Buduma, Kotoko, Logone |
| 2. Bura, Cibak, Margi | 2. Musgu |
| 3. Bana, Higi, Kapsiki | 3. Gidar |
| 4. Glavda, Guduf, Lamang, Hdi | |
| 5. Ouldeme, Zulgo | |
| 6. Sakun (Sukur, very little linguistic material is available) | |
| 7. Daba, Hina (Mina) | |
| 8. Bachama, Tsuvan | |

5.2.3 *East*

- | A | B |
|---------------------------|---------------------------------|
| 1. Somrai, Tumak | 1. Bidiya, Dangla, Migama, Mubi |
| 2. Lele, Nancere, Tobanga | 2. Mukulu |
| 3. Kera, Kwang | 3. Barain, Saba, Sokoro |

5.2.4 *Masa*

- Masa
- Mesme
- Musey
- Zime-Lame
- Zumaya

In Newman's analysis, the West branch is characterized by a change from the lateral continuant *ɬ (represented in many grammars and orthographies as *hl*, *tl*, or *sl*) to *l*, and a change from the Proto-Chadic sibilant, possibly **sh*, to *s*. The Biu-Mandara branch is characterized by a change from **b* > *v* and from the sibilant **sh* to the lateral ɬ. The East branch is characterized by the loss of lateral fricatives. Newman does not propose sound changes that distinguish the Masa branch from other groups.

Jungraithmayr (1978c) posits only three branches: West, Central (the Biu-Mandara of Newman's classification), and East, with the Masa branch incorporated into the Central branch (see also Tourneux (1990)). Shryock (1997) argues for Masa as a separate branch, as proposed by Newman, on phonological and morphological grounds, including the fact that Masa does not display the phonological changes characterizing the Central branch, i.e. **sh* > *s*, **r* > *l*, and **d* > *r* in intervocalic position. Work on the internal classification of Chadic is on-going, and further modifications are entirely possible as more languages become known and more detailed comparative studies are conducted. Since the number of branches remains controversial, sometimes we refer to three and sometimes to four branches of Chadic. Whether one accepts the classification into three branches or four branches has no bearing on the typological survey that follows.

5.3 Scholarship on Chadic

For a bibliography on Hausa and Chadic up to 1996, see Newman (1996), and Baldi's (1997) supplement there-to. Publications on Chadic languages and linguistics can be found in *Studies in African Linguistics*, *Journal of African Languages* (discontinued), *Journal of African Languages and Linguistics*, *Journal of West African Languages*, *Afrika und Übersee*, *Bulletin of the School of Oriental and African Studies* (London), and in edited volumes from conferences on Chadic, Afroasiatic, and African languages, including Newman and Ma Newman (1977); Wolff and Meyer-Bahlburg (1983); Frajzyngier (1989a); Jungraithmayr and Tourneux (1987, 1988, 1991); Jungraithmayr (1982); Ibrizimow *et al.* (1995); Wolff (2003); Bynon and Bynon (1975); Bynon (1984); Mukarowsky (1991); Jungraithmayr and W. W. Müller (1987); Herbert (1997); Wolff and Gensler (2000); and Akinlabi and Adesola (2004). The bibliography attached to the present volume contains references for all published Chadic grammars and dictionaries and for the major grammars of Hausa. It also contains a selection of papers on issues pertaining to descriptive and comparative Chadic linguistics. Information on recent publications and on-going research on Chadic languages and linguistics may also be found via electronic media, including <http://chadicnewsletter.wordpress.com>, AfrComp.Ling, www.mandaras.info/, and the web pages of individual Chadicists.

The most abundantly described Chadic language by far is Hausa, often cited in typological studies as representative of Chadic languages. The diversity of Chadic languages, however, is such that no one language can represent the typological characteristics of the family. Hausa is also cited more frequently than other languages in the present chapter, not because it is a typical Chadic language, but because it is the most thoroughly described (for recent descriptions, see Newman (2000) and Jaggar (2001)). Because of its cultural and political importance, Hausa is taught at universities in Nigeria, the US, and Europe. Hausa radio programmes are, or have been, broadcast in the US, England, Germany, and the former Soviet Union. There are contemporary Hausa newspapers, books, poems, and plays, and a booming video industry. Scholarly work on Hausa includes several dozen grammars, dictionaries, and monographs; hundreds of articles; and pedagogical materials in English, French, German, Russian, and Polish. Hausa is also the only Chadic language on which substantial dialect studies have been conducted (Caron 1991).

Of the remaining 160 or so Chadic languages, only about 40 have been described, and most of these have been the subject of only one descriptive work. Munjuk/Musgu and Ouldeme (Central) are exceptions, each having been the subject of two descriptions. Many descriptions provide only rudimentary information on phonology and morphology, with brief notes on word order. Since most descriptions are by a single scholar – two at most – there is a serious shortage of alternative analyses and conclusions, a necessary component of any type of scholarship. This is chiefly because there are more Chadic languages than there are linguists working on them. The Chadic family thus represents an enormously rich field in which a linguist can still find a language in need of description and many scholarly problems in need of solution.

Following is a partial list of book-length grammars, dictionaries, and substantial collections of texts with grammatical notes available for Chadic languages other than Hausa:

- **West:** Kanakuru (Dera): Newman (1974); Pero: Frajzyngier (1985f, 1989a); Tangale: Kidida (1993), Jungraihtmayr (1991); Bole: Gimba *et al.* (2004); Karekare: Gambo *et al.* (2004); Ngamo: Gashinge *et al.* (2004); Kwami: Leger (1994); Ngizim: Schuh (1972); Miya: Schuh (1998); Pa'a: M. Skinner (1979); Ron: Jungraihtmayr (1970), Seibert (1998); Angas: Burquest (1973); Sura (Maghavul): Jungraihtmayr (1963–4); Mupun: Frajzyngier (1991b, 1993); Goemai: Hellwig (2003); Dott: Caron (2002); Za:r: Caron (2005).
- **Central:** Tera: Newman (1970); Ga'anda: Ma Newman (1971); Margi: Hoffmann (1963); Kapsiki: Smith (1969); Lamang: Wolff (1983a); Hdi: Frajzyngier with Shay (2002); Giziga: Lukas (1970); Buduma: Agawana

(2001); Mina: Frajzyngier *et al.* (2005); Gidar: Frajzyngier (2008); Malgwa: Löhr (2002); Logone: Lukas (1936b); Munjuk/Musgu: Tourneau (1978), Meyer-Bahlburg (1972); Ouldeme: Provoost and Kouliya (1987), de Colombel (1996, 2005); Mafa: Barreteau and Le Bléis (1990); Mofu-Gudur: Barreteau (1988); Mada: Barreteau and Brunet (2000).

- **Masa:** Masa: Caitucoli (1983, 1986), Melis (1999); Musey: Shryock (1998).
- **East:** Lame: Sachnine (1982); Kera: Ebert (1979); East Dangla: Shay (1999); Lele: Frajzyngier (2001); Mokilko: Jungraithmayr (1990); Bidiya: Alio (1986); Migama: Jungraithmayr and Adams (1992).
- **Comparative studies in Chadic** (if an author has written more than one work on a given topic, only the most recent work is cited): Newman (1977a), Jungraithmayr and Ibrizimow (1994), Stolbova (1996) (phonology); Ibrizimow (1990), Skinner (1996) (lexicon); Al-Hassan (1997), Frajzyngier (1970–80 papers, also published as Frajzyngier (2003)), Frajzyngier (1996a), Williams (1989a and b), Pawlak (1994), Schuh (2003a), (morphology and syntax). Other studies are cited in the chapter as appropriate to the topic.

Since at best only a third of the known Chadic languages have been described at all, any reconstruction of the Proto-Chadic grammatical system and its functions must be considered at present as stating problems rather than providing solutions. For the domains in which comparative studies have been conducted, languages that have not yet been described may point to different conclusions. In this chapter we do not attempt to reconstruct a grammatical system but rather present typological characteristics that are, in our view, interesting for general linguistics, for comparative Chadic, or for comparative Afroasiatic. We do not claim that these linguistic features characterized Proto-Chadic or that they are typical for Chadic languages. The few times that we do propose that a given typological characteristic is older than another, we are not implying that this characteristic necessarily represents Proto-Chadic.

5.3.1 Language representation in the present chapter

Much of the illustrative material in the sections on the syntax of simple and complex sentences and the descriptions of functional domains comes from languages with which we have had firsthand experience. This is because these elements of other languages have been described very briefly, if at all, in the published sources. Because our own experience involves work on three languages from the West branch (Pero, Mupun,

and Hausa), five languages from the Central branch (Hdi, Mina, Gidar, Giziga, and Wandala), and two languages from the East branch (Lele and East Dangla), we avoid a bias toward a single branch. We also have some firsthand data on Cibak, Maɗa, Kotoko, Mafa, and Mere (Central), Somray (East), and Masa (Masa). When no source is cited, the data are from our field notes. Grammatical and even lexical glosses in these examples represent tentative analyses, subject to further confirmation.

5.4 Phonology

In this section, we provide basic information about the phonology of Chadic languages and describe those elements that make Chadic languages interesting. These include rules of vowel deletion to mark phrase-internal position, vowel retention to mark phrase-final position, addition of segments to mark phrase-final position, extensive vowel epenthesis to comply with syllable and word structures, and various types of vowel harmony.

5.4.1 Syllable structure

Chadic languages vary with respect to the types of syllabic onsets they allow, but there is much less variation with respect to the structure of syllabic codas. East Dangla and Lele do not allow consonant clusters in syllabic onsets or codas (Shay 1999, Frajzyngier 2001). Some Central Chadic languages allow complex onsets consisting of two or even three consonants, e.g. *gmà* ‘loan’, *brè* ‘single house in a compound’ (Wandala, Frajzyngier (in press)); *lgüt* ‘dress’, *rvú* ‘cow’, *xdí* ‘self-name’, *ksá* ‘touch’, *txù.rúm* ‘rat’, *tsgh-áy* ‘send a thing’ (Hdi, Frajzyngier with Shay 2002); *cfédà-táŋ* ‘Ask them!’, *ks-à!* ‘Go with him!’, *mblúm* ‘this year’, *pskàŋ* ‘to undo’ (Giziga, Shay to appear). Hausa (West) does not allow consonantal clusters in syllabic onsets, other than stops followed by sonorants. In other West Chadic languages (Pero, Mupun), complex syllabic onsets are limited to clusters containing at least one sonorant (Frajzyngier 1989b, 1993).

Chadic languages do not allow consonant clusters in the syllabic coda. In most languages the set of consonants allowed in the coda is smaller than the set allowed in the onset. Hausa has alveolar continuants and stops in onset position, but only continuants are allowed in coda position (Newman 2000: 404). In word-final position, Hausa allows neither alveolar stops nor continuants. In a number of Chadic languages, the syllabic coda can only be a sonorant. This fact has important implications for tonogenesis.

Some languages allow only syllables with consonantal onsets (Hausa, Newman 2000: 403), while others allow syllables consisting only of the nucleus. In some languages the nucleus must be a vowel; in others it may be a sonorant: *m.dá.rá.yá* ‘hunter’, *m.ták*

'bush' (Hdi, Frajzyngier with Shay 2002); *ńtsà* 'vulva', *ńtsùr* 'nose', *ńvà* 'excrement' (Mina, Frajzyngier *et al.* 2005).

Chadic languages also differ with respect to the role of the syllable in determining the shape of the word. In some languages syllable weight affects segments outside of the syllable. The definition of a heavy syllable is language-specific (Newman 1972; Frajzyngier 1976). In Pero (West), the final vowel of the verb is mid rather than high if preceded by the structure CVV or CVC(C) (tone omitted):

SINGULAR	PLURAL	GLOSS
<i>ađu</i>	<i>ađđo</i>	'eat meat'
<i>đígù</i>	<i>đíkkò</i>	'build'
<i>wájù</i>	<i>wáccújò</i>	'scatter' (the vowel <i>u</i> is epenthetic, inserted after the addition of the suffix) (Frajzyngier 1989b)

5.4.2 Phonological constraints on word and phrase structure

Constraints that apply to syllabic onsets and codas also apply to word-initial and word-final position. There may be additional constraints on word- and phrase-final positions. Word-initial clusters are allowed in some languages, but no Chadic language described so far allows word-final clusters. In all branches of Chadic, but not necessarily in all languages, there are constraints on the distribution of consonants in word-final position. No Chadic language allows voiced obstruents in word-final position when the word is phrase-final or in isolation. In Wandala (Central), no consonant can occur in phrase-final position. In Hausa (West), which allows CVC syllables, most words nevertheless end in a vowel (Newman 2000: 54).

In some languages, only glides, nasals, and liquids can occur in word-final position. In others, labial and palatal glides behave like consonants in that they are followed by an epenthetic vowel in word-final position (Wandala (Central), Frajzyngier field notes; East Dangla (East), Shay 1999). In Bidiya (East, Alio 1986), any non-nasal consonant can occur in word-final position, but all underlying nasals, including *m*, become *ŋ* in final position. In Lele (East), the consonants *s*, *d*, *k*, and *j* may not occur word-finally. Whenever a consonant cluster or a disallowed consonant would otherwise occur in word-final position, an epenthetic vowel is added whose quality is determined by the preceding vowel: *kusu* 'body', *ɓàsà* 'pottery', *bisí* 'common duiker (*Sylvicapra Grimmia*)' (Frajzyngier 2001).

Complex phonetic segments, e.g. labial velars and pre-nasalized stops, behave in some respects like clusters and in other respects like single segments. Giziga (Central) allows word-initial clusters of two consonants. A pre-nasalized consonant, like a cluster, cannot

occur in word-final position. However, a pre-nasalized stop can be the first constituent of an initial cluster: *ndrè' é* 'often'.

The number of syllables in a word varies significantly among Chadic languages and depends, in part, on the inflectional processes available. In a language with a rich system of verbal inflection, the number of syllables may be quite large. Here is an example of a five-syllable word containing seven morphemes:

- (1) *tf-í-d-á-ghá-tfá-lú*
 spit-AWAY-1SG-PVG-D:PVG-spit-UH
 'I was blessed.'
 (Hdi, Frajzyngier with Shay 2002: 208)¹

The number of syllables in the word may have implications for other aspects of phonology. In Lele (East), the consonant *n* is retained in word-final position in a mono-syllabic word:

gìn 'forehead'
gàn 'leg'

In polysyllabic words, the word-final *n* is deleted when the word occurs in isolation: *tamá* 'woman'. The evidence for an underlying final nasal in 'woman' is that the vowel in the second syllable is nasalized before the third-person possessive suffix *y*: *tamá-y* 'his woman'.

5.4.3 Tone

The major characteristic that distinguishes Chadic from Berber, Semitic, and Egyptian is the use of tone as a coding means in both the lexicon and the grammatical system. There has been no attempt so far to reconstruct a Proto-Chadic tonal system or to postulate rules of historical tonal change within the family, but since all Chadic languages have tone as a coding means, it can be safely posited as a characteristic of Proto-Chadic. An explanation of tonogenesis in Chadic is provided in Wolff (1987) and in chapter 8, this volume.

Most languages have two underlying tones, referred to as high and low, but there are languages with three underlying tones. Tones code functions in all domains, including tense, aspect, mood, number, semantic relations between the predicate and its arguments, locative predication, focus, deixis, and others:

Aspect

Imperfective *ábà* 'he was passing'

Perfective: *ábá* 'he passed'

(Maďa, Barreteau and Brunet 2000: 44)

Mood

kàbàamá ‘You (pl) should pass first!’

kábàamá ‘when you have (pl) passed’

(Maɓa, Barreteau and Brunet 2000: 45)

Semantic relations

tá object marker preceding the noun

tà locative preposition

(Hdi, Frajzyngier with Shay 2002)

Some morphemes have inherent tone and some do not. Verbs in Lamang (Central, Wolff 1983a) appear not to have inherent tone, and tones realized on verbs carry grammatical functions. Similarly, Frajzyngier and Munkaila (2004) postulate that tones on verbs in Hausa carry only grammatical functions (for a different view, see Newman (2000)). In most Chadic languages there are morphemes whose tones are polar, i.e. opposite to the preceding tone. This is the case with the copula in Hausa (West) and the diminutive suffix *kə* in Gidar (Central):

(2a) *rīgaa cèe*
gown COP:F
‘It is a gown.’

(2b) *mootà cee*
car COP:F
‘It is a car.’
(Hausa, Newman 2000: 602, high tone unmarked)

(3a) *wán-kà* ‘girl’

(3a) *kàr-kə* ‘female dog, puppy’
(Gidar, Frajzyngier 2008a)

The voice characteristics of consonants can affect tone height, a phenomenon noted by Ansre (1961) for Ewe (Niger-Congo). Voiced consonants and sonorants cause tone lowering and voiceless consonants cause tone raising. This phenomenon has been observed in Munjuk (Tourneau 1978) and Lamé (Sachnine 1982; Barreteau 1990).

A heavy onset may affect the tone of the syllable. Lele (East) has a class of verbs whose plural form differs from the singular in having an initial voiceless consonant. The initial voiceless consonant is the result of consonant gemination and subsequent reduction. The plural form has mid tone as a result of the rule $L \rightarrow M/CCV$ (Frajzyngier 2001, 2003).

SINGULAR	PLURAL	GLOSS
<i>bòy</i>	<i>pōy</i>	‘break’
<i>bòr</i>	<i>pōr</i>	‘cut’
<i>dìgrì</i>	<i>ìgrì</i>	‘kill’

Tone-raising is not merely the effect of the voiceless stop, as there are voiceless stops followed by low tone:

pàr’ ‘open’
tàbàl’ ‘spear’
 (Frajzyngier 2001)

In some languages, different tones have different phonological status. In Wandala, low tone is unmarked and may be deleted when a vowel is deleted. High tone is marked and serves as the grammatical marker of a variety of functions. The rules of tonal shift in Wandala are as follows: $V_1T_L + V_2T_H \rightarrow V_2T_H$; $V_1T_H + V_2T_L \rightarrow V_2T_H$. In other words, high tone is retained, regardless of whether it comes from V_1 or V_2 :

- (4) *njà-n-í-njà á t wáfk-á ordinator [njànínjá twáfká ordinator]*
 sit-1SG-EP-sit PRED T face-GEN computer
 ‘I am sitting in front of the computer . . .’ (T = target)

In Hausa (West), when a low-tone vowel is deleted, the low tone is shifted to the preceding syllable. The sequence HL becomes a falling tone:

kadà kâr ‘don’t’ (prohibitive marker)
daabùgii dàbgii ‘anteater’
 (Newman 2000: 598, high tone unmarked)

When a high-tone vowel is deleted, the high tone is either deleted or shifts to the preceding syllable, replacing the preceding low tone. Newman (2000) states that the conditions for tone retention or deletion depend on the context:

Tone deletion

gawàyii → *gawài* [gawày] ‘charcoal’

Tone retention

tàawa → [taw] ‘mine’ (a dialect variant)
 (Newman 2000: 599, high tone unmarked)

Table 5.1 *Consonants in Proto-Chadic (Newman 1977a: 9)*

	Labial	Alveolar	Palatal	Velar	Palatalized velar	Labialized velar
Stops: Voiceless	p	t	c	k	ky	kw
Voiced	b	d	j	g	gy	gw
Glottalized (voiceless)	ʔ	ɗ	ʎ			
Continuant:	f	s	(sh)	x	xy	xw
Voiceless		z				
Voiced		ʒ				
Nasal	m	n				
Lateral continuant		ɬ				
Glides	w		y			
Liquids		r				

5.4.4 Consonantal systems

Several proposals have been made concerning the reconstruction of consonants in Proto-Chadic. Newman (1977: 9a) proposes the set of consonants in table 5.1.

Jungrauthmayr and Ibrizimow (1994) propose a much richer system that includes, in addition to the consonants reconstructed by Newman, another bilabial stop, another alveolar voiced stop, another velar voiced stop, two more alveolar continuants, another lateral voiceless continuant, and another voiced continuant. Stolbova (1996) reconstructs a somewhat different system that includes, among others, ten glottalized consonants, two lateral continuants, and one lateral affricate.

In contrast to other languages of the Afroasiatic phylum, many Chadic languages have the glottalized stops *ʔ* and *ɗ* and pre-nasalized obstruents *mb*, *nd*, *ŋg*, in addition to simple voiceless and voiced stops. Central Chadic languages have the lateral voiceless and voiced continuants *ɬ* and *ʒ*, which are found in only a few West Chadic languages, e.g. Miya (Schuh 1998), and have not been attested in East Chadic. In some languages (Mina, Gidar), lateral continuants are produced with considerable narrowing toward the end of the segment, producing the impression of a continuant followed by a stop rather than a continuant alone. It is this characteristic, presumably, that has led some linguists to postulate the existence of lateral affricates, a category not justified on phonetic grounds, since the stop effect occurs at the end of the consonant rather than at the beginning.

Some languages do not allow vowels in word-initial position, inserting a glottal stop or a glottal continuant [h] before an initial underlying vowel (Hodge 1989; Newman 1976; Frajzyngier and Koops 1989). Some languages have a phonemic glottal stop, as evidenced by the fact that when the number of consonants is a factor in a phonological rule, the glottal stop counts as a consonant (Frajzyngier 2004).

In a number of Chadic languages there is a distinction between simple and complex consonantal segments (Frajzyngier 2004). Complex segments include pre-nasalized stops, labiovelar consonants, and lateral continuants. In some environments, these segments are reduced to simple segments: pre-nasalized stops are reduced to simple stops, labiovelar consonants are reduced to labial consonants, and lateral continuants are reduced to lateral liquids. Since the last case is seldom described in the general literature, here is the evidence. In Wandala, the voiced lateral fricative is reduced to [l] before another consonant. The underlying sequence $\text{ɬ}v$ is realized phonetically as [lv]:

- (5a) à *kkə̀l-vá zàdè*
 3SG break-AFF stick
 ‘He broke a stick.’

Cf.:

- (5b) à *kkə̀ɬ-á-myá-n-vé*
 3SG break-GO-1PL.INCL-3SG-AFF
 ‘He broke it for us (incl).’
 (Frajzyngier field notes)

This phonologically conditioned change in Wandala is the same change that lateral fricatives have undergone historically in West Chadic languages.

5.4.5 Vowel systems

Comparative studies of Chadic vowel systems are not as systematic or as thorough as those of consonantal systems. Newman (1977a) proposes that Proto-Chadic may have had four vowels (*i*, *u*, *a*, and *ə*), or perhaps only two (a central vowel and *a*), but he does not propose any vowel correspondences. Stolbova (1996) reconstructs a five-vowel system for Proto-Chadic. Schuh (1984) deals with vowels of the Bole-Tangale group. Wolff (1983b) is a posited reconstruction of the vowel system in the Lamang-Wandala branch. Jungraihtmayr (1992/3) posits a typology of vowel systems and historical phonological processes affecting vowels in Chadic.

A number of studies posit synchronic systems of two or three underlying vowels distinguished only by height. The notion of a two-vowel system for a Chadic language dates back to Mirt’s presentation at a conference in 1968 (see Jungraihtmayr 1992/3), subsequently published in Mirt (1969/70). Mirt postulated only two underlying vowels, a central vowel *ə* and a low vowel *a*, for Wandala (Mandara (Central)). In this analysis, the phonetic vowels [i], [u], [e], and [o] are products of assimilation, as follows: *ə* becomes [i] in a palatal environment and [u] in a velar environment; *a* becomes [e] in a palatal

environment and [o] in a velar environment. The two-vowel analysis has been accepted and applied to other languages (Wolff *et al.* 1981; Wolff 1983b, 2004; Barreteau and Jungraithmayr 1982; and Boyd 2002). The high central vowel, often called schwa and represented by ə, is always predictable in Wandala, being a product of epenthesis. All vowels, including *a*, may be epenthetic in various environments. The major problem with analyses that postulate *y* and *w* prosodies is that there is no independent evidence for the existence of these prosodies: the only argument in support of prosodies seems to be the presence of front or back vowels in the phonetic realization of a given lexical item. Analyses that postulate a reduced number of vowels thus do so at the cost of adding prosodies, whose existence is not otherwise justified.

If unpredictability of occurrence is the main analytical tool in postulating the underlying vowels, then some languages have a three-vowel system consisting of *a*, *i*, and *u* and other languages have a five-vowel system consisting of *a*, *e*, *i*, *o*, and *u*. The high central vowel may be contrastive if it is the sole vowel in a given morpheme. Whether the central vowel is epenthetic or not depends on properties of the individual phonological system and on what type of underlying morpheme structure is postulated in the given language. Five-vowel systems are common in East Chadic. Languages that have advanced-tongue-root (ATR) vowel harmonies, such as Tangale (West) and East Dangla (East), may have additional underlying mid vowels. Long–short vowel contrasts have been recorded in West Chadic but are not common in Central Chadic or East Chadic languages, with the exception of Kera.

Languages that have three underlying vowels may have five or six vowels in phonetic realizations. Mid vowels are often products of vowel fusion or of vowel lowering. In vowel fusion, *a* + *i* results in [e] and *a* + *u* results in [o]. Lowering has been demonstrated before and after consonant clusters (Central and East branches); in closed syllables (Hausa); and before velar consonants (Hdi). In East Dangla, the vowels *i* and *u* become *a* when followed by a consonant cluster:

- (6) ηù dukàm-tí
 3PL cut-3F
 ‘They cut (it) off her.’ (*dukum* ‘cut’)
- (7) kí gidây-du-gu
 2M buy-1SG-3PL
 ‘You bought them for me.’ (*gidiye* ‘buy’)
 (Shay 1999, mid tone unmarked)

Mid vowels may also result from raising, fronting, and rounding due to long-distance assimilation rules, sometimes described as vowel harmony (Frajzyngier 1981, 1986c).

Here is an illustration of high-vowel lowering after a consonant cluster, accompanied by long-distance vowel rounding:

- (8) *à-kkú-án-kà* → [ò-kkó-ón-kò]
 3M-cook-PL-PRF
 ‘They cooked [liquid food].’
 (Gidar, Frajzyngier 2008a)

In a number of languages, the occurrence of the high or mid central vowel ə is predictable: it is inserted when syllable- or word-structure conditions require it. This is the case in Wandala and other languages of the East and Central branches. In many East Chadic languages, the epenthetic vowel is [i]. In Kera, the epenthetic vowel appears to be a copy of the preceding vowel; if there is no preceding vowel, the epenthetic vowel is high central.

5.4.6 Vowel assimilation and vowel harmonies

There are two types of vowel harmony attested in Chadic languages. One type is the ATR vowel harmony found in Tangale (West), East Dangla (East), and possibly in others. The other type consists of the raising and lowering, fronting, and rounding harmonies attested in all three branches of Chadic.

Vowel harmony in Tangale, first observed by Jungraithmayr (1956 and 1971), requires all vowels within a word to belong to the same set, which Kidida (1993 (1985)) labels as tense (*i, u, e, and o*) or lax (*j, y, ɛ, ɔ, and ɔ*). This type of vowel harmony is rare in Chadic languages, and Jungraithmayr (1992/1993) justifiably attributes it to the influence of neighbouring Niger-Congo languages. Vowel harmony in East Dangla requires that all mid vowels in a word have the same values for [±round] and [±ATR]. In Kera (East), only high vowels (*i* and *u*) or non-high vowels (*e, a, and o*) can occur in a word (Ebert 1979). The central vowel ə can occur in both sets.

Vowel raising, lowering, fronting, and rounding rules are found in West, Central, and East Chadic languages. They often operate across vowels and consonants, producing vowel harmony effects.

In Gidar (Central), the mid vowels *e* and *o* are byproducts of fronting and rounding harmonies triggered by underlying front or round vowels. A high vowel causes a preceding or following *a* to be raised one step and to acquire the value of the high vowel for the feature [±round]; thus, *a* becomes [e] in the neighbourhood of [i] and becomes [o] in the neighbourhood of [u] (products of vowel harmony are in bold type):

- (9) *à-tàw-í-kà* → [è-tèw-í-kè]
 3M-cut-3PL-PRF
 ‘He cut them.’

- (10) *nə-tùf-ú-kà* → [nə-tùf-ú-kò]
 1SG-dig-3M-PRF
 'I dug it.'

In some dialects of Gidar, subject pronouns preceding the verb are in the scope of vowel harmonies; in other dialects they are not. In the Lam dialect, even prepositions are in the scope of vowel harmony. In the following example, the trigger for vowel harmony is the high front vowel of the third-person plural object suffix *-ti*. The preposition whose underlying form is *ká* is realized as [ké]:

- (11) *nì-dé-k ví ké-lbé-tì*
 1SG-go:VENT-PRF PURP PREP-buy-3PL
 'I came to buy them.'

In the Bidzar dialect, prepositions do not undergo vowel harmony:

- (12) *nì-dé-k ví ká lbé-tì*
 1SG-go:VENT-PRF PURP PREP buy-3PL
 'I came to buy them.'

Even an auxiliary verb may be in the scope of the fronting vowel harmony triggered by the main verb. In the following example, the future marker *dáw* undergoes fronting under the influence of the following verb, which has a high front vowel (the labial glide is deleted when followed by a sequence of consonants):

- (13) *é-gil dè təkí kə-dé glì-ò-k pək*
 IMPER-leave ASSC where 2SG-FUT leave-EP-2SG all
 'Leave by wherever you want to leave.'

There may be barriers to vowel harmony. In Gidar, sonorants that share the features involved in vowel harmony are barriers to vowel harmony. Thus, the [+high] alveolar nasal is a barrier to vowel raising. Speakers who do not velarize the syllable-final nasal consonant do not front the preceding vowel:

- (14) *mándwàn-dé*
 rat-PL
 'rats'

Speakers who do velarize the syllable-final nasal consonant do front the final vowel, since the velar nasal is not a barrier to fronting vowel harmony:

- (15) *máŋdwán̄ + dé* → [méŋdwèŋ-dé]
 rat-PL
 'rats'

5.4.7 Word-final vowel deletion

One of the most striking characteristics of languages from all three branches is the coding of phrasal boundaries through word-final vowel retention and the coding of phrase-internal position through word-final vowel deletion. These processes have been recorded in Central Chadic (Mina) and East Chadic languages (East Dangla and Migama). In some West Chadic languages, e.g. Hausa (Newman 2000), the final vowel is deleted before the addition of a suffix, an instantiation of final-vowel deletion at the morphological level.

In languages where vowel deletion codes phrase-internal position, final-vowel deletion indicates that a lexical item belongs to the same phrase as the following lexical item. In Mina (Central), the noun *hàzá* ‘dog’ is reduced to [hàs] (with word-final devoicing) in phrase-internal position. The final vowel of the demonstrative *tá* is deleted and replaced by the epenthetic *ɛ* in phrase-internal position (the products of vowel deletion are bolded):

- (16) *hàzá tá bítì* → [hàs tó bíčì]
 dog GEN Bitsi
 ‘Bitsi’s dog’

The verb ‘escape, run’, whose form in isolation is *sì*, is reduced to a consonant when followed by a subject pronoun. The consonant is often palatalized:

- (17) *í sì tətàŋ* → [í šì tətàŋ] → [íštətàŋ]
 3PL run 3PL
 ‘They escaped.’

If final-vowel deletion results in a disallowed syllable structure or consonant cluster, an epenthetic vowel is inserted. The noun *ŋkwà* ‘goat’ becomes *ŋkù* after final-vowel deletion and epenthetic-vowel insertion:

- (18) *sə kí lim ŋkù báytə zá*
 1SG INF see goat large EE
 ‘I saw a large goat.’
 (Frajzyngier *et al.* 2005)

The process of final-vowel deletion and vowel retention has been referred to in older grammars as an alternation between pre-pausal position, where the vowel is retained, and other positions, where the vowel is deleted. Such analyses are not satisfactory, because there is often no audible pause that might cause the vowel to be retained.

5.4.8 Word-internal vowel deletion

Intimately linked with word-final vowel deletion is the process of word-internal vowel deletion, attested in some West and Central Chadic languages: if a word does not have an underlying final vowel, an internal vowel is deleted to indicate phrase-internal position. An epenthetic vowel may then be inserted, as required by syllable-structure conditions. The quality of the epenthetic vowel may depend on the characteristics of preceding or following consonants:

PHRASE-FINAL	PHRASE-INTERNAL
<i>mávár</i>	<i>mávər</i> ‘guinea corn mush’ (<i>a</i> deletion, schwa insertion)
<i>báy</i>	<i>biy dza</i> ‘chief of the mountain’ (note the insertion of <i>i</i> before the palatal glide)

(Mafa, Barreteau and Le Bléis 1990: 27)

If vowel deletion results in an allowed syllabic or consonantal structure, no epenthetic vowel is inserted. Compare instantiations of the root *zɓ* ‘marry’ in the following examples. In (19), the root has an epenthetic high central vowel. In (20), there is no vowel because the sequence *zɓ* is preceded by a vowel, resulting in a syllable boundary between *z* and *ɓ*:

- (19) *zəɓ-àŋ gwàs tí à vù gəzəg-ày*
 take-3SG woman ASSC PREP body Giziga-PL
 ‘marriage among the Giziga’

- (20) *ŋgwàs à zɓà-kà tí gwàt-ày mícɗék mícɗék-éy hàɗà*
 woman PREP take-PL ASSC thing-PL small small-PL many
 ‘One marries a woman with a lot of small things.’ (I.e., it takes many steps to marry a woman)
 (Giziga; Frajzyngier and Shay field notes)

5.4.9 Coding phrasal boundary through addition of segments

Some Chadic languages code phrasal boundaries by adding segments. In Mina (Central), deictics, determiners, and some pronouns add a velar nasal (with an epenthetic vowel if necessary) in phrase-final position, as illustrated below on possessive subject pronouns:

SINGULAR	DUAL	PLURAL
1 <i>nàŋ</i>	<i>təmú</i>	<i>təkóŋ</i> INCL <i>tínéŋ</i> EXCL
2 <i>təkóŋ</i>		<i>tikinéŋ</i>
3 <i>ngəŋ</i>		<i>tətàŋ</i>

Possessive pronouns in phrase-internal position do not have this marker:

SINGULAR	DUAL	PLURAL
1 <i>n</i>	<i>t̥-m</i>	<i>t-òk</i> INCL <i>t-ín</i> EXCL
2 <i>t̥-k</i>		<i>t-íkín</i>
3 <i>ng̃əŋ</i>		<i>t̥t̥</i>

(Frajzyngier *et al.* 2005)

In East Dangla (East), second-person independent pronouns, along with the first-person plural exclusive, have a nasal suffix in phrase-final position. In phrase-final position, the second-person forms have an optional final *kV* segment, a product of long reduplication of the first segment of the pronoun (Shay 1999):

	PHRASE-FINAL	PHRASE-INTERNAL
2M	<i>kíníŋ(ké)</i>	<i>kín</i>
2F	<i>káníŋ(ké)</i>	<i>kán</i>
1PL.EXCL	<i>níníŋ</i>	<i>nín</i>
2PL	<i>kúnúŋ(ké)</i>	<i>kún</i>

5.5 Lexical categories, subcategories, and derivational processes

Most descriptive grammars of Chadic languages do not explicitly state the defining properties of the lexical categories they postulate, and we do not attempt here to re-analyse the existing descriptions. In most Chadic languages, nouns differ from verbs with respect to phonology, morphology, or both. The category ‘adjective’, though sometimes controversial, is attested in most languages. Some languages have a class of modifiers that can modify either a noun or a verb, thus overlapping the functions of adjectives and adverbs in other languages. Most Chadic languages have the category ‘ideophone’, which often has unique phonological characteristics and a limited syntactic distribution. Languages surrounding Chadic-speaking areas also have large classes of ideophones, pointing to the possibility that ideophones are an areal feature.

5.6 Nouns

5.6.1 Simple and derived nouns

Chadic languages have both inherent nouns and nouns derived from other lexical categories. Derived nouns are usually of verbal origin, but nouns may also be derived from adjectives or numerals. Nouns may also have specific phonological characteristics. In many languages, nouns, but not verbs, can begin or end with a vowel. The

final vowels of nouns may be unpredictable and thus constitute part of the underlying form.

Deverbal nouns may include names of actions/states, whose functions sometimes overlap with those of the infinitive forms of the verb in Indo-European languages; names of agents; and names of affected participants. The means of deriving deverbal nouns vary significantly from language to language, and may include tonal changes, vocalic or consonantal suffixes, and, less often, prefixation.

Languages from all three branches have retained the Proto-Afroasiatic prefix *mV* as a derivational means (Lahaie 1985):

mà-hálá ‘thief’ (cf. *hál* ‘steal’)
mà-kàrká ‘hunter’ (*òkàrkà* ‘to be perched on a tree’)
 (Gidar (Central), Frajzyngier 2008a)

Bidiya and East Dangla (East) derive nouns from verbs by suffixation, vowel changes, and tone changes:

waar ‘to dance’ *wáareŋ* ‘dance (noun)’
eyem ‘to eat’ *eyémò* ‘act of eating’
 (Bidiya, Alio and Jungrathmayr 1989: 26)

gàwne ‘to cultivate’ *gawnì* ‘act of cultivating’
gídíyé ‘to trade’ *gidày* ‘purchase(s)’
búgúmé ‘be quiet’ *bùgùmiyà* ‘silence’
 (East Dangla, Shay field notes; mid tone unmarked)

In Wandala (Central), some nouns are derived from adjectives via the morpheme *-irè* ‘head’:

tàpɗàmmè ‘dark’ *tàpɗàmm-irè* ‘darkness’
pàràkè ‘light’ *pàràkí-irè* ‘lightness’
jírè ‘true’ *jír-irè* ‘truth’

5.6.2 Nominal number

Many segmental plural markers in all Chadic languages appear to be derived from deictics and determiners (Frajzyngier 1997). In some languages, e.g. Hausa (West), nominal plurality may be coded by a rich system of means, including reduplication, tone, and suffixation.

Newman (2000: 431) lists fifteen major classes of nouns that are distinguished by the way they form plurals. Here are some examples (high tone unmarked):

taagàa ‘window’ *taagoogii* ‘windows’
damoo ‘land monitor’ *damàamee* ‘land monitors’
kujèeraa ‘chair’ *kùjèeruu* ‘chairs’
(Newman 2000: 431)

In some languages, e.g. Pero (West A), Dott (Zofì; West B), and Mafa (Central), there is no morphological number distinction among nouns at all. In some languages that have plural markers, e.g. Mupun (West), these markers are identical with third-person plural pronouns. In languages with a gender distinction, this distinction is neutralized in the plural. In at least one language (Gidar), diminutive markers cannot co-occur with plural markers: Gender markers, plural markers, and diminutive markers thus belong to the same domain.

In some languages, such as Hausa, number marking is a category that has only the noun in its scope, as evidenced by the fact that number markers occur on nouns. In other languages, e.g. Giziga (Central) and Mupun (West), plurality is a category of the noun phrase: the plural marker follows the noun phrase and is attached to the noun only if the noun is the sole component of the noun phrase:

- (21) *jirap ðe wuraj mo*
girls REL tall PL
‘tall girls’
(Mupun, Frajzyngier 1993)

Languages from all three branches have the category ‘associative plural’, whose function is to indicate that the singular referent participated with others in the event (Daniel and Moravcsik 2005). The associative plural in Hausa (West) is coded by the use of plural subject markers with singular nouns. In Mupun (West), a plural marker may be added to a proper name:

- (22) *darap mo ji kat an be mu seet ndaŋ siak*
Darap PL come meet 1SG SEQ 1PL go follow RECIP
‘Darap and others came, met me, and we went together.’
(Frajzyngier 1993)

In East Dangla (East), a plural marker added to the genitive marker indicates plurality of the possessor, even if the possessor is morphologically singular:

- (23) *yàa tá-ŋ Sinyàbì*
mother DEM-PL proper name
‘the mother of Sinyabi and others’

Cf. the singular possessor:

- (24) *d̥ipkít ta Géedè*
 navel DEM proper name
 ‘Gede’s navel’
 (Shay 1999)

Even if a language has morphological plural markers, plurality of the noun is not necessarily coded for all nouns. Wandala (Central) marks the plurality only of [+human] nouns; other nouns are unmarked for number, regardless of whether they occur with or without a numeral.

5.6.3 Gender

Some Chadic languages in all three branches distinguish between two classes of nouns that are conventionally referred to as ‘masculine’ and ‘feminine’. The distinction is manifested in anaphoric pronouns; in subject pronouns; in markers of possession derived from anaphoric pronouns; and sometimes in deictics and adjectives. Some languages code gender on nouns themselves. No Chadic language has a gender distinction in the plural, and overt markers of gender do not co-occur with markers of plurality.

Though nouns referring to human females are often members of one gender class and nouns referring to human males are members of another class, gender coding does not necessarily correspond to sexual differences. In Gidar (Central), this is true even for the class of human nouns.

For most Chadic languages, the masculine gender is the default gender of inanimate nouns. In some languages, however, the gender used for human females is the default gender of inanimate nouns. This is the case in Pero (West):

- (25) *tà-rí-ée-tò* *nín-té*
 FUT-enter-PRE.PRO-3F SUBJ-3F
 ‘She is entering.’
- (26) *tà-kúǀ-ée-nì*
 FUT-resist-PRE.PRO-3M
 ‘He will resist.’

Cf. inanimate nouns marked by feminine subject markers:

- (27) *cíndí n-ám̄b-ée-tò*
 story SEQ-go.up-PRE.PRO-3F
 ‘The story ended.’

- (28) *n-tákl-ínà kóngó-ì n-bél-èe-tò*
 SEQ-rub-COMPL stomach-DEF SEQ-burst-PRE.PRO-3F
 ‘And the stomach was rubbed and it burst.’
 (Frajzyngier 1989b)

In East Dangla (East), a question about an unknown subject is formed with the third-person feminine singular pronoun rather than with the third-person masculine pronoun:

- (29) *noon nos tya maá ti pity-dù bε*
 1SG 1SG.COMP 3F what REL spit.IMPf-1SG.IO FOC
 ‘I asked who was spitting on me.’
 (Shay 1999)

5.6.4 Diminutive

A number of languages have grammaticalized diminutive markers, sometimes identical with feminine gender markers. If a diminutive marker can be used with either a masculine or a feminine noun, its primary function is to code the diminutive rather than the feminine gender. Gidar (Central) has the diminutive suffix *kə*, which can be used with a masculine or feminine noun. The suffix undergoes vowel harmony:

- gòrdú* ‘knife’ *gòrdú-kù* ‘a little knife’
gérè ‘young girl’ *gór-kù* ‘very young girl’
gàwlá ‘young man’ *gàwlà-kə* ‘short young man’

Diminutive markers, like gender markers, do not occur in the plural:

- gèwlè-dí* ‘young men’
 **gàwlà-kə-dí* for ‘short, young men’
 (Gidar, Frajzyngier 2008a)

In Migama (East), a change in gender may code the diminutive. The change may be from feminine to masculine or from masculine to feminine:

- dâmbá* (f.) ‘mountain, mountain range’ *dâmbú* (m.) ‘rock, mountain’
gáápú (m.) ‘large horn’ *gáàpè* (f.) ‘small horn’
 (Jungraithmayr and Adams 1992)

In East Dangla (East), the diminutive may be coded by reduplication of the rightmost CV segment and vowel lengthening:

- iyà* ‘Mother’ (form of address) *iyàa-yá* ‘Mommy’
kòkíra ‘chickens’ *kòkíráarà* ‘baby chicks’
 (Shay field notes; mid tone unmarked)

5.7 Verbs

5.7.1 Introduction

In some Chadic languages, e.g. Mupun (West), there is no phonological distinction between the underlying forms of nouns and those of verbs. There are, however, languages in which the two categories differ phonologically. In many languages the verbal root, unlike the nominal root, cannot begin or end with a vowel (see Frajzyngier (1982a) for West Chadic, Frajzyngier and Munkaila (2004) for Hausa, Frajzyngier with Shay (2002) for Hdi (Central), Alio (1986) for Bidiya (East), Shay (1999) for East Dangla (East)). The distinction between nominal and verbal roots has interesting parallels in Semitic languages, where verbal roots often consist of consonants alone, while nominal roots consist of consonants and vowels.

5.7.2 Underlying form of the verb

The relevant issues for the study of the underlying form of the verb are the status (underlying or not) and number of vowels; the status (underlying or not) of tone; and the number of consonants. The number of consonants may be one, two, three, or even more, though it is possible that some consonants represent old grammatical morphemes (de Colombel 1990, Ehret 1995, Schuh 2003b). For some languages, tone is postulated as part of the underlying representation of the verb as well as a grammatical marker, while in other languages, tone is postulated to carry grammatical functions only (Lamang (Central), Wolff (1983a); Wandala (Central, Frajzyngier field notes); and Hausa (West, Frajzyngier (1982a), Frajzyngier and Munkaila (2004); for a different view, see Newman (1977b, 2000)).

Some underlying forms may consist of consonants, tone, and the first vowel of the surface form, and some forms may consist of consonants and tone only. In the following example, the verb *hɔf* ‘close’ occurs with an epenthetic vowel in the first example and with a grammatical vowel coding plurality in the second:

(30a) à hɔ́f-t̃ brè
 3SG close-T house
 ‘He closed the house.’

(30b) à hàɔ́-t̃ brè
 3SG close:PL-T house
 ‘He closed the house repeatedly.’
 (Wandala, Frajzyngier field notes)

In all branches of Chadic, vowels in the verb code a variety of functions, including relationships between the predicate and its arguments, tense, aspect, mood, point of view, person, plurality of the verb or arguments, partitive, several types of spatial relations, and a host of other functions. Even the first vowel of the phonetic form of the verb may carry a functional load. In Mígama (East), the first vowel of some verbs appears to code the distinction between transitive and intransitive (Frajzyngier and Ross 1991; Jungraithmayr and Adams 1992):

bittò ‘to extinguish’ *bàttò* ‘to go out (about fire)’
gíggó ‘to place’ *gággó* ‘to place oneself’
mísilò ‘to lose’ *màsìlò* ‘to get lost’
(Jungraithmayr and Adams 1992: 47)

Vowels whose presence cannot be accounted for by a productive grammatical function in the given language may, nevertheless, be associated with some historical function. For example, the lexical vowel *i* in the Hdi verb is associated with the notion of separation or movement out. This vowel correlates with the productive suffix *i*, which marks the previous place of the subject or object.

5.7.3 Reduplication of the verb

Partial or complete reduplication is a morphological device widely available in Chadic languages (see Al-Hassan 1997). In languages where reduplication is no longer productive, there exist forms indicating that reduplication was productive at one time.

There are important differences among languages with respect to what structures are reduplicated; where subject markers, object markers, and verbal extensions occur; the functions of reduplication; and the direction of reduplication. Reduplication can be complete, involving the complete verbal stem or root, or partial, involving only some elements of the verb. Reduplication is distinct from repetition, whereby a phrase or part of the phrase is repeated within an utterance.

Partial reduplication of the verb has segments rather than syllables in its scope. In languages where both initial and non-initial segments are reduplicated, the type of reduplication depends on the structure of the verb. In Hausa, bisyllabic verbs most often reduplicate the first three segments leftward:

- (31a) *mutànee sun firfíta*
people 3PL go.out:PL
‘The men went out [one by one or going in and out].’ (*t* becomes *r* in syllable-final position)

Cf.:

- (31b) *mutànee sun fíta*
 people 3PL go out:PL
 ‘The men went out.’
 (Newman 2000: 423)

Some bisyllabic verbs can reduplicate either the first three segments or the second and third segment:

- hàifaa* ‘give birth’ *hàhàifáa* or *hàyàyyàfaa*
 (Hausa, Newman 2000: 429)

Trisyllabic verbs infix the C_2VC_3 sequence after the first syllable (Frajzyngier 1965):

- fàràutàa* ‘hunt’ *farauràutaa*
 (Newman 2000: 427).

Reduplication may involve consonants only. In Migama (East), reduplication is rightward and involves the two rightmost consonants of the root. If the root is C_1VC_2 , the reduplicated form is $C_1VC_2C_1C_2$. If the root is $C_1VC_2C_3$, the reduplicated form is $C_1VC_2C_3C_2C_3$. Epenthetic vowels are inserted after reduplication:

ROOT	REDUPLICATED	EPENTHESIS	GLOSS
<i>sem</i>	<i>semsm</i>	<i>semsim</i>	‘whisper’
<i>saw</i>	<i>sawsw</i>	<i>sawsiw</i>	‘gather in hands’
<i>tyar</i>	<i>tyartyr</i>	<i>tyartyir</i>	‘feel sharp pain’ (the present analysis supersedes that in Frajzyngier (2005c))

Across languages, one function of partial reduplication of the verb is to code plurality of the event (‘pluractional’ in Newman’s terminology). This function subsumes repeated action or plurality of the object but not plurality of the transitive subject (Frajzyngier 1985b). An example is partial reduplication of the verb *fá* ‘put’ in Wandala (Central):

- (32) *kwánjárà-há-ŋgrè* *ŋà* *fàf-án-n-ú* *íúwà*
 hook (Kan.)-1PL-1PL.EXCL 1PL.EXCL put:PL-3SG-3SG-APPL meat
 ‘We put the meat on our hooks.’
 (Frajzyngier field notes)

In addition to the plurality of the event, complete reduplication of the verb may also code aspectual distinctions or the pragmatic status of a clause, i.e. dependent or independent. In Hdi (Central), one type of complete reduplication codes the independent

marker. The symbol ‘TAM’ refers to markers of tense, aspect, and mood, usually coded by tonal or vocalic changes.

A simple verb in a verb-initial construction has one of the following maximal structures:

STRUCTURE	ATTESTED IN:
R-TAM-Pro _O -(EXT)-Pro _S	Dependent aspects and tenses (Hdi)
R-TAM-Pro _S -Pro _O -Pro _O -(EXT)	Dependent clause (East Dangla)

Reduplicated verbs in verb-initial constructions have one of the following three forms, which differ with respect to the position of the subject pronoun:

R ₁ -TM-(EXT)-(Pro _O)-(Pro _O)- R ₂ (EXT)-Pro _S	Independent perfective (Hdi, Lamang)
R ₁ -TM-Pro _S -(Pro _O)-(Pro _O)- (EXT)-R ₂ (EXT)	Independent perfective (Wandala)
R ₁ -TM-(EXT)-R ₂ (EXT)	Independent imperfective (Wandala)

A verb-medial construction with a suffixed subject has the following maximal structure:

R-TAM-Pro _O -(Pro _O)-Pro _S -(EXT)	Negative clause (Wandala)
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If the subject pronoun is not part of the verbal complex, it precedes the verb:

Pro _S R-TAM-(Pro _O)-(Pro _O)-(EXT)	Independent clause (East Dangla)
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Very few languages have prefixed subject pronouns, and these are probably a relatively recent innovation. A subject pronoun that precedes the verb is not necessarily a prefix, as the pronoun often can be separated from the verb by other material:

- (37) *ti nàasi*
 3 ask
 ‘He/she/they/one should ask.’
 (Gürdùṅ (West), Haruna 2003: 56)

In the conditional clause, markers of protasis and apodosis come between the subject pronouns and the verb:

- (38) *ti ya warà taa ma*
 3 if come 3:FUT go
 ‘If she comes, he will go.’
 (Haruna 2003: 116)

5.7.5 Subject pronouns

There is considerable variation among, and even within, languages with respect to the position of the subject pronoun, a fact that presents an interesting typological and historical problem. There is also considerable variation with respect to the number and forms of subject pronouns. In most languages, subject pronouns are portmanteau morphemes coding person, number, gender, and an inclusive/exclusive distinction in the first-person plural. In a few Central Chadic languages (Mofu-Gudur, Barreteau 1988; Daba, Lienhard 1980; Gidar, Frajzyngier 2008a; and Giziga, Lukas 1970; Shay to appear), plurality of the subject is coded by discontinuous morphemes, whereby a pre-verbal pronoun codes person and a verbal suffix codes number. In Gidar, the same suffix codes plurality of the second- or third-person subject:

(39a) *á jáaḃè kà-dá ss-ó-ŋ*
 PREP Djabe 2P-FUT be-TOT-PL
 ‘It is in Djabe that you (PL) will be.’

(39b) *á jáaḃè à-dá ss-ó-ŋ*
 PREP Djabe 3M-FUT be-TOT-PL
 ‘It is in Djabe that they will be.’

In Giziga, plurality of the subject is marked by one of two verbal suffixes, either of which can be used with the first-, second-, or third-person subject:

(40a) *yí/kí/á zm-ám lè*
 1/2/3 eat-PL EE
 ‘We/you(PL)/they ate.’ (EE: end-of-event marker)

(40b) *yí/kí/á zm-ák-à lè*
 1/2/3 eat-PL-GO EE
 ‘We/you(PL)/they ate.’

The separate coding of plurality on pronominal forms might have been a characteristic of Proto-Chadic, as plural pronouns in many languages contain the second component *n*.

Gidar has two third-person singular masculine subject pronouns: the form *a* for pragmatically independent clauses and the form *də* for pragmatically dependent clauses (see Frajzyngier 2004). The latter form is used in negative clauses and comment-on-focus clauses:

- (41a) *wùlàngá/gènzèk ván à-ḅḅl-kà*
 tree/shed DEF 3M-shake-PRF
 ‘The tree/shed shook.’
- (41b) *sàmyá dḅ-ḅḅlḅ*
 wind 3M-blow
 ‘It was wind that was blowing.’
 (Frajzyngier 2008a)

In languages from the West and Central branches, some constructions have subject pronouns both before and after the verb. In most cases, these constructions involve verbs of movement, verbs of posture, and verbs of living/being in a place. In some languages, subject pronouns that are suffixed to the verb (called Intransitive Copy Pronouns in Newman (1971)) are obligatory and thus do not carry a semantic load of their own:

- (42a) *à-nzá-n-kà*
 3M-run-3M-PRF
 ‘He ran.’
- (42b) *tḅ-nzá-t-kà*
 3F-run-3F-PRF
 ‘She ran.’
 (Gidar, Frajzyngier 2008a)

In other languages, the second pronoun is optional and therefore carries a functional load. In West Chadic languages, this second pronoun appears to code inceptive aspect and change of state (Frajzyngier 1977a). In other languages, it may code the point of view of the subject, as discussed later in the present chapter.

5.7.6 Object pronouns

In many West and Central Chadic languages, there is no phonological distinction between direct and indirect object pronouns (see Dittmer *et al.* 2004), the difference in function being coded by some means outside the pronoun. In Hausa (West), the final vowel of the verb is lengthened before the direct object pronoun, and the indirect object pronoun is marked by a prefix. In Hdi (Central), the distinction between direct and indirect object pronouns is coded by tone on the verb. In some languages, direct object pronouns, indirect object pronouns, or both are preceded by pre-pronominal object markers that are often similar to locative prepositions (Frajzyngier 1982c). In Ron (West), singular direct object pronouns are marked by the form *s-* or one of its allomorphs (probably related to the associative preposition/conjunction *si*) preceding the person marker, while indirect object pronouns are unmarked.

	DO PRONOUN	IO PRONOUN
1SG	<i>sen</i>	<i>-en</i>
2M	<i>ha</i>	<i>-a</i>
2F	<i>shesh</i>	<i>-esh</i>
3M	<i>sis</i>	<i>-is</i>
3F	<i>set</i>	<i>-et</i>

(Seibert 1998: 57)

In some East Chadic languages, direct and indirect object pronouns are phonologically distinct. In Bidiya, non-feminine singular pronouns have distinct forms for object, indirect object, and possessor, while feminine and plural pronouns have contrasting forms for direct object vs indirect object/possessor.

Object pronouns are always suffixed to the verb unless they carry a pragmatic function, in which case the object may be marked by an independent pronoun. If a language has a gender distinction, this distinction is coded on object pronouns. In languages where reduplicated verb forms code functions other than verbal plurality, object pronouns are placed between the reduplicated forms:

- (43) *ks-i-ksà*
 touch-1SG-touch
 'He touched me.'
 (Hdi, Frajzyngier with Shay 2002)

The functions of direct and indirect object pronouns in Chadic languages differ significantly from those of pronouns in Indo-European languages. Notably, third-person object pronouns in Chadic do not necessarily code anaphora or deixis. In Gidar (Central) and East Dangla (East), third-person object or indirect object pronouns can occur in the same clause with a nominal object with which they agree in gender and number. The function of the pronoun is to code definiteness of the noun:

- (44a) *bèr-tí-dyì-gù ku mityilè-l*
 give-3F-3M-3PL PREP lion-DAT
 'She gave them to the lion.'

Cf. the indefinite:

- (44b) *bèr-tí-gù ku mityilè-l*
 give-3F-3PL PREP lion-DAT
 'She gave them to a lion.'
 (Shay 1999)

The role of pronouns in coding object, goal, indirect object, locative, reference, and other functions is discussed in the sections on functional domains.

5.7.7 Verbal extensions

Verbal extensions are affixes to the verb that code a variety of functions, including: relationships between arguments, adjuncts, and the verb; directionality; manner of the event; spatial relationships; point of view; goal; and perhaps others. Extensions are distinct from, and can co-occur with, subject and object pronouns; markers of tense, aspect, and mood; and markers of verbal plurality. The verbal complex in a given clause may have several extensions belonging to different domains.

Hdi (Central) has verbal extensions coding manner of event, point of view, goal, locative, associative, and other functions. Locative extensions, a sub-category of verbal extensions, belong to three different sets, as evidenced by the fact that two extensions from the same set cannot co-occur with the same verb stem.

GROUP 1	GROUP 2	GROUP 3
<i>g</i> 'inner space'	<i>gh</i> 'distal'	<i>f</i> 'movement up'
<i>dá</i> 'allative'		<i>p</i> 'movement out'
<i>xà</i> 'movement down'		
<i>m</i> 'movement in'		

The goal marker *a* (glossed GO) must precede each locative extension:

(45a) *mà kl-á-f-ká*
 PROH take-GO-UP-2SG
 'Do not take it there!'

(45b) *mà kl-á-p-ká*
 PROH take-GO-OUT-2SG
 'Do not take it out!'

If extensions from two or more sets are used, they are suffixed to the verb in the order Group 1 – Group 2 – Group 3. Each locative extension is preceded by the goal marker:

(46) *mà kl-à-d-á-f-ká*
 PROH take-GO-ALL-GO-UP-2SG
 'Do not take it up there [from here]!'

(47) *mà kl-à-g-á-p-ká*
 PROH take-GO-VENT-GO-OUT-2SG
 'Do not take it out [toward the speaker]!'

The reiterative extension *gl*, the partitive extension *a*, and the tentative extension η occur before other extensions:

(48a) *kà lš-glá-p-tsì kà má his*
 SEQ go-ITER-OUT-3SG like PREP two
 '... and he went out for the second time'

- (48b) *dzángà-ŋ-á-í kǎ́á wà*
 learn-TENT-NEG-1SG last year NEG
 ‘I did not try to study last year.’ Or ‘I did not study it last year.’

When the verb is reduplicated, as it is in the independent perfective aspect, extensions are placed between the two instantiations of the verb. The example below has extensions coding subject orientation, inner space, allative, and inverse functions:

- (49) *dz-ù-gù-dú-ǎú-s-dzá kághá . . .*
 go-SO-INN-ALL-1SG-INV-go 2SG
 ‘If you come there for me . . .’
 (Frajzyngier with Shay 2002)

In Wandala (Central), some extensions are suffixed to the simple form of the verb or inserted between R₁ and R₂, while others are suffixed to R₂:

- (50a) *diyè-r-sǎ-dyè*
 know-3PL-OUT-know
 ‘. . . they recognized’
- (50b) *má-kí dà-r-dú-wà*
 when-? go-3PL-go-VENT
 ‘when they arrive there’

Example (51) shows a suffix on the simple form of the verb:

- (51) *yà ksà-tá hàhà*
 1SG take-T:GO land
 ‘I took [a handful] of soil.’
 (Wandala, Frajzyngier field notes)

Extensions interact with the aspectual value of the utterance, much as pre-verbs interact with aspect in Slavic and Germanic languages: if a verb is inherently imperfective, the extensions often change the aspect to perfective. This effect was first noted by Hoffmann (1963) for Margi (Central), and subsequently confirmed for other languages.

5.8 Adjectives and property-concept words

Adjectives are lexical items whose defining function is the modification of nouns. There exist also other lexical items that denote property concepts but whose syntactic properties are different from those of adjectives. Not all Chadic grammars state explicitly how the lexical class of adjectives differs from that of verbs, nouns, or other lexical items. Some Chadic languages are reported to have many adjectives and others are reported to have only a few. Among languages that have few adjectives, the domains lexicalized as adjectives are some colour terms, sizes, and physical and personal

characteristics. Newman (2000: 22ff.) lists a number of ‘simple (i.e. non-derived) adjectives’ in Hausa, including colour terms, size terms, and human properties such as ‘cantankerous’, ‘naked’, ‘stingy’, ‘famous’, ‘tall’, and ‘lanky’. Hausa also has several means to derive adjectives from other lexical categories, including the prefix *ma* and several types of reduplication (Newman 2000: 24ff.).

Schuh 1998 lists a very small number of non-derived adjectives in Miya (West), including ‘red’, ‘white’, ‘black’, ‘small’, and ‘large’. Schuh also postulates the existence of adjectival nouns, which function as nouns when they do not have gender markers. When these nouns function as modifiers, they have to have gender – masculine or feminine – or number markers (Schuh 1998: 204).

In Mina (Central), inherent modifiers such as *báyà* ‘large’, and *pár* ‘another’, occur without any other marker in a modifying construction:

- (52) *sà ká lim ñkù báyà zó á idá tákóŋ*
 1SG INF see goat large EE PRED house 2SG
 ‘I saw a large goat at your compound.’

There is another class of property-concept words that must be preceded by the relative marker in a modifying construction. These property-concept items are not verbs, because they do not allow any tense or aspectual markers in modifying constructions. They are not nouns, because they cannot serve as arguments:

- (53) *hìdà m̀ d̀k/jíŋ*
 man REL short/tall
 ‘a short/tall man’
- (54) *ñkù m fés*
 goat REL small
 ‘a small goat’
 (Frajzyngier *et al.* 2005)

Without the relative marker, the property-concept word has a predicative function:

- (55) *ñkwà fés*
 goat small
 ‘The goat is small.’
 (Frajzyngier *et al.* 2005)

Many Chadic languages have morphological means for deriving modifiers from other categories. Reduplication is a means found in all branches:

- kùzún-kùzún* ‘green’ cf. *kùzún* ‘fresh leaves’
r̀bìhl-r̀bìhl ‘grey’ cf. *r̀bìhl* ‘clay’
 (Hdi, Frajzyngier with Shay 2002)

Some modifiers show evidence of derivational morphology, though the source may no longer be evident. Several property-concept terms in Mina are derived through the suffix *ék*: *kwèdék* ‘white’, *gùzandék* ‘red’, *délék* ‘green, blue’ (Frajzyngier *et al.* 2005). Giziga (Central) has modifiers derived through the suffix *-aŋ*: *gàgàzàŋ* ‘red’, *tàtràŋ* ‘black’, *mádèdàŋ* ‘large’ (Frajzyngier and Shay field notes).

In languages that have a gender and number distinction in nouns, adjectives may also code gender. In the following example, the gender distinction is coded by suppletion:

- (56) *dúlbúty tát*
gumtree large (for masculine heads)
‘a large gumtree’
- (57) *gùdŷin yàarà*
termite mound large (for feminine heads)
‘a large termite mound’
(East Dangla, Shay 1999)

5.9 Adverbs

Lexicalized adverbs corresponding to ‘here’, ‘there’, ‘now’, ‘recently’, ‘immediately’, ‘a little’, and ‘a lot’ are found across Chadic languages. Of typological interest is the formation of adverbs through reduplication of other lexical categories, e.g. nouns, numerals, and verbs, a phenomenon observed in all branches of Chadic. In Mina (Central), the adverb ‘together’ is derived from the quantifier ‘all’. Quantifiers are a class of their own:

- (58) *báy zá á z-ú á dàmù cíké cíké*
chief COMP PRED go-1DU PRED bush all all
‘The chief said, “Let’s go to the bush together.”’

The adverb (*n*)*tátà* ‘alone, only’ is derived from the numeral *ntá* ‘one’ (the initial nasal is deleted in phrase-internal position): *sè tátà* ‘I alone’; *hà tátà* ‘you alone’:

- (59) *à ǰá káy à fíŋ nám tátà*
3SG say INTERJ(F) 3SG remain 1DU only
‘He said, “Look, only the two of us remain.”’
(Frajzyngier *et al.* 2005)

In Lele (East), the quantifier *sam* ‘a little’, when reduplicated, means ‘slowly’:

- (60) *láràdí è kàrgà-ni sam sam*
chameleon go back-3M a little a little
‘Chameleon followed him slowly.’
(Frajzyngier 2001)

The adverb *téηtéη* ‘on his own, separately’, derives from the quantifier *téη* ‘alone’:

- (61) *càniǵé ná ǵilkiníη è ǵé kàsùǵù téηtéη*
 Canige ASSC Gilkinin go 3PL market separately
 ‘Canige and Gilkinin went to the market separately.’
 (Frajzyngier 2001)

5.10 Numerals

There is considerable variation in Chadic numeral systems. Some languages have a decimal system, where each numeral from ‘one’ to ‘ten’ has a different lexical form:

<i>pínà</i>	‘one’
<i>sò</i>	‘two’
<i>súbù</i>	‘three’
<i>pórìn</i>	‘four’
<i>bày</i>	‘five’
<i>ménéη</i>	‘six’
<i>mátàlíη</i>	‘seven’
<i>ǵurgù</i>	‘eight’
<i>célà</i>	‘nine’
<i>ǵòrò</i>	‘ten’

(Lele (East), Frajzyngier 2001)

Some languages have a quaternary system, where each of the numerals ‘one’ to ‘five’ has a distinct lexical form. Numerals above ‘five’ are derived from the first set: ‘six’ and ‘seven’ are derived from ‘five’, and ‘eight’ is derived from ‘four’ through reduplication. This is the case in Pero (West), where the numeral ‘four’ may have been derived from the numeral ‘two’ through gemination of the second consonant (underlying forms listed):

<i>dók</i>	‘one’
<i>bélòw</i>	‘two’
<i>ǵbónòη</i>	‘three’
<i>béedòw</i>	‘four’
<i>puát</i>	‘five’
<i>páttira múndi</i>	‘six’
<i>páttira bélòw</i>	‘seven’
<i>bídibidów</i>	‘eight’
<i>kómpòy</i>	‘nine’

(Frajzyngier 1989b)

Even in languages with decimal systems, there is evidence that ‘eight’ is derived from ‘four’ through reduplication, as in the following examples from Gidar and East Dangla:

<i>tákà</i>	‘one’
<i>súlà</i>	‘two’
<i>hókù</i>	‘three’
<i>pódó</i>	‘four’
<i>lé</i>	‘five’
<i>áré</i>	‘six’
<i>bùhúl</i>	‘seven’
<i>dòdòpórò</i>	‘eight’
<i>váyták</i>	‘nine’
<i>kláù</i>	‘ten’

(Gidar (Central), Frajzyngier 2008a)

<i>rákkí</i>	‘one’
<i>sééró’</i>	‘two’
<i>súbbà</i>	‘three’
<i>poodî</i>	‘four’
<i>béd̥yì</i>	‘five’
<i>bidyigèd̥y</i>	‘six’
<i>pèèsírà</i>	‘seven’
<i>pód̥pód̥</i>	‘eight’
<i>parkà</i>	‘nine’
<i>òròkì</i>	‘ten’

(East Dangla (East), Shay 1999)

The fact that ‘eight’ is derived through reduplication in languages of all three branches of Chadic, and that many of the numerals for ‘four’ and ‘eight’ are cognate across languages, suggests that these systems represent the retention of a system in which the numerals ‘one’, ‘two’, and ‘three’ represented non-derived lexical items, the numeral ‘four’ may have been derived from ‘two’ through gemination, the numeral ‘five’ was a non-derived lexical item, the numerals ‘six’ and ‘seven’ were derived from ‘five’, and the numeral ‘eight’ was derived from ‘four’ through reduplication.

5.11 Ideophones

A characteristic that Chadic languages share with Cushitic, Niger-Congo, and Nilo-Saharan languages is the presence of ideophones, a lexical category whose members have a very limited syntactic distribution and often differ from other lexical categories in their phonological structure. The function of ideophones is usually to modify the event with respect to manner, result, intensity, or accompanying effect:

- (62) *kumno se mìl, mìl, mìl*
 cloud raise thick (about the clouds)
 ‘There were thick, dark clouds.’
 (Lele, Frajzyngier 2001)
- (63) *gìr ngóyóló ngóyóló*
 run ngoylo ngoylo
 ‘He (chameleon) ran “ngoylo ngoylo”.’
 (Lele, Frajzyngier 2001)

In East Dangla (East), ideophones can serve as predicates:

- (64) *ɲàs ‘ɲùu kó kíríɲ-kíríɲ-àkure’*
 3M 3PL already IDEO-IDEO-DEM
 ‘He said, “They’re just fine.”’
 (Shay 1999: 114)

Ideophones, which may number in the hundreds in a given language, are as important to the structure of the clause as any other lexical category. Whether ideophones constitute a syntactic category of their own, distinct from adverbs, adjectives, and other categories, is a controversial issue that can be resolved only through analysis of individual languages.

5.12 Structure of the noun phrase

5.12.1 Types of modifying constructions

The structure of the noun phrase may be head–modifier or modifier–head. The noun phrase may include a variety of inflectional markers on each of its components, as well as syntactic markers between the two components and/or after the second component. Even within one language, some modifiers may precede the head and others follow the head. In Hausa, an adjective that precedes the head is followed by a determiner coding the gender and number of the head. The adjective itself also agrees in gender with the noun:

- (65) *fari-n gidaa*
 white-M house(M)
 ‘white house’
- (66) *faràare-n huulunàa*
 white-M.PL cap:PL
 ‘white caps’

- (67) *fara-ř kyânwaa*
 white-F cat:F
 ‘white cat’

The same adjectives can occur after the noun, without the determiner:

- (68) *gidaa farii*
 house white:M
 ‘white house’

- (69) *mootàa faraa*
 car:F white:F
 ‘white car’
 (Newman 2000: 22, 31)

In some languages, determiners follow the head; in others, the determiner may either precede or follow the head. In Hdi and some other Central Chadic languages, there may be determiners of the same or different types both before and after the head noun in a given phrase:

- (70) *yà yá mákwà yá*
 DEM DEM girl DEM
 ‘this girl’ (visible)
- (71) *yá mákwà yá*
 DEM girl DEM
 ‘this girl’ (even closer; visible)
 (Frajzyngier with Shay 2002: 87)

The coding means involved in modification of one noun by another in Chadic languages include juxtaposition, prepositions, and possessive suffixes. Only a few languages have morphemes that could be considered to be case markers. Several of these means can be used in the same clause. Nominal modification and locative are the only domains that display inflectional case marking on nouns in Chadic.

Here are examples of modification through juxtaposition:

- (72) *mái píllà*
 chief Filia
 ‘the chief of Filiya’
- (73) *púrò dàmbáŋ*
 tree damban
 ‘the tree of “damban” [a ceremony]’

- (74) *kpándè dákàm*
 food much
 ‘a lot of food’
 (Pero (West), Frajzyngier 1989b: 141)

Here are examples of coding modification through prepositions:

- (75) *lú n-áudù*
 house PREP-Audu
 ‘Audu’s house’
- (76) *káa n-áudù*
 head PREP-Audu
 ‘Audu’s head’
 (Mupun (West), Frajzyngier 1993)

Markers involved in this type of modification come from three sources: locative prepositions, as in Mupun and Wandala (Central); demonstratives, as in Hausa; and *de dicto* complementizers, as in Gidar (Central), where the marker *ná* is also a *de dicto* complementizer. The marker is glossed here as GEN for ‘marker of genitive construction’:

- (77) *krà ná wínà*
 dog GEN child
 ‘the dog of a child’
 (Gidar, Frajzyngier 2008a: 101)

An outstanding feature of some Chadic languages is that the form of the noun phrase depends on the larger construction of which the noun phrase is a constituent. In Mina (Central), a genitive construction that functions as a subject or object must have the genitive marker *tɔ́*:

- (78) *hìdè tɔ́ kwáykwáy-yí wàcín*
 house GEN hyena-PL DEM
 ‘house of those hyenas’

If the genitive construction functions as a locative complement, however, the genitive marker *tɔ́* is not used:

- (79) *hós á ídè kwáykwáy-yí wàcín*
 arrive PRED compound hyena-PL DEM
 ‘She arrived at the compound of the hyenas.’
 (Mina, Frajzyngier *et al.* 2005)

5.12.2 Alienable versus inalienable possession

Some languages of all three branches code a distinction between alienable and inalienable properties, including possession. The coding of inalienable modification employs fewer means than the coding of alienable modification. In Gidar (Central), the difference between inalienable possession and alienable possession is coded by the absence or presence of a preposition. Inalienable properties are coded by juxtaposition of head and modifier. The final vowel of the head noun may be deleted:

- (80) *wàʔi mǝʔilín*
 cow male
 ‘bull’ (*wàʔià* ‘cow’)
- (81) *ára mbràyi*
 eye evil
 ‘evil’ (*ára* ‘eye’)
- (82) *glà til-tí*
 place foot-3PL
 ‘their traces’

Alienable possession is coded by the preposition *ná* (identical with the *de dicto* complementizer) between the possessum and the possessor:

- (83) *glúk ná mǝliy*
 wife GEN chief
 ‘wife of the chief’
- (84) *ʔú ná dǝrʔíŋgè*
 meat GEN hyena
 ‘meat that belongs to the hyena’

Compare inalienable possession:

- (85) *ʔú dǝrʔíŋgè*
 meat hyena
 ‘flesh of the hyena’

The relationship ‘husband’ is coded as inalienable by use of the possessive pronoun alone:

- (86) *zǝl-wá*
 husband-1SG
 ‘my husband’ (cf.: **zǝl ná wà*)

The relationship ‘wife’ is coded as alienable by means of a preposition followed by a possessive pronoun:

- (87) *glúk ná-wà*
 wife GEN-1SG
 ‘my wife’ (cf.: **glúk wà*)

Kinship terms sometimes have a structure that is different from that of other noun phrases in the language. In Gidar (Central), kinship terms have the structure Head + Possessive pronoun, where the pronoun codes the gender and number of the modifier:

- (88a) *àf̣̣-n sómbò*
 father-3M S. (masculine proper name)
 ‘father of Sombo’
- (88b) *mà-t wán-káh*
 mother-3F child-F
 ‘mother of a girl’
- (88c) *mà-ti [mèt] kírni*
 mother-3PL children
 ‘mother of children’
 (Frajzyngier 2008a)

Lele (East) has the order head–modifier for alienable possession. The alienable construction has the form possessum possessor Genitive-Possessive pronoun, where the pronoun codes the gender and number of the possessor:

- (89) *kúlbá càniyé kè-y*
 cow Canige GEN-3M
 ‘cow of Canige’
- (90) *gúrbálò karma kè-gè*
 cloth children GEN-3PL
 ‘children’s clothes’

The coding of inalienable possession (and only inalienable possession) has the form modifier–head–possessive pronoun, where the possessive pronoun codes the gender and number of the modifier:

- (91) *kàrmbàlo ba-y*
 chief father-3m
 ‘the father of the chief’

- (92) *tamá jé kudo-ro te-y*
 woman throw husband-3F buttocks-3M
 ‘A wife betrayed her husband.’ (lit. ‘threw her husband’s buttocks’)
- (93) *kírwé dingàw-rò*
 leopard ferocity-3F
 ‘the ferocity of the leopard’
 (Frajzyngier 2001)

Masa, East Dangla, and Kera (East) distinguish between inalienable possession, coded by juxtaposition of possessum and possessor, and alienable possession, coded by a genitive marker between possessum and possessor:

- (94) *cəərə hə̀lgə́-ŋ*
 head woman-DEF
 ‘the woman’s head’
- (95) *hàrgá kə́ hə̀lgə́-ŋ*
 goat GEN woman-DEF
 ‘the woman’s goat’
 (Kera, Ebert 1979: 154)

Mokilko (East) makes a distinction between alienable and inalienable pronominal possessor. In the inalienable construction, the possessive pronoun is suffixed to the possessum. In the alienable construction, a marker *-z-* occurs between possessum and possessor, which may undergo phonological changes:

- (96) *zón-dò*
 legs-1SG
 ‘my legs’
- (97) *innyf-z-ò*
 children-z-1SG
 ‘my children’
 (Jungraithmayr 1990: 39)

Modification of a noun by a determiner is described in the section on reference systems.

5.13 Structure of the simple clause

5.13.1 The coding means

Means of coding the relationship between noun phrases and the predicate include position with respect to the predicate; prepositions or (rarely) postpositions; inflectional

coding on the verb ('head coding'); and vowel retention and vowel reduction in nouns. In subject-initial languages, linear order can distinguish, at most, two categories. Additional arguments or additional information is coded by other means, i.e. by adpositions, inflectional coding on the verb, and, in a few languages, case marking.

5.13.2 Syntactic categories

All Chadic languages have the category 'subject'. Evidence for this is that languages in all branches have a class of subject pronouns that are segmentally, and often syntactically, different from all other pronouns in the language. In some languages, relativization of the subject is different from relativization of all other categories (Frajzyngier 1996a). Questions about the subject have a different form from questions about other components of the sentence.

Unlike the category 'subject', the category 'direct object' has no set of characteristics common to all Chadic languages. Although all languages have the category 'object pronoun', these pronouns do not bear a specific semantic relationship to the verb and, unlike subject pronouns, are not always deictic, anaphoric, or cataphoric. For a number of languages from the West and Central branches, it is not even possible to define the nominal category 'direct object' in such a way that this category is distinguished from other syntactic relations. Instead, one has to postulate the category 'second argument', i.e., the argument that is not the subject. Languages with the category 'second argument' code a variety of semantic relations between the verb and the second argument of the clause.

In what follows, we describe the formal means of adding arguments and adjuncts to the clause. In subsequent sections, we describe some of the functions coded by these means.

5.13.3 Position of the verb in the clause

The position of the predicate in the clause creates a fundamental three-way distinction among Chadic languages. The majority of Chadic languages from the West, Central, and East branches have the verb in clause-medial position, after the subject and before the second argument. In some languages of the Central Branch, the verb is in clause-initial position. In some Central Chadic languages, e.g. Hona (Frajzyngier field notes), the verb is clause-initial in the perfective aspect and clause-medial in the imperfective aspect. The position of the predicate has important implications for other coding means in the language. The second argument (object) may be marked by a number of means, including the position directly after the subject, coding on the verb, and prepositions.

The coexistence of two possible positions for the verb gives rise to the question of the historical development of various word orders. Frajzyngier (1983) proposed that the

verb in Proto-Chadic was in clause-initial position, on the grounds that all verb-initial languages have rules whereby a noun phrase may occur in clause-initial position in order to code pragmatic functions such as topic and focus. Subject-initial languages in Chadic, in contrast, do not have rules for placing the subject in the position immediately following the verb. When the subject is postposed, it is placed in clause-final position, as in the following example from Pero (West):

- (98) *à-tà-yú cínà nín cínù-m*
 NEG-FUT-make food SBJ 3PL-NEG
 ‘They will not cook food.’
 (Frajzyngier 1989b)

5.13.4 Coding the subject

We take the subject to be the first argument of the clause. The existence of the category ‘subject’ is supported by the existence of subject pronouns and by the fact that, in a given language, the single argument of a verb regularly occurs either before the verb or after it. No semantic role is assigned to the subject solely by virtue of its syntactic relationship. Which participant in the event is represented as a subject, especially for verbs that do not involve control and affectedness of the arguments, depends on the choice of the point of view and other semantic considerations that remain yet to be explored. Nominal arguments are marked for their roles solely by position with respect to the verb, i.e., either before or after it:

- (99) *kaɗan me mat toksik kɛ mo*
 if QUANT woman greet ASSC 3PL
 ‘If a woman greets them . . .’
 (Mupun, Frajzyngier 1993)
- (100) *mityil bàag bülle*
 lion jump on gourd
 ‘Lion jumped on the gourd.’
 (East Dangla, Shay 1999)
- (101) *ɛ́ pàshí nna sò wí-ɗ*
 get up friend 1SG up leave-ALL
 ‘My friends got up and left.’

In some languages from the West and Central branches (Hausa (West), Mina and Giziga (Central)), even if the nominal subject precedes the verb, a pronominal subject coding the number and gender of the nominal subject must also precede the verb:

- (102) *màataataa tanàa dafàa wà màatàmai àbinci*
 wife:1SG 3F.PROG cook PREP teachers food
 ‘My wife is cooking food for the teachers.’
 (Newman 2000: 684)

5.13.5 Coding the second argument (object)

Given that the subject is the first argument of the clause, there are four possibilities in Chadic languages for adding a second argument. If the subject precedes the verb, the second argument follows the verb, resulting in the clause structure NP₁ V NP₂. This is by far the most common means of adding a second argument in Chadic:

- (103) *séy gáw dèd ngàz à zá á n kwáyàŋ bêt-ú*
 so hunter remove leg 3SG COMP PRED PREP squirrel take-3SG
 ‘Then, the hunter took off a leg [of a game animal], and said to the squirrel, “Take it.”’
 (Mina, Frajzyngier *et al.* 2005)

If the verb is in clause-initial position, the subject follows the verb and there are three possibilities for adding a second argument. The first is by placing the second argument after the subject. This is possible only when the clause has a nominal subject:

- (104) *mà ?ét hàda ndé*
 PAST bite dog man
 ‘The dog bit the man.’
 (Mutsuvan (Central), Eric Johnston p.c.)

When there is no nominal subject following the verb, the second argument must be coded by some means other than position. The means used are either prepositions or inflectional coding on the verb. In the following, the subject has been fronted and the second argument is marked by a preposition:

- (105) *à mí hàdá ?ét tó ndé*
 PRF dog bite OBJ man
 ‘The dog had bitten the man.’
 (Eric Johnston p.c.)

In Hdi, the second argument is marked by a preposition even when a nominal or pronominal subject follows the verb:

- (106) *kà ks-ú-tá ùvá tú vâzák*
 SEQ touch-SO-REF cat OBJ rooster
 ‘And Cat devoured Rooster.’
 (Frajzyngier with Shay 2002: 523)

Another means of adding a second argument is inflectional coding on the verb. In Hona (Central), the noun phrase is interpreted as the second argument (object) if the subject is coded on the verb by a pronoun:

- (107) *ʎen-də Ali*
 slaughter-3SG Ali
 ‘He slaughtered Ali.’
- (108) *ʎen Ali*
 slaughter Ali
 ‘Ali slaughtered.’
- (109) *ngwálà-ŋ-dí ʎú-dì*
 finish-ANAPH-1SG meat-DET
 ‘I finished the meat.’
- (110) *ngwálà ʎú-wà*
 finish meat-INDEF
 ‘The meat [is] finished.’
 (Frajzyngier field notes)

In the imperfective aspect, where the default position for the subject is before the verb, the second argument follows the verb, with no additional marking:

- (111) *ba na Ali ʎen hura tla dí*
 come FUT Ali cut neck cow DEM
 ‘Ali will slaughter the cow.’
 (Frajzyngier or Jordan field notes; tones omitted)

In Wandala (Central), the default position for a nominal argument is after the verb. In natural discourse, no more than one nominal argument occurs after the verb. Every clause must have a subject pronoun before or after the verb, regardless of whether there is a nominal subject in the clause. A nominal argument after the verb is interpreted as an object if (a) the subject pronoun is first- or second-person (i.e., is a different person from the nominal argument); or (b) the subject pronoun is third-person but has a different number from the nominal argument:

- (112) *tà hárdǎ zárva*
 3PL plant:PL sesame
 ‘They planted sesame.’

If the subject and second argument have the same value for person and number, the role of the second argument is computed from the presence or absence of object markers on the verb. If a transitive verb has an object marker, the noun phrase that follows the verb is interpreted as the subject:

- (113) *à vâ-n-t-á àmmàdù*
 3 give-3-T-GO Amadu
 ‘It is Amadu who gave him that.’ (‘that’ is the unspecified direct object)

If the verb does not have a pronominal object, the nominal argument that follows the verb is interpreted as the second argument, i.e., the object:

- (114) *tà hàrd-á jibà rá*
 3PL plant:PL-GO which Q
 ‘What thing did they farm?’

Whatever the coding means for adding a second argument, the addition of yet another noun phrase to the clause requires the use of prepositions and/or coding on the verb. We discuss these means and their functional domains in later sections.

5.14 Indirect object

Given arguments A, B, and C, which represent relationships within a clause, the argument C is indirectly affected when: (1) A is involved in an activity without a direct object, and this affects C, or (2) A acts on direct object B (which may or may not be coded overtly) and thereby affects C. The presence of an indirectly affected argument does not require the presence of a direct object. An indirect object may be added to a transitive clause, with or without an object, or to an intransitive clause. The notion of indirect object subsumes the notion of dative predication, as described for Latin and other languages with similar inflectional systems. The indirect object in Chadic may be affected positively or negatively by the event:

- (115) *ŋ pádè cà-y bórè bé-y*
 1SG grill:FUT head-3M cut:FUT DAT-3M
 ‘I will get him.’ (lit. ‘I will grill his head, cut it off for him.’)
 (Lele, Frajzyngier 2001)

The indirect object may be coded by position, preposition, and/or verbal inflection, which may involve tonal changes and/or addition of pronominal markers. An indirect

object may be coded by position if it is the inherent second argument of the predicate. The prototypical verb whose second argument is the indirect object is the verb ‘give’:

- (116) *á-pṣ-n/t/m* *ʔúà*
 IMPER-give-3M/F/1PL meat
 ‘Give him/her/us meat!’
 (Gidar, Frajzyngier 2008a)

The verb ‘give’ may have different properties across languages. In Lele, the nominal second argument is the direct rather than the indirect object:

- (117a) *bè dí làlì cànìgé*
 gave 3M money Canige
 ‘He gave Canige money.’
- (117b) **bè dí cànìgé làlì*
 gave 3M Canige money
 for ‘He gave Canige money.’

The pronominal indirect object, however, immediately follows the verb:

- (118) *bé-ŋ dí làlì*
 gave-1SG 3M money
 ‘He gave me money.’
 (Lele, Frajzyngier 2001)

The nominal indirect object in Gidar (Central) is coded twice: once by a verbal pronominal suffix and once by the dative marker *sə* followed by a pronoun. Both pronouns code the gender and number of the indirect object. The transferred object, if any, follows the verb and precedes the nominal indirect object:

- (119) *á-pṣ-n* *ʔú* *sə-n* *tìzì*
 IMPER-give-3M meat DAT-3M Tizi
 ‘Give Tizi meat!’

The dative marker and pronoun are used even if there is no direct object in the clause:

- (120) *á-pṣ-n* *sə-n* *ǰǰà*
 IMPER-give-3M DAT-3M man
 ‘Give (it) to somebody!’
 (Frajzyngier 2008a)

The addition of prepositions to object pronouns may result in fusion of the preposition and pronoun, giving rise to a separate set of indirect object pronouns, as has occurred

in Hausa (see Dittemer *et al.* (2004) and Frajzyngier (2002); for a different view see Newman (1982, 2000)).

If the preposition marking the indirect object is not a dedicated dative preposition, the indirect object is also marked on the verb. In some languages, e.g. Masa (East) and Mina (Central), the marker on the verb is a third-person object suffix that is neither anaphoric nor deictic. Even in languages that distinguish gender and number, this type of marker does not code the gender or number of the nominal dative argument:

(121) *mbí ɓót kàdám d-àh á dà-hà-ŋ kɛ nè báy*
 ANAPH take calabash bring-GO 3SG bring-GO-3SG PREP PREP chief
 ‘He took the calabash and brought it back to the chief.’

(122) *báhámàn là á lúw-á-ŋ nè ɓámáy náka wà*
 Bahaman say 3SG say-GO-3SG PREP stick REM DEM
 ‘Bahaman spoke to the stick.’
 (Mina, Frajzyngier *et al.* 2005)

In Hdi, where the same preposition marks both direct and indirect nominal object, the verb has an inflectional marker coding dative predication. The marker must be used even with the verb ‘give’:

(123) *vlá-n-vl-í tá kóbù tá xèn*
 give-3-give-1SG OBJ money OBJ 3PL
 ‘I gave them money.’

With pronominal arguments, the distinction between direct and indirect object is coded by high vs low tone on the pronoun:

(124) *pɔ-ìxà-pɔ̀á*
 leave-1SG-leave
 ‘I was abandoned.’ or ‘He left me.’

(125) *pɔ-íxà-pɔ́á*
 leave-1SG-leave
 ‘He left it for me.’

(Frajzyngier with Shay 2002)

Some East Chadic languages have a set of dative pronouns that are distinct from direct object pronouns. In East Dangla (East), indirect object pronouns are different from direct object pronouns but are the same as possessive pronouns. The locative preposition *ku* marks the addressee of the verb ‘say’ and the recipient of the verb ‘give’. The indirect object is also marked by a verbal suffix coding gender and number of the indirect object:

- (126) *bèr-íy-tí ku ròm-tyò kísèene*
 give-3PL-3F.IO PREP daughter-3PL clothing
 ‘They gave their daughter clothing.’
- (127) *às-dyi-tyò án ku dàaty-éy ñàs ‘uty-òŋ’*
 come-3M-3PL say PREP wives-3M COMP get up-2PL
 ‘He said to his wives, “Get up.”’
 (Shay 1999)

5.15 Transitivity and valency

In a number of languages there is a distinction between transitive and intransitive verbs. No Chadic language has a passive construction. Some languages have no causative construction, and some have several causative constructions. In Lele, some verbs can be used with one or two arguments without any morphological changes:

- (128) *hay dí gùrbòlo ke-y*
 dry 3M cloth GEN-3M
 ‘He dried his cloth (on the ground).’
- (129) *kib di-gè hay*
 mouth GEN:PL dry
 ‘Their mouths are dry (they are thirsty).’
 (Lele, Frajzyngier 2001)

In some Chadic languages, the addition of an object pronoun may be the sole means of marking the change from intransitive to transitive (Frajzyngier 1985a):

- (130) *à zá hí ndè lúw-á-ŋ mǝ dàh-á*
 3SG COMP 2PL go say-GO-3SG SUBJ go-GO
 ‘He said, “Go tell her to come here.”’

Cf.:

- (131) *à zá hí ndè lúw-á-ŋ mǝ dàh-á-w*
 3SG COMP 2PL go say-GO-3SG SUBJ go-GO-3SG
 ‘He said, “Go tell her to bring it here.”’
 (Mina, Frajzyngier *et al.* 2005)

In Gidar (Central), one means of marking the causative is the suffix *g*. The verb *kò* ‘save’ takes one argument only. The subject of this verb is the person that is saved. The verb codes the affectedness of the subject:

- (132) *ò-kkò-kò*
 3M-save-PRF
 ‘He saved himself.’

The addition of another argument indicates that the subject is controlling. This is the effect of adding the causative suffix *g*:

- (133) *ò-kò-g-wó-kà*
 3M-save-CAUS-1SG-PRF
 ‘He saved me.’

The same marker is used to indicate that the subject of the clause is not a participant in the event coded by the verb:

- (134) *kèzá tè-nzé-gè-tí-k màý tìzí dè zèrmbá*
 Kíza 3F-run-CAUS-PL-PRF ASSC.PL Tizi ASSC Zroumba
 ‘Kíza [feminine proper name] made Tizi and Zroumba run.’
 (Frajzyngier 2008a)

In Mupun (West), the difference between transitive and intransitive verbs is that a nominalized transitive verb, unlike a non-nominalized verb, must occur with an object:

- (135) *ra kəci fen nə mo ret kas*
 weave basket 1SG DEF PL good NEG
 ‘My weaving of the baskets was not good.’
- (136) **r fen ret kas*
 weave 1SG good NEG
 ‘My weaving was not good.’

With future time reference, a transitive verb must be followed by an object:

- (137a) *an mbə naa nə*
 1SG FUT see ANAPH
 ‘I am going to watch it.’

Cf.:

- (137b) **an mbə naa*
 1SG FUT see
 for ‘I am going to watch it.’

With past time reference, a transitive verb can occur without an object. If an object is present, it cannot be a non-human anaphor:

- (138a) *a wu gap*
 COP 3M cut down
 'It is he who cut it down.'

Cf.:

- (138b) **a wu gap nə*
 COP 3M cut down DEM
 for 'It is he who cut it down.'

5.16 Affectedness of the subject in a controlled event

Several Chadic languages from the West and Central branches have morphological means to indicate affectedness of the subject. The suffix *u* in Hausa, referred to in Parsons's taxonomy of verbs as grade 7 (Parsons 1960), is one such marker. With verbs that can take an agentive subject, the form codes the result of a deliberate action by an agent, as evidenced by the ungrammaticality of sentences where the presence of an agent is ruled out:

- (139) *gyàaru* 'be well repaired'
jànyu 'be completely pulled away'
 (Newman 2000: 664)

With verbs that do not necessarily imply a deliberate action of an agent, the form codes affectedness of the subject and, in addition, implies deliberate action:

- (140) *wàdàatu*
 'have prospered, be contented'
 (Newman 2000: 664)

The difference between the form *u* in Hausa and the category 'passive' in Indo-European languages is that the Hausa verb with *u* may have a coreferential, controlling subject:

- (141) *mutàanee sun gàmù*
 people 3PL.PRF meet:gr7
 'The men met.'
 (Newman 2000: 668)

In other Chadic languages, e.g. Hdi (Central), the vowel *u* codes the point of view of the subject, whether controlling or non-controlling. In many cases, such subjects are affected.

5.17 **Affectedness of the second argument**

Hausa has a near equivalent of a ditransitive construction, in which the indirect object immediately follows the verb and the object noun phrase follows the indirect object without any additional marking. We say ‘near equivalent’ because the indirect object is marked by a preposition rather than by position. The semantic role of the noun phrase that follows the indirect object is underspecified. The evidence for this is that the effect of the action on the referent of the second noun phrase can be denied:

(142) *sun girbàa manà daawàa*
 3PL.PRF reap:GO 1PL corn
 ‘They reaped the corn for us.’

(143) *àmma daawà taa saura*
 but corn 3F remain
 ‘but corn remains [in the field].’
 (Frajzyngier and Munkaila 2004)

Hausa has grammaticalized a means to indicate that the noun phrase following the indirect object is indeed affected. This means is a suffix, glossed as gr(ade)5 in traditional Hausa terminology and realized by a variety of phonologically conditioned variants, including *ř*, *m*, and *s*. This marker on the verb indicates that there is an affected second argument in the proposition:

(144) *sun girbam manà daawàa*
 3PL.PRF reap:gr5 1PL corn
 ‘They reaped the corn for us.’

(145) *sun girbař wà manòmi daawàa*
 3PL.PRF reap:gr5 PREP farmer corn
 ‘They reaped the corn for the farmer.’
 (Newman 2000: 640)

Both sentences imply that all the corn has been harvested. The evidence is that neither sentence can be followed by a clause denying the result of the event:

(146) **àmma daawà taa saura*
 but corn 3F remain
 ‘... but corn remains [in the field].’

Further evidence that the marker *ř* codes affectedness of the second argument is that the marker may not be used with a second argument whose referent cannot be affected by the action of the verb:

- (147) *yaa jef-aṛ dā dutse cikin ruwaa
 3M.PRF throw-gr5 ASSC stone into water
 for 'He threw a stone into the water.'

With an argument whose referent can be affected, the sentence is grammatical:

- (148) yaa jef-aṛ dā hulàtā cikin ruwaa
 3M.PRF throw-gr5 ASSC hat:1SG into water
 'He threw my hat into the water [and the hat is ruined].'

5.18 **Applicative**

Wandala (Central) has a suffix *v* that indicates that the event applies to the argument represented by the object pronoun preceding the marker. If there is no pronoun the event applies to the subject of the clause.

The marker *v* must be used if the subject acquires an object:

- (149) ðksà-n-v-á-ksà kàlfé
 catch-1SG-APPL-GO-catch fish
 'I caught a fish.'
- (150) *ðksà-n-ksà kàlfé
 catch-1SG-catch fish
 for 'I caught a fish.'

The applicative extension is used if the subject undergoes an action:

- (151) ndzà ì šíḃá-v-hé
 PAST 1SG hide-APPL-PNCT
 'I hid myself.'
- (152) má gyá-v-g' é mágày-á-ḡgrè
 HYP cook-APPL-cook millet-GEN-1PL.EXCL
 'When our millet cooks up . . .'

Evidence that *v* codes applicative is provided by the fact that it cannot be used when no argument is affected by the event:

- (153) yè ciná šúḡgù á-m ḡíba
 1SG hear money PRED-IN pocket
 'I heard money in the pocket.' (*v* cannot be added to the verb)

Cf. the affected argument:

- (154) *yè šib-vá šúŋgù á-m ɣíba*
 1SG put-APPL money PRED-IN pocket
 ‘I put money in the pocket.’
 (Frajzyngier field notes)

5.19 Partitive

Some languages have grammaticalized a partitive extension, which indicates affectedness of a part of the object or of some of the entities represented by a plural object. In Hdi (Central), the partitive function is coded by the suffix *a*:

- (155) *xná-á-xná tá ɣú'wí ndá mángá*
 cut-PART-cut OBJ meat ASSC knife
 ‘He cut a piece of meat with a knife.’

Cf.:

- (156) *xná-xná mbítsá ndá mángá*
 cut-cut Mbítsa ASSC knife
 ‘Mbítsa slaughtered it with a knife.’
 (Frajzyngier with Shay 2002)

5.20 Coreferentiality of arguments

Coreferentiality of subject and direct object or subject and indirect object is usually found under the term ‘reflexive’ in descriptive grammars. We have chosen the term ‘coreferentiality’, as this is the function involved.

Some languages have a special set of coreferential markers that code gender and number of the subject. In Mupun (West), these markers consist of the form *s* followed by a person/number marker:

- (157) *yo n-gap s-en*
 REC.PAST 1SG-cut REFL-1SG
 ‘I cut myself.’
- (158) *wu cit s-in*
 3SG hit REFL-3M
 ‘He hit himself.’

Coreferentiality of agent and indirect object or agent and adjunct is coded by the same form preceded by a preposition:

- (159) *n-seet nlor n-s-en*
 1SG-buy shirt PREP-REFL-1SG
 'I bought a shirt for myself.'

In many Chadic languages, coreferentiality is coded by a body-part noun, such as 'head' or 'body', followed by a possessive pronoun. Here is an example of what is often considered a prototypical 'reflexive' construction:

- (160) *digrì kus-iy*
 kill body-3M
 'He killed himself.'
 (Lele, Frajzyngier 2001)

In some languages the same marker that codes coreferentiality also codes point of view of the subject, while in other languages coreferentiality and point of view are separate categories. In Pero (West), coreferentiality of subject and object is coded by the noun 'body' followed by a possessive pronoun:

- (161) *mìn-bít-kò cìgò-mù*
 1PL-hit-PRF body-1PL
 'We hit ourselves.'

Point of view of the subject is marked by object pronouns coreferential with the subject:

- (162) *túkk-tú-ée-ci*
 hide-VENT-PRE.PRO-2F
 'Hide (yourself).'
 (Frajzyngier 1989b)

5.21 Reciprocal

In some languages of all three branches, the reciprocal function is coded by a plural subject marker and the noun 'body', with a plural possessive marker:

- (163) *dàgè se ajigi kusi-gè*
 3PL INCEPT greet body-3PL
 'They greeted each other.'
 (Lele (East), Frajzyngier 2001)

Pero (West) has a dedicated reciprocal marker, which is used along with the noun 'body':

- (164) *mú kát yù bíyàŋ tí-cìg jáabi-m*
 OPT PROH make trouble PREP-body RECIP-NEG
 ‘Let them not make any trouble for each other.’
 (Frajzyngier 1989b)

Wandala (Central) has a verbal extension coding an action performed by a group of people. This form is also used to express reciprocal events:

- (165) *tà jà-já-mmè*
 3PL see-see-TOG
 ‘They saw each other.’

The evidence that the marker is not a dedicated reciprocal morpheme is provided by the fact that it may have objects in its scope:

- (166) *mà jà-rà-mm-ú-jè yà-á tàrè*
 HYP unite-3PL-TOG-APPL-unite voice-GEN 3PL
 ‘if they manage to unite their voices . . .’
 (Wandala, Frajzyngier field notes)

5.22 Point of view of the subject

The existence of the category ‘point of view of the subject’ was recognized only recently in Chadic literature. Now that the category has been identified, it has been observed in languages from the West and Central branches. The coding of point of view of the subject directs the listener to interpret the event from the subject’s point of view. It is unrelated to the semantic and grammatical relations in the proposition, although some propositions are more available for interpretation from the subject’s point of view than from other points of view. Coding of the point of view of the subject is compatible with transitive or intransitive verbs and does not change the grammatical or semantic relations in the clause. Depending on the nature of the verb and its arguments, coding of the subject’s point of view may imply physical affectedness of the subject, beneficial or detrimental effects on the subject, the subject’s interest in the event, and other functions. Some of the semantic implications of the point of view of the subject overlap with the category ‘applicative’, as known in Bantu languages and elsewhere.

The point of view of the subject may be coded by free morphemes or by tonal and/or segmental markers on the verb. In Hausa (West), the subject’s point of view is coded by low tone on the first syllable of the verb. The subject of the clause may be controlling or not, affected or not:

- (167) *mootàr taa gyàaru*
 car:DEF 3F.PRF repair:gr7
 ‘The car has been completely fixed.’
 (Jaggar 2001: 262–3)
- (168) *yaaròo yaa fita*
 boy 3M.PRF go out
 ‘The boy went out.’
- (169) *iskà taa fita*
 air 3F.PRF go out
 ‘The air went out.’
 (Frajzyngier and Munkaila 2004)

In Hdi, the point of view of the subject is coded by the verbal extension *u* (glossed so for subject orientation), which also codes the point of view of the speaker. The extension can occur with controlling and non-controlling subjects, with or without a second argument:

- (170) *z-ú-zà*
 eat-SO-eat
 ‘He ate everything.’
- (171) *kà dvá-úgh-tá mákwà tá zvàxw*
 SEQ like-SO-REF girl OBJ bat
 ‘The girl chose the bat [for herself].’
- (172) *dr-ú-drá xàsúù*
 burn-SO-burn wood
 ‘The wood burned.’

Coding of the subject’s point of view is incompatible with the presence of a goal other than the subject:

- (173) *h1r-ú-h1rà tá pìtsákw *ngá-dà*
 forge-SO-forge OBJ hoe FOR-1SG
 ‘He forged a hoe *for me.’

Some verbs with a non-controlling subject require point-of-view coding on the verb. These verbs cannot be used with the goal marker *a* and an inanimate subject:

- (174a) *bádz-ú-bádzá lǵùt*
 spoil-SO-spoil cloth
 ‘The cloth spoiled.’

Cf.:

- (174b) **bádz-á-bádzá lgùt*
 spoil-GO-spoil cloth
 for ‘The cloth spoiled.’

With an intransitive verb, the point of view of the subject codes affectedness of the subject or movement outward from the place of the subject/speaker:

- (175) *kà mt-ú-tá dá-nì*
 SEQ die-SO-REF father-3SG
 ‘And his father died.’

- (176) *lá-gh-ú-lá*
 go-DIST-SO-go
 ‘He left [the place where the speaker is].’
 (Frajzyngier with Shay 2002)

In Mina (Central), the subject’s point of view is coded by the post-verbal particle *ká*:

- (177) *báy nə kəǰám ngən bət déb á déb ká á idá*
 chief PREP calabash 3SG take carry 3SG carry POS PRED home
 ‘The chief_i took his_j calabash and carried it home (for himself).’

Evidence that *ka* codes the subject’s point of view is that the form cannot be used with a beneficiary other than the subject:

- (178) *báy nə kəǰám ngən bət dèb á dèb ká á idá*
 chief PREP calabash 3SG take carry 3SG carry POS PRED home
 **nó wəl ngəŋ*
 PREP wife 3SG
 for ‘The chief_i took his_j calabash and carried it home *for his wife.’

If the subject is adversely affected, coding the point of view of the subject indicates the speaker’s sympathy and empathy. In the following sentence, the description of the death of some members of a group has the marker *ka*:

- (179) *biǰáf kə dzə tətə cíké’ kà à fín nàmú nám kə tì tàŋ*
 God INF kill 3PL all POS 3SG remain IDU IDU INF see DED
 ‘God has killed them all; that leaves only us; we will see.’

In talking about one’s enemies, where no sympathy is involved, the end-of-event marker *za* is used instead of *ka*:

- (180) *biḫáf ká dzà tətə cíké' zà à fín nàmú nám ká tì tətə*
 God INF kill 3PL all EE 3SG remain 1DU 1DU INF see DED
 'God has killed them all; that leaves only us; we will see.'
 (Frajzyngier *et al.* 2005)

Some languages code point of view of the subject by a special set of pronouns coding gender and number of the subject. Such pronouns co-occur with nominal or pronominal subjects. In Mupun (West), anaphors of the series *mb-* indicate that the action, process, or event concerns only the subject, to the exclusion of other participants:

- (181) *mo toŋ yak mb-ur*
 3PL AUX catch ANAPH-3PL
 'They always catch something.'
- (182) *wu maŋ mb-in dəm bwet n-tul lua*
 3M take ANAPH-3M go put PREP-pot meat
 'He caught it, put it inside the pot.'
 (Frajzyngier 1993)

Many languages code point of view of the subject by means of a body-part noun followed by a possessive pronoun. In Lele, the point of view of the subject in the perfective aspect is coded by the noun *cà* 'head' followed by a possessive pronoun:

- (183) *jèé dí cà-y kìn ódí*
 throw 3M head-3M return leave
 'He turned around and went back.'

Cf.:

- (184) *jèé dí gǐjá*
 throw 3M throwing knife
 'He launched a throwing knife.'

In the imperfective aspect, point of view of the subject is coded by the noun 'body' followed by a possessive pronoun:

- (185) *dàdù se è cánmínè ile kusu-ro*
 3F INCEPT go bush weep body-3F
 'She went into the bush and wept.'
 (Frajzyngier 2001)

The point of view of the subject may entail coreferentiality of participants, e.g. of the subject and object.

5.23 Goal

The presence of a goal marker on the verb indicates that the event has or had a goal, but it does not specify the semantic role of the goal. The subject of a clause with a goal is necessarily controlling.

Goal is often coded by the verbal suffix *a*. Goal markers have been observed in West Chadic, i.e. Hausa (Frajzyngier and Munkaila 2004), and in a number of Central Chadic languages, where the goal marker may occur several times within a verbal piece. The category ‘goal’ has not been postulated in any East Chadic language.

In languages with the category ‘goal’, the goal marker may be added to a verb whose equivalent in other languages may be characterized as either transitive or intransitive. In examples contrasting the presence and absence of goal markers, our analyses and interpretations may differ from those in the sources from which we have taken the data.

In Hausa, the goal marker is coded by the suffix *a* added to the verb. The presence of the marker does not depend on the presence of a second argument in the clause. When there is a nominal second argument, the goal marker indicates that there is yet another goal in the clause:

- (186) *yaa caràa maashii samà*
 3M.PRF throw:GO spear sky
 ‘He threw the spear into the sky.’

Without the goal marker, there is no indication of a goal:

- (187) *yaa carà maashii*
 3M.PRF throw spear
 ‘He threw the spear [probably on the ground].’
 (Frajzyngier and Munkaila 2004)

In Hdi (Central), the goal marker *a* (glossed here as GO, but as PVG ‘point of view of goal’ in Frajzyngier with Shay (2002)) contrasts with the point of view of the subject marker *u*:

- (188) *bl-á-blà tá xàsú’ù*
 break-GO-break OBJ branch
 ‘He broke off a branch.’

When the verb is marked for point of view of the subject, the subject is affected and there is no goal:

- (189) *bl-ú-blá xàsú’ù*
 break-so-break branch
 ‘The branch broke off.’

The goal marker may be used with an intransitive verb:

- (190) *lá-gh-à-là*
 go-DIST-GO-go
 'He arrived there.'

The goal marker can occur with varying numbers of arguments with the same predicate. This is evidence that the goal marker is unrelated to an increase or decrease in the valency of the verb:

- (191) *hlr-á-f-hlrà tá pìtsákw*
 forge-GO-UP-forge OBJ hoe
 'Forge a hoe!'
- (192) *hlr-á-f-hlrà tá pìtsákw ngá-dà*
 forge-GO-UP-forge OBJ hoe FOR-1SG
 'Forge a hoe for me!'
 (Frajzyngier with Shay 2002)

In Gidar (Central), the suffix *a* on the verb contrasts with the high central vowel, represented here as schwa. The form with *a* codes the presence of a goal, while the form with schwa codes the absence of a goal. The final *a* can become [o] as a result of assimilation:

- (193a) *ndɛ-n dɛ-fót-ó*
 3-M 3M-skin-GO
 'It is he who skinned it.' ('it' refers to an unspecified goal rather than a specific antecedent)

Cf.:

- (193b) *ndɛ-n dɛ-fótə*
 3M 3-M-skin
 'It is he who skinned.'
 (Gidar, Frajzyngier 2008a)

Compare also the following pair from Ouldeme (Central), which de Colombel analyses as illustrating a transitive/intransitive contrast:

ŋgaɓ̥ 'pick up (fruits)' and *ŋgəɓ̥* 'detach oneself'
 (de Colombel 1990: 201)

5.24 Verbal plurality

Some Chadic languages of all branches distinguish between a plural event (marked) and a non-plural event (unmarked). Plural coding on the verb may indicate repeated events, the frequentative function, intensified or attenuated actions, plurality of the object (Frajzyngier 1965, 1985c), or plurality of the subject of an intransitive verb. In the data examined so far, verbal plurality does not indicate plurality of the agent of a transitive verb (Frajzyngier 1985b; Newman 1990).

Some languages in all branches code verbal plurality through partial reduplication, e.g. *wàre* ‘insult’, *wàrwàre* ‘scold’ (East Dangla (East), Shay 1999). The Proto-Afroasiatic marker of verbal plurality *a*, postulated in Greenberg (1955), is attested by traces in some Chadic languages and is productive in others. In some languages, it is infixated between the first and second consonants; in others, between the second and third consonants.

Consonantal markers of plurality have been recorded in the West and East branches:

SINGULAR		PLURAL	
<i>siaŋ</i>	‘abort’	<i>sìwát</i>	‘abort many times’
<i>séet</i>	‘buy/sell’	<i>srép</i>	‘buy many things’
<i>gáp</i>	‘cut’	<i>gráp</i>	‘cut many’

(Mupun (West), Frajzyngier 1993)

The coding of verbal plurality is not an agreement phenomenon, as the plural object does not necessarily trigger the plural form of the verb:

(194a) *à bvàŋyà-my-á-hè*
 1SG fall-PL-1PL.INCL-GO-PNCT
 ‘He threw us all down, one after another.’

(194b) *à bvŋyà-my-á-hè*
 1SG fall-1PL.INCL-GO-PNCT
 ‘He threw us all down.’
 (Wandala (Central), Frajzyngier field notes)

In Gidar (Central), the marker *w* (which becomes *u* before a consonant and undergoes lowering after a consonantal cluster), labelled ‘totality extension’ (TOT) in Frajzyngier (2008a), indicates plurality of the subject of an intransitive verb of movement. In the third person, the plurality of the subject is also coded by the suffix to the verb:

(195a) *tà-í úd-ó-ŋ*
 PROG-3M go-TOT-PL
 ‘They are going.’ (The initial *u* on the verb is epenthetic, after a pause)

Cf.:

- (195b) *tà-í ddà-ní*
 PROG-3M go-3M
 ‘He is going.’

With a transitive verb, the marker codes complete affectedness of the object:

- (196a) *à-pt-úwǝ-k háyà*
 3M-pull-TOT:3M-PRF guinea corn
 ‘He pulled up all the guinea corn.’

Compare the form without the totality extension:

- (196b) *à-pt-ǝ-k háyà*
 3M-pull-3M-PRF guinea corn
 ‘He pulled up the guinea corn.’
 (Frajzyngier 2008a)

5.25 Other extensions

5.25.1 Iterative

The iterative extension indicates that an event followed an identical event, a function similar to the pre-verb ‘re-’ in English and in its Latinate sources. We have observed this function only in Hdi (Central), where the function is coded by the extension *gl* or *glà*. The source of the extension *gl* is most likely the verb *glà* ‘grow’. The extension occurs with transitive and intransitive verbs and in affirmative and negative clauses. In the latter, its function corresponds to ‘any more’:

- (197) *kà lǝ-glá-p-tsì kà má his*
 SEQ go-ITER-OUT-3SG like PREP two
 ‘And he went out for the second time.’
- (198) *sǝ-gǝl-tà-dá gá màxtsím-à-ní vníxí-glà á*
 drink-ITER-REF-1SG PREP next day-GEN-3SG vomit-ITER NEG
t-í í wà
 OBJ-1SG NEG
 ‘After I drank again the next day, I did not vomit any more.’
 (lit. ‘... it did not vomit me any more’)
 (Frajzyngier with Shay 2002)

5.25.2 Associative function

The associative function may be coded by a preposition or by an extension on the verb, or by both at the same time. The first type of coding is familiar across language families; the second type is less common. In Wandala (Central), the associative function is coded either by the preposition *án* or by the identical extension *án*. The scope of the extension is the pronoun that precedes it:

- (199) *śskə gdz-á mó ɲàrà tá njá-tr-án-ú-hè*
 like young-GEN mother 3PL 3PL remain-3PL-ASSC-APPL-PNCT
tá mlá-tr-ú mágà ʃrà
 3PL help-3PL-APPL do work
 ‘[People], like her sister, remain with them to help them with the work.’
 (Frajzyngier field notes)

A similar extension is found in Lele (East). In at least one language, Gidar (Central), the associative preposition codes the number and gender of the following noun:

- (200) *páy tákà dák də-t mbədə-t à-ddó-ɲgú-k śkày səsémé*
 day one woman ASSC-F in-law-3F 3M-go:TOT-PL-PRF find firewood
 ‘One day, a woman and her co-wife went to get firewood.’
 (Frajzyngier 2008a)

5.25.3 Directionality and spatial relationships

Directional relationships coded on the verb include ventive – coding movement toward the place of speech, speaker, or some other previously established deictic centre – and allative, andative, or ‘efferential’ (Newman’s term) – coding movement away from the speaker. Ventive suffixes are derived from the verbs ‘come’ and ‘arrive’; andative suffixes are derived from the verb ‘go’ (Frajzyngier 1987e). These types of extensions are widely attested in African languages from other families:

- (201) *á sá-wà*
 3SG arrive-VENT
 ‘He is coming.’

Cf. the form without the ventive extension:

- (202) *á sè mbá-tàrè*
 3SG arrive house-3PL
 ‘He is arriving at their house.’
 (Wandala, Frajzyngier field notes)

Other extensions code spatial relationships, such as ‘up’, ‘down’, ‘in’, or ‘by’, with respect to a deictic centre other than the place of speech, a function similar to that of pre-verbs in German and Slavic languages.

In languages with no directional extensions, spatial relationships are coded by serial verb constructions or, less frequently, by locative nouns. Serial verb constructions, a category quite common in African languages and in other languages throughout the world, involve the use of lexical verbs in the coding of various semantic functions. With respect to the category ‘ventive’, the coding means is often the verb ‘to come’:

- (203) *se dí jè (dà) dèbréŋ liŋdà nè kínè cà-y*
 leave 3M VENT PREP Debreng yesterday COP return:FUT head-3M
 ‘He came from Debreng yesterday, and he is going to return there.’
 (Lele, (East), Frajzyngier 2001)

In Mupun (West), verbs coding directionality and spatial relationships occur before the main verb of the clause. First- and second-person pronouns occur between the first and second verbs, while third-person pronouns precede the first verb:

- (204) *wa mu siam n-tulu*
 return 1PL descend PREP-home
 ‘We went down home.’
- (205) *m taa dee n-panksin*
 3PL fall stay PREP-Pankshin
 ‘They stopped over in Pankshin.’
- (206) *yo wu se dəm n-jos*
 REC.PAST 3M depart go PREP-Jos
 ‘He went to Jos (recently).’
 (Frajzyngier 1993)

In East Dangla, a serial verb construction is used to code the allative function. Pronominal arguments are marked on the auxiliary verb:

- (207) *tyà dāa-ga dēesiyà*
 3F ALL-3M.O hit
 ‘She went and hit him.’
 (Shay 1999)

In many Chadic languages, the verb ‘to sell’ is derived from the verb ‘to buy’ by addition of the allative (‘efferential’ in Newman (2000)) extension. In Lele, ‘to sell’ is derived from ‘to buy’ by adding the noun *cáani* ‘bush’, which with other verbs codes the allative function, at the end of the clause:

- (208) *kil gé kàmyá tùmò cáaní*
 trade 3PL milk before ALL
 ‘They used to sell milk.’
 (Frajzyngier 2001)

5.26 Locative predication

5.26.1 The forms and the functions in locative predication

The term ‘locative predication’ refers both to directional predication, in which an argument moves toward or away from a certain place, and to stative predication, where the argument or event is located at a certain place. The coding means for locative predication include inherently locative predicates and inherently locative complements (in some languages only), serial verb constructions, adpositions, spatial specifiers, and, in a few languages, locative case markers on nouns. Not all Chadic languages make a formal distinction between stative predication and directional predication. In some languages the coding of locative predication depends on the inherent properties of predicates and complements, while in other languages the same coding means are used for all types of predicates and most types of complements. Since systems showing greater differentiation are typologically more interesting, our discussion begins with languages in which the coding depends on the type of predicate and complement and proceeds to languages in which the coding of locative predication does not depend on the properties of predicates and complements. For studies of locative predication in Chadic, see Frajzyngier (1987a), Pawlak (2002), and Frajzyngier and Shay (2003).

In Mina (Central), if the predicate and complement are both inherently locative, locative predication is coded by juxtaposition of the predicate and the complement. In the following example, the verb *nd* ‘go’ is inherently locative, and so is the noun *wùtá* ‘village’:

- (209) *ábè nd-á ngèn wùtá*
 ASSC go-GO 3SG village
 ‘Then she returned to her village.’

If the complement is not inherently locative, it must be marked by the locative preposition *n*. The nasal is followed by a schwa in predictable phonological environments:

- (210) *tsáy mè tí tí nd-á násté nè yèm*
 then REL look look go-GO enter (Fula) PREP water
 ‘Then the one who was good at looking entered into water.’

If the predicate is not inherently locative, it must be followed by the locative predicator *á*, whose function is to mark a non-locative predicate as having a locative function. In

the following example, the noun *kayak* ‘ground, down’ is inherently locative, so the preposition *n* is not used:

- (211) *i η kə ηdɔv-a a kayak*
 3PL PREP INF fall-GO PRED earth
 ‘They will fall down on the ground.’

- (212) *ηkwə ɓ ləvéŋ hi kə skəm-á zà hi fàt kà á káyàk*
 goat GEN black 2PL INF buy-GO EE 2PL skin POS PRED earth
 ‘A black goat, when you have bought it, you skin it on the ground.’
 (Frajzyngier *et al.* 2005)

If neither the predicate nor the complement is inherently locative, both the locative predicator and the locative preposition must occur between the predicate and the locative complement:

- (213) *ván dǎ rà məná á nə lùmò*
 rain fetch:GO D.HAB like PRED PREP market
 ‘It was raining from the direction of the market.’

In many descriptions of Chadic languages, and in Frajzyngier (1987a), the marker *a* has not been recognized as a locative predicator and instead has been analysed as a preposition.

Many Chadic languages make an additional distinction between a locative complement that is [+human] or [+animate] and other types of complements. In Mina, a [+human] noun is marked by the preposition *r* when it functions as a locative complement:

- (214) *séy wàl wà tíl rə ngən*
 so woman DEM leave PREP 3SG
 ‘So the woman went to him.’
- (215) *tán á nd-á r báy tàŋ*
 go 3SG go-GO PREP chief DED
 ‘He went to the chief’s.’
 (Frajzyngier *et al.* 2005)

A similar constraint on locative predication appears to operate in Hausa. If both predicate and complement are inherently locative, the locative preposition does not have to be used:

- (216) *yaa tàfi Kano*
 3M:PRF go Kano
 ‘He went to Kano.’

If the predicate is not inherently locative, a locative predicator must be used:

- (217) *akwai mutane dà yawa a kano*
 exist people ASSC many PREP Kano
 ‘There are a lot of people in Kano.’ (Frajzyngier and Munkaila in progress)

In languages in which no distinction is made between locative and non-locative predicates, a preposition must precede any locative complement. In Gidar (Central), both the direction ‘to’ and the stative locative predication are coded by the preposition *á*:

- (218) *móliy à-zó-k á wrà*
 chief 3M-get.lost-PRF PREP bush
 ‘The chief got lost in the bush . . .’
- (219) *sá zá à-gàpá-ŋ á wrá*
 from side 3M-reach-PL PREP field
 ‘when they arrived at the field’

Nouns that are inherently [–locative], such as animates, must be preceded by an additional marker, *zá* ‘side’:

- (220) *wín à-ló-k á zá fə-ní*
 child 3M-go-PRF PREP side father-3M
 ‘The child went and approached his father.’

Movement away from the source is coded by the preposition *sá*:

- (221) *à-mbát-àk sá jáabè*
 3M-go-PRF PREP Djabe
 ‘He went from Djabe.’
 (Frajzyngier 2008a)

East Dangla (East) is one of the few Chadic languages that have a locative case marker in addition to locative prepositions. The system distinguishes among inherent locatives; animate, non-human locatives; and human locatives. An inherent locative is not marked for its role in a locative predication:

- (222) *gín dàŋilè, kat Mòŋgò*
 be Dangla man go Mongo
 ‘There was a Dangla man who was going to Mongo.’

The locative case marker is used for an inanimate, [–locative] argument in the locative function:

- (223) *á-ye kát-íny-dyì sùgín-írá*
 FUT-1PL.INCL go-VN-3M market-LOC
 ‘We will go to the market.’

The case marker is also used with the inanimate, [–locative] argument of a non-motion verb:

- (224) *no tal-ga sùgín-írá*
 1SG see.PAST-3M.O market-LOC
 ‘I saw him at the market.’

A [+animate], [–human] argument in the locative function is marked by the locative preposition *ku* and the genitive suffix *-dì* or one of its allomorphs. If the argument has been mentioned before, there is a coreferential indirect object suffix on the verb:

- (225) *gándà às-dyi-dyì kát ku kanya-r*
 jackal come-3M-3M go PREP dog-GEN
 ‘Jackal went to Dog.’

A human argument in the locative function is marked by the locative preposition *ku* but not by the genitive suffix. If the argument is known, visible, or has been mentioned previously, it is also marked on the verb by an indirect object suffix:

- (226) *kát-tí-dyì ku bègér*
 go-3F-3M PREP chief
 ‘She went to the chief.’
 (Shay field notes)

5.26.2 Spatial orientation with respect to the locative centre

In the domain of locative predication, spatial orientation with respect to the locative centre is coded by nouns, often derived from body-part terms. We refer to these morphemes as spatial specifiers. In some languages, spatial specifiers precede the head of the locative complement, and in others they follow the head. Whether spatial specifiers precede or follow the head of the locative complement correlates with the structure of the possessive construction in the language. If the possessor precedes the possessum, the spatial specifier follows the head noun. If the possessor follows the possessum, the spatial specifier precedes the head noun. Evidence for this is provided by languages in which spatial specifiers are also the markers of possessive constructions, e.g. in Wandala:

- (227) *ŋó ŋánnè yá-nj á t-wàf̣k-á patron-á-rwà*
 PRES DEM 1SG-sit PRED T-face-GEN boss-GEN-1SG
 ‘Here I am sitting in front of my boss.’
 (Wandala, Frajzyngier field notes)

In Gidar, the spatial specifier precedes the head noun and has a possessive suffix agreeing in gender and number with the possessor:

- (228) *wiin ṣ-t ḍəẉ-t má-n . . .*
 boy PREP-3F inside-3F mother-3M
 ‘a boy from inside his mother . . .’

A spatial specifier that follows the head of the locative complement is coded as a possessor whose possessum is the head of the locative complement. The locative complement must be followed by a locative postposition:

- (229a) *è ná ṣgyá kàrgà-y ni*
 go ASSC grass behind-3M LOC
 ‘He went with it behind the grass.’
- (229b) *è ná ṣgyá timè-y ni*
 go ASSC grass front-3M LOC
 ‘He went with it in front of the grass.’
- (229c) *è ná ṣgyá dure-y ni*
 go ASSC grass middle-3M LOC
 ‘He went with it in the grass.’
 (Lele, Frajzyngier 2001)

5.27 Modality

This section discusses the coding of epistemic and deontic modalities and of other types of modalities coded in some grammatical systems. Descriptive grammars of Chadic languages typically devote very little space to the epistemic modality, i.e. to the coding of the speaker’s attitude with respect to the truth of the proposition.

5.27.1 Epistemic modality

The unmarked indicative clause in Chadic languages codes the speaker’s belief in the truth of the proposition. The evidence for this is provided by the fact that all other attitudes of the speaker, such as hypothetical and dubitative, must be overtly marked.

Hypothetical modality in Lele is coded by the *de dicto* complementizer *na*:

- (230) *luŋba na kùrmbàlo kè-y*
 horse HYP chief GEN-3M
 ‘looks like a chief’s horse’
- (231) *láràdí na nè kara go yà-gé*
 chameleon HYP COP PEOPLE REF say-3PL
 ‘Chameleon would represent people who say . . .’

Compare the indicative mood, which codes the speaker’s belief in the truth of the proposition:

- (232) *dàng ng nè kírǵá go kúrá gǐndé*
 1SG 1SG COP animal REF good very
 ‘I am a very good animal.’

Dubitative modality, i.e. doubt in the truth of the proposition, is coded by auxiliary verbs. One is the verb *tòb* ‘want’, followed by the complementizer *go* and then by the main verb with its complements:

- (233a) *kus-iy jè tob go né-y*
 body-3M IMPF want REF make-3M
 ‘He seems to be sick.’

Cf.:

- (233b) *kus-iy nè-y*
 body-3M make-3M
 ‘He is sick.’ (lit. ‘his body makes him’)
 (Frajzyngier 2001)

5.27.2 Deontic modality

Chadic languages of all three branches have inflectional means of marking the verb for the imperative mood. The coding means vary greatly across languages, even within a single branch. Most languages code imperative modality through tonal and vocalic changes on the verb and markers coding singular or plural addressee. Some languages distinguish between imperative modality, used for commands to a second-person addressee, and subjunctive modality, used to express wishes or obligations with respect to the first or third person. In some languages the subjunctive is also used for indirect commands to the second person.

In Gidar (Central), deontic modality is marked by adding the prefix *á* to the verbal root:

- á-sə̀* ‘Drink!’
á-zəm̀ə̀ ‘Eat!’
á-nzàd̀ə̀ ‘Let him cure himself!’
á-rg̀ə̀ ‘May you be wounded!’
 (Frajzyngier 2008a)

In Mina (Central), deontic modality is coded by tone changes on the verb. A high-tone verb becomes low tone:

- (234) *ləm bíŋ*
 build house
 ‘Build a house!’ (*ləm* ‘build’)

A verb that has high–low tone codes deontic modality through low–low tone:

- (235) *tèwèl ǰámábáy*
 twirl stick
 ‘Let him twirl the stick!’ (*tèwèl* ‘twirl’)

The imperative differs from the indicative in that the imperative of a transitive verb without a nominal or specific pronominal object must have the third-person definite object marker *ú* added to the verb:

- zəm-ú* ‘Eat!’
wày-ú ‘Forget!’
bèr-ú ‘Sell!’
pàs-ú ‘Cover with soil!’

If the verb ends in the vowel *a*, the marker *u* replaces the vowel of the verb and assumes the low tone of the imperative stem, not the tone of the underlying stem:

- sù* ‘Drink!’ (*sà* ‘drink’)
wù ‘Start!’ (*wà* ‘start’)
rù ‘Dig!’ (*rá* ‘dig a hole’)
 (Frajzyngier *et al.* 2005)

In Giziga (Central), a wish with respect to the first-person plural is coded by a second-person plural subject suffix on the verb:

- (236) *míyá kó m-ákò̀m í kótókóm*
 IPL FOC return-2PL PREP mice
 ‘You and I, let’s go back to the mice.’
 (Lukas 1970)

In Lele (East), the syntax of the deontic modality differs from that of the indicative modality. In the indicative, a second-person plural subject pronoun precedes the verb. In the deontic modality, the second-person plural pronoun follows the verb:

- (237) *ngu gol gaw go kun-do pìnà tésí dǝ-ŋ ná da*
 2PL see well HYP eye-3F one break then-DEF ASSC eat:IMPER
ngù kasa ná já koloŋ
 2PL corn ASSC side DEM.R
 ‘You see well that she is blind in one eye, so go and peck at the other side.’
 (Frajzyngier 2001)

In Wandala (Central) the imperative stem is derived from the simple form through gemination of the first consonant of the verb and addition of the verb-final suffix *a*. Gemination of the first consonant requires insertion of the epenthetic high central vowel at the beginning of the imperative form:

ǝžžárá ‘Look!’ ǝzzá ‘Eat!’ ǝššá ‘Drink!’

The second-person plural addressee is marked by the suffix *wa*:

- (238) *và-w-ì-tù-wá*
 give-PL.IMPER-1SG-AT-VENT
 ‘Give me!’

The subjunctive form in Wandala differs from the imperative in having subject pronouns with high tone. This construction codes obligation with respect to a social or other norm, and may have all persons in its scope:

- (239) *á-tsé á-ǵál m-án úr-á-rà*
 3SG-get up 3SG-go HYP-ASSC man-GEN-3SG
 ‘he should get up and go either with his man . . .’
- (240) *tá dš mb-á dár gè gdz-á gyálè*
 3PL GO house-GEN father DEST small-GEN girl
 ‘They should go to the father of the girl.’
 (Frajzyngier field notes)

In Mupun, the subjunctive is coded by low tone on the subject pronoun:

- (241a) *mo sat nə yì cin dīk*
 3PL say COMP 2F do marriage
 ‘They said that you should marry.’

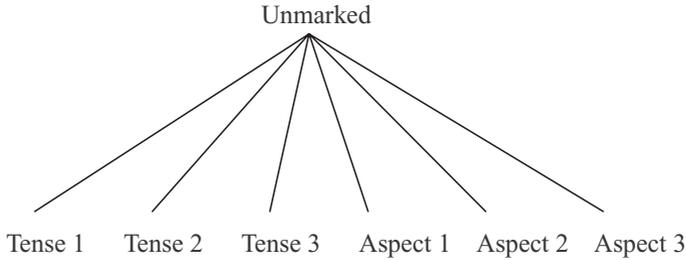


Figure 5.1 A single tense/aspect system with a contrasting unmarked form.

Cf.:

- (241b) *mo sat nə yí cin dik*
 3PL say COMP 2F do marriage
 'They said that you married.'
 (Frajzyngier 1993)

5.28 Tense and aspect

For many languages of the West and Central branches, the categories 'tense' and 'aspect' belong to a single domain, in the sense that a given form codes either tense or aspect and that the two categories cannot co-occur within the same clause. There are, however, languages in the West branch, e.g. Mupun and Za:r, where tense and aspect markers can co-occur paradigmatically (Za:r) and within the same clause (Mupun, Za:r).

In many languages of the West and Central branches there is one verbal theme, usually unmarked morphologically, which occurs in clauses with various temporal and aspectual interpretations, e.g. past, present, completive, incomplete, habitual, depending on context. The unmarked form is often used in pragmatically dependent clauses.

In most Chadic languages, verbal forms marked for tense are used only when there is a specific time reference. Forms marked for aspect are used only when the internal state of the event is pertinent to the ensuing or preceding discourse. The forms marked for tense or aspect thus contrast directly with the unmarked verbal form, rather than with other temporally or aspectually marked forms, as shown in figure 5.1.

Because the unmarked form has no inherent temporal or aspectual functions and because the marked verbal forms may have very narrow functions, the values of tenses and aspects in Chadic languages are not in contrast with each other. For most Chadic languages, the 'past tense(s)', 'present tense' (when marked), and probably also the 'future tense(s)', refer to a specific time of the event in the past, present, or future, rather than to a relationship between the time of speech and the time of the event. The past

tense in Hdi (Central), marked by the form *sí*, is used rather seldom in natural discourse; it refers to a specific past time coded by an adverb or another time reference, not to the general past:

- (242) *íná guílí kà snà-n-tà índà m̀ndú-xà tà kùmà kàkí*
 good again SEQ know-3-REF all man-PL PREP front how
sí ndzà-kw-á xdi
 PAST stay-ABS-GEN hdi
 ‘It would be good if the future generation knows how Hdi used to live.’

Similarly, the future tense in Hdi refers to a specific time in the future rather than simply to the period of time following the time of speech:

- (243) *tà xúl-á skálú dzà'á sá-ghà-sá màràkw gá*
 PREP back-GEN dance FUT arrive-D.PVG-arrive woman PREP
s̀rd̀ókw ndá lá dá-ní
 morning ASSC COLL father-3SG
 ‘After the dance, the woman will come in the morning, together with her parents.’

Hdi uses the future tense only in affirmative clauses. In negative clauses, future time reference has the unmarked verb form:

- (244) *xgà-n-tì í tá ùvá wà ká yàghí*
 call-3-REF:SUBJ NEG.1SG OBJ cat NEG COMP squirrel
 ‘‘I am not going to invite Cat’’, said Squirrel.’
 (Frajzyngier with Shay 2002)

Lele (East) makes a distinction between the unmarked tense and future tenses, coded through auxiliaries and inflectional forms of the verb. The unmarked tense can be used in reference to past or present time:

- (245a) *ŋ jèn d̀èbréŋ*
 1SG live Debreng
 ‘I lived in Debreng.’
- (245b) *ŋ jèn d̀èbréŋ k̀l̀èn káŋ*
 1SG live Debreng fast DEM
 ‘I live in Debreng now.’

The inflectional future, marked by the final vowel *-e*, codes a future event with an unspecified time reference:

that may precede, or (in the case of Mina) precede and follow, the verb. Formation of the imperfective and progressive aspects often involves the use of a nominalized form of the verb preceded by an auxiliary or by a preposition:

- (250) *mo pē put*
 3PL PREP come.out
 ‘They are coming out.’
 (Mupun (West), Frajzyngier 1993)

Some languages, e.g. Masa, have a large number of auxiliaries coding fine-grained aspectual distinctions that may differentiate between singular and plural subjects. In Hdi and Wandala (Central), reduplication of the verb codes more than one aspect, the difference being marked by the position of the subject pronoun.

It has been claimed that many Chadic languages have a distinction between perfective and imperfective aspects. In French linguistic literature, the distinction is drawn between *accompli* and *inaccompli*, categories that are not necessarily identical with perfective and imperfective. The actual situation is more complex. Not all Chadic languages have binary aspectual distinctions. Lele has three aspects, with telic aspect coding an event bounded at the end, inceptive aspect coding an event bounded at the beginning, and durative aspect coding an unbounded event.

Even where a contrast between perfective and imperfective is postulated, these terms do not necessarily correspond to the expected distinction between bounded and unbounded events. This is the case in Miya (West Chadic), where the perfective includes bounded events as well as states (Schuh 1998). In Wandala (Central), a single verbal form refers both to events that have been achieved and to resulting states; another form refers to events that have not been completed and states that have not yet been achieved. Both forms are coded by reduplication. The form referring to achieved events and resulting states has a subject pronoun (except for the third-person singular, which is unmarked) between the reduplicated forms of the verb:

- (251) *àstù wá ʒóʒè nàr-wà-ndzà ɲánnà*
 like.that COMP finish language-mouth-past DEM
 ‘This story ended like that.’ (achieved event; independent perfect form)
- (252) *nóo và tɛ-nà kìní njà-n-í-njà tɛ wàfké á ordinator*
 well time AT-DEF BCKG sit-1SG-EP-sit at face PRED computer
yá ndàhá lvà Wandala
 1SG speak language Wandala
 ‘Here I am now, sitting in front of the computer speaking the Wandala language.’ (resulting state)

The form referring to unbounded events and unachieved states has the subject pronoun before the reduplicated form of the verb:

- (253) *má kìò-rà dùksà ḡánnà séì bà yà ná-n-nà*
 HYP where-Q thing DEM then FOC 1SG see-3SG-see
 ‘No matter where an object is, I can see it.’
 (Frajzyngier field notes)

For some languages, stative, inceptive, iterative, and/or frequentative aspects have been postulated. The stative aspect in many languages is coded by an equational clause whose predicate is a nominalized form of the verb:

- (254) *mín-i wúll-áani*
 beer-DEF brew-NOM
 ‘The beer is brewed.’
- (255) *círíp-ì yé kàr-áani*
 fish-DEF inside cut-NOM
 ‘The fish is cut.’
 (Pero (West), Frajzyngier 1989b)

5.29 Negation

The negative marker in many Chadic languages occurs in clause-final position, a situation Dryer (2009) describes as typologically rare:

- (256) *bayndí è jè ná kòbró bayndí-ḡ tòb go na*
 man go VENT ASSC boat man-DEF want REF HYP
hímé-gé d́é
 take:FUT-3PL NEG
 ‘A man came with a boat, but he refused to take them.’
 (Lele, Frajzyngier 2001: 463)

In many Chadic languages, the negative clause has two markers, referred to here as the first (leftmost) negative marker and the second (rightmost) negative marker:

- (257) *à-lí-jì tóojè-m nín-pipéerò ántángà lí-jì*
 NEG-keep-HAB horse-NEG SUBJ-Pero Fulani keep-HAB
 ‘Pero do not keep horses, but Fulani do.’
 (Pero, Frajzyngier 1989b)

There are also languages in which the obligatory negative marker occurs after the verb and before the object or other elements of the clause:

- (258) *á šə kə mbàǰà*
 3SG drink NEG beer
 ‘He does not drink beer.’
 (Wandala, Frajzyngier field notes)
- (259) *ɲàar bèegér giy gèdir-rúu gàs dikiyaŋge ku dyàdinninà*
 3M chief TOP succeed-NEG find calabashes REL new:PL
 ‘The chief couldn’t find any new calabashes.’
 (East Dangla, Shay 1999)

In some languages with two negative markers, the first marker is obligatory; in other languages, it is the second marker that is obligatory (Hausa and Mupun). Languages also differ with respect to the position of the first negative marker. In a language where the nominal subject is in clause-initial position, the first negative marker occurs after a nominal subject but before a pronominal subject. In languages where the verb is clause-initial, the first negative marker occurs after the verb and the second marker occurs after the object, if any:

- (260) *zá á zwáŋ tá tsá wà ká-’á*
 eat NEG child OBJ DEF NEG COMP-3SG
 ‘“Children do not eat it,” he said.’

If there is no object or prepositional phrase following the verb, the two negative markers may follow each other:

- (261) *kɛ̀ix-á-ní á wà*
 donkey-GEN-3SG NEG NEG
 ‘It is not his donkey.’
 (Frajzyngier with Shay 2002)

In some languages, verbs in negative clauses are in the pragmatically dependent form; in others, they may be either pragmatically dependent or pragmatically independent, depending on whether the negative negates a previous affirmative proposition or whether it is a new proposition. In still other languages, e.g. Hausa (Newman 2000), negative clauses constitute a third type of clause. There are also languages in which negative clauses are only pragmatically independent.

5.30 Pragmatic status of clauses

Many Chadic languages code a distinction between a pragmatically independent clause, i.e. a clause that may be interpreted on its own, and a pragmatically dependent clause,

i.e. a clause that requires another clause in preceding or following discourse for its interpretation (Frajzyngier 2004). Typical pragmatically dependent clauses are content interrogatives, whose interpretation rests on the assumption of truth of the rest of the proposition; focus constructions, which contrast one proposition with an alternative proposition, which may be produced or not; conditional protasis and apodosis clauses, each of which may require the other for proper interpretation; and temporal protasis and apodosis clauses. Negative clauses are treated as pragmatically dependent in some languages and as pragmatically independent in others. In some languages, e.g. Hausa, negative clauses constitute a third clause type.

The distinction between pragmatically dependent and independent clauses may be coded by the use of different tense and aspectual systems or by the use of complementizers and subordinating particles (Frajzyngier 2004). The first means is found in all three Chadic branches and in languages from other families in Africa (Jungraithmayr 1994). In Hdi (Central), coding of perfective aspect by complete reduplication of the verb stem marks the pragmatically independent clause:

- (262) *tò lá-lá-ká ndá gí íḡní rí*
 okay go-go-2SG to compound (Mafa) 1PL.EXCL Q
 ‘Okay, did you go to our place?’

Coding of perfective aspect by the simple form of the verb marks the pragmatically dependent clause, e.g. a content interrogative:

- (263) *nó mágá-ká gà ghúní nà*
 what do:GO-2M PREP 2PL Q
 ‘What did you do at home?’
 (Frajzyngier with Shay 2002)

In Gidar (Central), perfective aspect, marked by *ká* added to the verbal complex, can be used only in independent clauses:

- (264) *à-ddó-n-k á wrá škkáì 4ú vání*
 3M-go:TOT-PL-PRF PREP bush find:IN meat DEF
 ‘They went into the bush to find the meat.’

In the pragmatically dependent negative clause, the imperfective (unmarked) form is used instead of the perfective form:

- (265) *nè-zé b̄à*
 1SG-arrive:VENT NEG
 ‘I didn’t come.’
 (Frajzyngier 2008a)

- (267b) *p̀̀l m̀̀ndéŋ d́ám d́ámà*
 detach another normal
 ‘[He] detached the other; [it was] normal.’
 (Mina (Central), Frajzyngier *et al.* 2005)

5.31.3 Independent pronouns

Independent pronouns are usually complex structures consisting of two or more components, one coding person, gender, and number and the other coding the independent status of the pronoun. The following table lists independent pronouns in Gidar (Central), with morpheme separation:

PERSON	SINGULAR	PLURAL
1	<i>ì-ná</i>	<i>m̂-ná-m̀̀</i>
2	<i>ì-sí</i>	<i>m̂-nó-k̀̀m</i>
3M	<i>nd̂-ní</i>	<i>nd̂-dáŋ</i>
3F	<i>nd̂-tá</i>	

Independent pronouns behave like full nouns: they are used as subjects in equational clauses, in constructions coding focus on pronominal subjects, and in topicalization constructions. They can co-occur with subject pronouns, as in the following example from Wandala (Central), where the third-person plural independent pronoun *ítàrèè* co-occurs with the third-person plural subject pronoun *r*:

- (268) *ánkwè žil mtú wàyà-r kà bà ítàrèè*
 there is man or love-3PL NEG FOC 3PL
 ‘[or else] some man is there, but it is they that refuse’
 (Frajzyngier field notes)

5.31.4 Logophoric pronouns

Logophoric pronouns, found in the West and East branches, indicate whether a subject or possessive pronoun in the complement clause of a verb of saying has disjoint reference with a participant in the matrix clause (examples from Mupun (West), Frajzyngier 1993). Use of identical pronouns in the matrix and complement clauses codes disjoint reference:

- (269) *wu/wa/mo sat nə wu/wa/mo ta d̂ee n-jos*
 he/she/they say COMP he/she/they stop stay PREP-Jos
 ‘He₁/she₁/they₁ said that he₂/she₂/they₂ stopped over in Jos.’

Use of different pronouns codes coreference:

- (270) *wu/wa/mo sat nə ta di/de/du dee n-jos*
 he/she/they say COMP stop he/she/they stay PREP-Jos
 ‘He₁/she₁/they₁ said that he₁/she₁/they₁ stopped over in Jos.’

Of typological interest is the fact that some Chadic languages also code disjoint reference with respect to the addressee of the matrix clause (Frajzyngier 1985d):

- (271a) *n-sat n-wur nə taaji wur dəm n-kaano*
 1SG-say PREP-3SG COMP PROH 3SG go PREP-Kano
 ‘I told him₁ that he₂ may not go to Kano.’
- (271b) *n-sat n-wur nə taaji gwar dəm n-kaano*
 1SG-say PREP-3SG COMP PROH 3SG go PREP-Kano
 ‘I told him₁ that he₁ may not go to Kano.’
 (Mupun, Frajzyngier 1993)

5.31.5 Object pronouns

A transitive verb in Chadic may occur without any object, with a pronominal object, with a nominal object, or with a nominal and a pronominal object at the same time. Most descriptive grammars do not discuss when object pronouns are used and when they are not, producing a misleading impression of functional identity between Chadic object pronouns and object pronouns in better-known Indo-European languages. An examination of the use of object pronouns in languages from all three branches of Chadic indicates that whether an object pronoun is used is not determined by the subcategorization properties of the verb but rather by the system of reference in a given language.

In some languages from the West and Central branches, object pronouns are not used in past-time reference if the antecedent is inanimate. In the first line of the next example from Mina (Central) (272a), the verb *ḫáŋ* ‘cross’ is followed by the object *làkwát* ‘river’. In the fourth line from the same text (272b), the proposition has the same logical object ‘river’. The object, however, is not coded overtly by a noun or a pronoun:

- (272a) *hid-yî wá í díy-á ḫáŋ làkwát*
 man-PL DEM 3PL put-GO cross river
 ‘The men started to cross the river.’
 . . . (several intervening sentences)

In Hdi, determiners may be repeated both before and after the head noun:

- (277) *ká xəŋ mántsá nà ná kǝíx ná ná, kǝíx-á*
 COMP 3PL thus DEM DEM donkey DEM DEM donkey-GEN
xìyá yà
 guinea.corn COP
 ‘They said, “This donkey here is the donkey of guinea corn.”’
 (Frajzyngier with Shay 2002)

Natural discourse analyses indicate that at least three functional domains are coded by determiners in Chadic: deixis (proximate and remote); previous mention (proximate and remote); and topicalization. Some languages also code deduced reference. In at least one language, Hona (Central), the citation form of a noun must have an indefinite marker. The evidence that deixis and previous mention or definiteness belong to different domains is provided by the fact that markers of these domains can co-occur in the same noun phrase. Moreover, both classes of markers can co-occur with possessive pronouns. However, determiners as markers of topicalization cannot co-occur with previous-reference markers, indicating that one of the two domains, probably topicalization, is a functional extension of the other.

Some determiners are complex structures consisting of two or three morphemes: one coding distance, another coding deixis with respect to an entity or location, and the third coding gender or number. In languages for which such issues have been described, there appears to be a distinction between the point of view of the speaker and the point of view of the addressee (Jaggar 1994). We illustrate the system using Gidar (Central). The addressee-proximate is coded by the marker *vá* followed by a gender and number marker (*n* masculine, *t* feminine, or *tì* plural):

- (278) *ví mì kǝ-dà rg-á háy vá-n púm dǝ*
 for what 2SG-D.PROG thresh-OBJ corn DEF-M morning ASSC
púmmò dì
 morning SQ
 ‘Why are you threshing this corn so early in the morning?’
 (Frajzyngier 2008a)

The speaker-proximate is coded by a complex consisting of the form *n-kà* (unmarked and masculine) plus a gender marker:

- n-ká* masculine
kǝ-n-kǝ feminine and diminutive
n-k-í plural

- (279) *kà-dé gón óràhú-w á ddáf ìnkilè n-k-í*
 2SG-go:VENT SUBJ find-1SG PREP in water DEM.PL
 ‘You will come and find me in this water here.’
 (Frajzyngier 2008a; ‘water’ is plural in Gidar)

5.31.7 Anaphors

Previous-mention markers (anaphors) are often different from deictic markers within the same language (Mupun (West), Frajzyngier 1993), although across languages anaphors in one language may be related to deictic markers in another. Previous-mention markers can be combined with deictic markers to code proximate or remote previous mention. The previous-mention marker *s* in Gidar can be combined with the deictic markers *k* or *(n)da*:

- (280) *mǽliy gədǽvǽ-n mǽ-dá-n à-sími-k sú*
 chief belly-3M NOM-cook-3M 3M-emigrate-PRF from
wàlǽnglǽ s-kà
 village DEM-DEM
 ‘The angry chief left the village . . .’

Proximate previous mention in Gidar is coded by the form *và* plus the masculine marker *ní*, regardless of the gender and number of the head noun:

- (281) *à-ddó-n-k á wrá ðkkái íú vǽní*
 3M-go:TOT-PL-PRF PREP bush find:INF meat DEF
 ‘They went into the bush to find the meat.’
 (Frajzyngier 2008a)

Mina (Central) makes a distinction between a previously mentioned referent and a deduced referent, i.e. a referent that has not been mentioned by its lexical form and must be deduced from other elements in discourse. Proximate previous mention is coded by the form *wàcín* in phrase-final position:

- (282) *kwáyàŋ à ndín bè làkáf wàcín*
 squirrel 3SG fear ASSC baboon DEM
 ‘The squirrel was afraid of that baboon.’ (the baboon was mentioned
 in the preceding sentence)

Deduced reference is coded by the form *tà, tàŋ* (glossed DED) in phrase-final position:

- (283) *tàtə nfáɗ tãŋ í mbál wàl táŋ*
 3PL four DED 3PL like woman DED
 ‘The four of them liked the woman.’
 (Frajzyngier *et al.* 2005)

5.32 Interrogatives

All Chadic languages can mark interrogative clauses through tone raising, usually on the penultimate high tone (Leben 1989). Interrogative modality can also be coded by clause-final interrogative markers. In some languages, the same marker is used in questions about the truth of the proposition (polar questions) and in content questions:

- (284) *dìgì gí kòy tèmle-ŋgè sé gí kòy dé gà*
 2M 2M steal corn-DEF or 2M steal NEG Q
 ‘Was it you who stole the corn or wasn’t it?’
- (285) *me è mína gà?*
 2F go where Q
 ‘Where are you going?’
 (Lele (East), Frajzyngier 2001)

In other languages, the clause-final interrogative marker for polar questions is different from the marker for content questions. In Hdi (Central), the question marker *rà* is used with polar questions:

- (286) *sí mndú dzi’-í rà*
 PAST man kill-1SG Q
 ‘Was it a man I killed?’

The marker *nà*, identical with the proximate demonstrative, is used optionally in content questions:

- (287) *wá mbá-ná-f-tsí (nà)*
 who cure-DEM-UP-3SG Q
 ‘Who did he cure?’
 (Frajzyngier with Shay 2002)

In languages that have two tense and aspectual systems, polar questions have the aspectual system of pragmatically independent clauses, and content questions have the system of pragmatically dependent clauses (Frajzyngier 2004). Compare (287) with an indicative sentence using the independent perfective (288):

- (288) *mb-ì-dí-f-mbá-xèn*
 chase-AWAY-1SG-UP-chase.away-3PL
 ‘They cured me.’ (Hdi, Frajzyngier with Shay 2002)

Question words in Chadic languages code the features [+human], [–human], and locative. The question word is marked for its grammatical or semantic relationship with the verb by its position with respect to the verb, by inflectional coding on the verb, or by a preposition. In some languages, the question word is fronted and the role of the question word in clause-initial position is deduced from the presence or absence of other arguments. In the following example from Hdi (Central), the argument *ghá* ‘2sg’ is marked as object, so the clause-initial *nó* ‘what’ is interpreted as subject:

- (289) *nó tá klà-gá-ghá-f-tà tà ná fú ná nà ká-’á*
 what COM take-INN-2SG-UP-REF PREP DEM tree DEM Q COMP-3SG
 ‘‘What brought you here to this tree?’’ he asked.’

In (290), the form *ká* ‘2sg’ is coded as subject, so the clause-initial question word marker represents the object:

- (290) *nó tà mág-ká ndá ná nà*
 what IMPF do-2SG ASSC DEM Q
 ‘What do you do now?’

The role of the question word may be coded by the same means as the equivalent non-question word. The indirect object in Hdi, or the question word about the indirect object, follows the verb and precedes the object:

- (291) *dà-ná-tá wá-ká tá d’áfá*
 cook-DEM-REF who-2SG OBJ food
 ‘For whom did you cook?’
 (Frajzyngier with Shay 2002)

In Lele (East) the object, or the question word about the object, occurs after the verb:

- (292) *gi gol wéy gá*
 2M see who Q
 ‘Whom did you see?’
 (Frajzyngier 2001)

5.33 Focus

5.33.1 Introduction

In a focus construction, some component of a proposition is coded as being (a) in contrast with some other element belonging to the same functional category; (b) an

unexpected constituent; or (c) in contrast with the hearer's presumed knowledge. The focused component may be an argument, an adjunct, or a predicate. The coding of focus is not identical with the coding of content interrogatives (*contra* Hartmann and Zimmermann 2004), although focus constructions and content questions may share some formal means in some languages. The crucial fact about the two domains is that the question word may be, but does not have to be, marked for focus.

The Chadic family displays a number of means for coding focus. In some languages, the choice of coding means depends on which element of the proposition is in focus. Means attested in all three branches are the use of the copula or particles derived from the copula; the use of dependent tenses and aspects; placement of a phrasal boundary before the focused element; variations on the default linear order; special sets of pronouns; prepositions; and tone (for this means, see Hartmann and Zimmermann (2004)).

5.33.2 Focus coding through copula

In Mupun (West), focus is coded by the copula *a* preceding the constituent in focus. The role of the focused constituent is coded by its position in the clause:

- (293) *yi pə baal se a sər-a*
 2F PREP start eat COP in-law-Q
 'Are you about to start eating your in-lawship?' (I.e., are you being presumptuous with respect to your future marriage?)
 (Frajzyngier 1993)

In Gidar (Central), focus on the nominal or third-person pronominal subject is coded by a focus subject pronoun *də* rather than the default pronoun *a*:

- (294) *məliyə də-kí sə-w wàfi má-zànlákàn-nì*
 chief 3M-bring DAT-1SG cow ATT-male-3M
 'The chief brought me a bull . . .'
 (Frajzyngier 2008a)

In Wandala (Central), focus on a pronominal subject in perfective aspect is coded through the simultaneous use of subject pronouns before and after the verb (the position before the verb is the default):

- (295) *yà sà-n-sé-yà*
 1SG arrive-3SG-arrive-1SG
 'It is I who took it out.'

Focus on other elements, including focus on the predicate, is coded by the particle *bà* before the element in focus:

- (296) *má á-m tàpďammè-rè kinnì séi bà yà ná-n-nà*
 HYP PRED-IN dark-NOM BCKG then FOC 1SG see-3SG-see
 ‘Even in the darkness, I can see it.’
 (Frajzyngier field notes)

In Mina, Giziga, and Hdi (Central), focus is usually coded by a relative clause:

- (297) *biǰáv m̀̀ vl-á-k mb̀̀ táŋ kúl k̀̀ b̀̀át b̀̀̀*
 God REL give-GO-1SG child DED can INF take ASSC
déwli skù
 force (Fula *dole*) NEG
 ‘It is God; that gave me this child, he; cannot take it away by force.’

Compare a non-focused clause:

- (298) *biǰáv v̀̀l-á-k mb̀̀ táŋ*
 God give-GO-1SG child DED
 ‘God gave me this child . . .’
 (Mina, Frajzyngier *et al.* 2005)

Another means of coding focus is through the use of dependent aspect. In the following example, the only marker that indicates focus is the dependent habitual *r̀̀̀*:

- (299a) *à zá hìdì wà á ẁ̀̀k r̀̀̀̀*
 3SG COMP man DEM 3SG go crazy D.HAB
 ‘She said, “This man is crazy.”’

Cf. the independent habitual:

- (299b) *à ndí tàw-á-kù*
 3SG HAB hit-GO-1SG
 ‘He hits me.’
 (Mina, Frajzyngier *et al.* 2005)

Focus on the object in Mina is coded by placing the object before rather than after the verb (the default position). The object role is marked by the preposition *n*:

- (300) *á n k̀̀̀ďám ng̀̀̀n b̀̀̀̀t*
 3SG PREP calabash 3SG take
 ‘She took her calabash.’

Focus on the predicate is coded by the particle *k̀̀̀*, glossed as INF because it also marks the infinitive form of the verb. The evidence that the form codes focus is provided

by the discourse contexts in which it is used. The following clauses describe unexpected events:

- (301) *ngùl-íyì s kə dzán-á nám skèn zá*
 husband-PL 1SG INF find-GO 1DU thing EE
 ‘My husband, I found us something.’
- (302) *àa bárkàmà wàl nè kə dzán-á skèn pár zè d’áhà*
 ah chief wife 1SG INF find-GO thing strange EE exist
 ‘‘Ah, my chief, there is something amazing my wife found.’’
 (Frajzyngier *et al.* 2005)

In East Dangla (East) and Gidar (Central), focus on the predicate is coded by a cognate object. The cognate object is fronted:

- (303) *kar kàaw sá ηù káaw-gí-tí d’úu páy tyàa dù*
 SEQ word even 3PL speak.IMPf-IMPf-3F.IO NEG again 3F CONJ
gìn kó yàarà
 make.PRF already large
 ‘After that they said no more, since she was already grown.’
- (304) *wedý sá tyà wèdý-dýúu páy, tyàar pàkar kó di*
 sleep.N still 3F sleep.V-NEG again 3F think.IMPf already only
 ‘She still did not sleep, but only reflected.’
 (East Dangla, Shay 1999)

In Hausa (West), focus on a pronominal subject is coded by an independent pronoun followed by the copula. The verb is also preceded by a subject pronoun (the default situation in Hausa):

- (305) *muu nee mukè neeman aiki*
 1PL COP 1PL.D.IMPf search work
 ‘We are looking for work.’
 (Newman 2000: 190)

Comment on a focused nominal subject is coded by the use of pragmatically dependent tense and aspect. The presence of the copula is optional:

- (306) *Audu [nee] ya tàfi kàasuwa*
 Audu COP 3M.D.PRF go market
 ‘Audu has gone to the market.’
 (Newman 2000: 188)

Hyman and Watters (1984) postulate the existence in Hausa of a category ‘auxiliary focus’, in contrast with focus on the nominal constituents of the clause. The function of this form is not clear, since Hausa and other languages have various auxiliaries coding a variety of functions.

5.34 Topic

The term ‘topicalization’ refers to the operation of establishing the topic of discourse, of a paragraph, or of a sentence. In Chadic, as in Southeast Asian languages, the topicalized element does not have to be part of the ensuing comment clause. If the topicalized element is part of the comment clause, languages have grammaticalized means of coding its syntactic role.

The main means of coding topicalization are fronting of an element; the use of determiners preceding or following the topicalized element; the use of dedicated topicalization particles; and the use of a phrasal boundary between the topicalized argument and the comment clause. The phrasal boundary can be marked by a pause, by final vowel retention, or by suffixes. In languages that have two tense and aspectual systems, a comment on topic, unlike a comment on focus, has independent rather than dependent forms. Hausa uses pauses and optional topicalization markers:

(307a) *Audù[...], yanàa cîn naamàa kullum*
 Audu 3M.PROG eat meat always
 ‘As for Audu, he eats meat every day.’

(307b) *Audù dai[...], yanàa cîn naamàa kullum*
 Audu TOP 3M.PROG eat meat always
 ‘As for Audu, he eats meat every day.’
 (Newman 2000: 616; glosses ours)

In Pero (West), the topicalized object is fronted and followed by a determiner:

(308) *dámààṅ mè bèeḏów-ì yí-ji cò bélòw tí*
 damban DEM four-DEF make-HAB time two PREP
cékkì cénè ḏók
 inside year one
 ‘These four “dambans” [ceremonies] are performed two times in one year.’
 (Frajzyngier 1989b)

The next example, from Mina (Central), has two topicalized noun phrases, *ḡḡ rə ngúḡ* ‘male cow’ and *lwá* ‘udder’, marked as topic by the use of their phrase-final forms. Neither phrase is a participant of the comment clause:

- (309) à ǰá wà ǰò tó ngúlò lwá à n kó dǎ wò wà
 3SG say but cow GEN male udder 3SG PREP INF fetch milk DEM
 á tiki
 PRED where
 ‘He said, “The bull, [regarding] the udder, where will the milk come from?”’
 (Frajzyngier *et al.* 2005)

Mina codes topicalization through the use of a determiner when the topicalized noun has been previously mentioned in discourse. Again, the topicalized phrase does not have to be part of the ensuing proposition:

- (310) mbíǰiŋ wàcǰiŋ wàl-yü í ndí ng-àŋ cícélém á n
 mbiguin DEM woman-PL 3PL HAB break-PL firewood PRED PREP
 báy kè tár vǎŋ
 wood INF pray rain
 ‘This “mbiguin” [a ritual], women go break wood for the chief to pray for rain.’

5.35 Complex sentences

5.35.1 Introduction

There are three types of complex sentences in Chadic: asyndetic paratactic clauses, sequential clauses, and embedded clauses. Coordinating conjunctions, corresponding to the familiar ‘and’, ‘et’, ‘i’, etc., of Indo-European languages, are rare and represent recent grammaticalizations. The evidence for this claim is that in languages where such conjunctions have been grammaticalized, their use has not spread to all paratactic clauses. For a cross-linguistic analysis of complex sentences in Chadic, see Frajzyngier (1996a).

The paratactic construction consists of the simple juxtaposition of two or more clauses:

- (311) hon dí cu ló
 leave porridge eat meat
 ‘He left (the) porridge and ate (the) meat.’
 (Ron-Bokkos (West), Jungrathmayr 1970: 135)
- (312) ngá lá-bá mǎú-xà ksá-gá-ghá-tà
 NORM go-OUT man-PL catch-VENT-DIST-REF
 ‘People should go out, catch him, and bring him back.’
 (Hdi (West), Frajzyngier with Shay 2002)

A grammaticalized coordinating conjunction is more likely to be found in the East branch than in the West and Central branches. In Kera (East), the paratactic construction alternates between zero-marking and the marker *dàana*, identical with the nominal coordinating conjunction:

- (313) *ye kóoróŋ kúsrí wóra dàana (ye) bàadáy kísíní wóra*
 3PL brush body:PL INTENS CONJ (3PL) clean tooth.PL INTENS
 ‘They brushed themselves and (they) brushed their teeth.’
 (Ebert 1979: 274)

In Bidiya (East), the coordinating conjunction is *bà*:

- (314) *‘àmay nyog-yó bà dèe-yó luwa ‘àpàŋ*
 water rain-3PL SEQ start-3PL sow therefore
 ‘It rained and they have started to sow.’
 (Alio 1986: 330)

5.35.2 Sequential clauses

Sequential clauses, a category found in all three branches of Chadic, indicate that an event happened after some other specified event or time. The sequential clause is coded by a separate sequential marker or a sequential form of the verb:

- (315) *n-ji n-jiŋ be n-toŋ dī*
 1SG-come PREP-Jing SEQ 1SG-settle ANAPH
 ‘I came to Jing and settled there.’
 (Mupun (West), Frajzyngier 1993)

In Margi (Central), the second verb in a sequence has a conjunctive form, characterized by the low-tone prefix *à* (in the following example, the tone on the prefix is high because of the high tone of the preceding morpheme):

- (316) *á-lì-r j á-díwáná*
 3SG-go.in-? 3 3SG-hid
 ‘He went in and hid (it).’
 (Hoffmann 1963: 189; glosses and morphemic division ours)

In East Dangla (East), the sequential construction is a serial verb construction consisting of the perfective form of the verb ‘to come’, with pronominal suffixes, followed by a dedicated sequential form of the main verb. Evidence for the sequential function is that the sequential clause never occurs as the first clause in discourse and always conveys the temporal sequencing of events:



- (317) *gín éwki ṅàs ṅà kat mártí às-iy-tè*
 be goat 3M.COMP 3M go:IMPF travel come-3PL.-GO
ròóp iṅ bóori.
 meet:SEQ ASSC hyena
 ‘Goat was going on a trip, and he ran into Hyena.’

In some languages, the verb ‘go’ has been grammaticalized as a marker of sequential clauses (Frajzyngier 2005b).

5.35.3 Temporal sentences

For a detailed discussion of the grammaticalization of temporal and conditional sentences, see Frajzyngier (1996a). Temporal sentences consist of two components: the protasis (‘when’) clause and the apodosis (‘then’) clause. The structure of the protasis and apodosis clause in a given language may differ from one tense or aspect to another. Both clausal orders, protasis–apodosis and apodosis–protasis, have been recorded in all branches of Chadic. In some cases, both orders are found in the same language.

The means of coding temporal protasis and apodosis clauses in Chadic include:

(a) The juxtaposition of two clauses, with identical tense and aspect coding and without any additional markers:

- (318) *u tu dapaa, u ndər mishii na*
 2SG.SBJ went bush 2SG.SBJ did what Q
 ‘When you went to the bush, what did you do?’
 (Pa’a, Skinner 1979: 87)

(b) In languages that have two tense or aspectual systems, the use of pragmatically dependent tenses and aspects in one or both clauses. In the following example from Mina (Central), the protasis clause is coded by use of the dependent perfective aspect. The apodosis clause is coded by use of the dependent habitual aspect:

- (319) *kè ndè zé fú ndè dzáṅ záván-yí í màr rá*
 INF go EE all (F.) go find guinea.fowl-PL 3PL graze D.HAB
 ‘Each time she went, she found guinea fowl grazing.’
 (Frajzyngier *et al.* 2005)

In the following example from Gidar (Central), the only marker of temporal protasis is the use of the unmarked verb to code the perfective aspect:

- (320) *à-dé éngil dǝfǝs yí*
 3M-go:VENT PREP:home night COP
 ‘When he arrived home, it was night.’

Compare the perfective aspect, marked by the verbal suffix *-kà*, in the independent clause:

- (321) *à-dé-k éngil dè dèfdá*
 3M-go:VENT-PRF PREP:home ASSC night
 ‘He arrived home at night.’
 (Frajzyngier 2008a)

(c) The use of temporal particles with general and specific temporal meanings corresponding to ‘when’, ‘before’, ‘after’, ‘while’, or ‘then’. This means of coding protasis and apodosis clauses requires the least elaboration, as it is familiar from Indo-European languages. Temporal markers in most languages occur before the protasis clause. Temporal markers can co-occur with dependent aspect, as is the case in Hausa (Newman 2000). In the following example from Gidar (Central), the temporal phrase *sá zá* ‘after’ co-occurs with the dependent perfective in the protasis clause. The apodosis clause has independent perfective aspect and is not marked for the apodosis function:

- (322) *sá zá kírù-n mǝliy à-ǰá-ŋ tílim à-lá-kè*
 from side children-3M chief 3M-burn-PL Tilim 3M-go-PRF
sǰá-n mǝliyà
 greet-3M chief
 ‘After the children of the chief burnt, Tilim went to give his condolences to the chief.’
 (Frajzyngier 2008a)

(d) The protasis clause may have a nominalized form of the verb, marked by a possessive pronoun:

- (323) *lá-m-à-ní ndá tà ǰàŋgwáǰák ngá lá-m-à-ní*
 go-IN-GEN-3SG ASSC PREP back.entrance NORM go-IN-GEN-3SG
ǰà-ná-ghà-tà zǝ’ál-á-tàn
 find-DEM-D.PVG-REF.SUBJ husband-GEN-3.HON
 ‘Having entered through the back of the compound, she should find her husband.’
 (Hdi, Frajzyngier with Shay 2002)

In the following example from Hdi, the apodosis clause is marked by a sequential marker. The protasis clause is marked by both a temporal marker and a nominalized form of the verb, with a possessive pronoun (neither the subject nor the verb of saying of the matrix clause is overtly marked):

- (324) *tà xúl-á ngàtsá-f-tà-ní tá mndǝ-xà vàghú*
 PREP after-GEN gather-UP-REF-3SG OBJ man-PL work.collectively
mà vwàx-á-ǎá ká'-á kà xlyá-f-tú-lú kà lá-ghú-lú
 PREP field-GEN-1SG COMP-3SG SEQ leave-UP-REF-UH SEQ go-D:SO-UH
 ‘Having gathered people, he said, “There is work at my in-laws.” Each
 got up and went.’
 (Frajzyngier with Shay 2002)

5.35.4 Conditional sentences

Conditional sentences resemble temporal sentences in that both have protasis and apodosis clauses. In languages that have two tense/aspectual systems, the conditional protasis clause may have either dependent or independent aspect marking, while the temporal protasis has dependent marking. In Gidar (Central), where the temporal protasis has dependent aspect marking, the conditional protasis clause may have either dependent or independent aspect. Similarly, in Hdi the conditional protasis has independent aspect:

- (325) *kà dz-ú-dzá kághá ná xgà-n-tà-ì tá gwì'yán*
 COND go-SO-go 2SG DEM call-3-REF-1SG OBJ elephant
wà ká'-á
 NEG COMP-3SG
 ‘‘If you show up, I will not invite Elephant’’, he said.’
 (Hdi, Frajzyngier with Shay 2002)

In some languages, temporal protasis markers have become conditional protasis markers; in other languages, conditional protasis markers have become temporal protasis markers – thus providing evidence for the bidirectionality of conceptually based grammaticalization. Conditional protasis markers in some languages are derived from *de dicto* complementizers, which in turn are derived from verbs of saying. This is the case with the Lele (East) conditional marker *na* and with the marker *ma* (with various tones) found in languages from all branches of Chadic, e.g. Pero (West), Wandala, Lamang, Gude, and Ga’anda (Central). The marker *ma* has also been grammaticalized as a temporal protasis marker in Pero (West), Buduma and Gude (Central), and Mesme (Masa).

In some languages, the distinction between realis conditions and counterfactual conditions is coded through the interaction of protasis markers and tense, aspect, and mood markers. In Lele, the future or past tense form of the verb, combined with the conditional marker *na* (glossed HYP for hypothetical), codes a potential event:

- (326) *na me léè yé dí-nì ná me jè má lay*
 HYP 2F eat:FUT mother GEN.PL-1PL.EXCL ASSC 2F IMPF die:FUT also
 ‘If you eat our mother, you will also die.’

- (327) *kàyo se yàá na na-y sèn máàní na-y ðe*
 squirrel INCEPT say HYP HYP-3M know ANAPH HYP-3M leave
gúnyé na ge ímè-y ná làmndá yè-y
 spider HYP HUM bury:FUT-3M ASSC elephant mother-3M
 ‘Squirrel said that if he knows that, he will leave Spider to be buried
 together with the mother of Elephant.’

The imperative form of the verb, combined with the conditional marker, codes a counterfactual condition:

- (328) *kàyo se yàá na na-y sinà máàní na-y*
 squirrel INCEPT say HYP HYP-3M know: IMPER ANAPH HYP-3M
ðe gúnyé na ge ímè-y ná làmndá yè-y
 leave spider HYP HUM bury:FUT-3M ASSC elephant mother-3M
 ‘Squirrel said that had he known that, he would have left Spider to be
 buried together with the mother of Elephant.’
 (Frajzyngier 2001)

Markers of conditional apodosis include *de dicto* complementizers, prepositions, and sequential markers. The same marker may occur in protasis and in apodosis clauses, as is the case in Wandala and Podoko (Central), or the conditional apodosis may be unmarked:

- (329) *àn má-n tà-y ɛnzà-n á ká wàɗ ís ɛkɛy-í-n*
 COND mouth-3M be-3M run-3M PREP PURP suckle 2SG take-VENT-3M
 ‘If he needs to nurse, you bring him here.’
 (Gidar, Frajzyngier 2008a)

5.35.5 Complementation

The order of clauses with respect to embedding is either matrix–embedded or embedded–matrix. Both orders are represented in Chadic languages. In West Chadic languages, which are all verb-medial, the embedded clause follows the matrix clause:

- (330) *‘àku ya cê sùrutù bàa ‘abin renaàwa ba nè*
 parrot 3M say chatter NEG thing criticize:NOM NEG COP
 ‘Parrot said, “Chatter is not a thing to criticize.”’ (Hausa, Kraft 1963: 96
 after Imam 1962)

The order embedded–matrix has been recorded in some Central Chadic languages. This order is used for *de dicto* complements in Hdi:

- (331) *m̀dáráyá-y kà mbítsà m̀ná-tà*
 hunter-DEM COMP Mbitsa say-REF
 ‘Mbitsa_i said that he_j is a hunter.’
 (Hdi, Frajzyngier with Shay 2002)

When the complement is in the domain *de re*, the complement clause follows the matrix clause (see Frajzyngier with Shay (2001) for functions of clausal order):

- (332) *grá-f-ndá-grá mbítsà tá zà-ná-b-t-á-nì tá*
 realize-UP-ASSC-realize Mbitsa OBJ forget-DEM-OUT-REF-GEN-3SG OBJ
p̀ìsák-w-á-nì
 hoe-GEN-3SG
 ‘Mbitsa realized that he had forgotten his hoe.’

The modality of the complement clause is coded by a variety of means. One of these is to code the subject of the embedded clause as the object of the matrix clause (‘subject raising’), sometimes combined with nominalization of the embedded clause. This means codes direct perception and *realis* wishes with volitional verbs:

- (333) *Musa fot Bətrus po-met*
 Musa hear Bitrus at-go
 ‘Musa heard Bitrus going.’
 (Angas, Burquest 1973: 150)

Another means is the use of various types of complementizers. Complementizers derived from the verb ‘to say’ code indirect perception after a verb of perception, and hypothetical mood after a cognitive verb:

- (334) *Musa fot tene Bətrus po-met*
 Musa hear COMP Bitrus at-go
 ‘Musa heard that Bitrus was going.’
 (Angas, Burquest 1973: 150)

Some languages have both *de dicto* and *de re* complementizers, where the first codes indirect perception and the second codes direct perception:

- (335) *ŋ-gòl (gi) na wàl-di kùlbà*
 1SG-see COMP COMP slaughter-3M cow
 ‘I saw that he slaughtered a cow.’
 (Lele (East), Frajzyngier 2001)
- (336) *ŋ-gòl-dù go jè wàl-dú kùlbà*
 1SG-see-3M COMP PROG slaughter-3M cow
 ‘I saw her slaughtering a cow.’

5.35.6 Relative clauses

A systematic description of relative clauses in Chadic can be found in Frajzyngier (1996a). The relative clause in all Chadic languages is head-first. In languages that have two tense and aspectual systems, the relative clause has dependent tenses and aspects. The general structure of the relative clause in Chadic languages is: NP[Head]-(Determiner) (Rel) S-(Determiner). The relative marker can be omitted in some languages:

- (337) *péemò páró-m cákkà yé-kò à-wálá-nì-à*
 2REP speech-DEM 3M make-PRF NEG-good-Q-Q
 ‘You, this speech that he made, isn’t it good?’
 (Pero (West), Frajzyngier 1989b: 281; ‘2REP’ refers to the second person in the reported speech)

Chadic languages code the existential status of the head of the relative clause through a variety of means, including the form of the relative marker (a phenomenon attested in other languages) and the use of post-relative markers. In Hausa (West), the relative marker *da* is used with a definite head noun; the marker *wanda* is used with an indefinite head noun:

- (338a) *yaro-n da ya kwanta a asibiti ya rasu*
 boy-DEF REL 3SG stay PREP hospital 3SG be.lost
 ‘The boy who was hospitalized has died.’

Cf.:

- (338b) **yaro-n wanda ya kwanta a asibiti ya rasu*
 boy-DEF REL 3SG stay PREP hospital 3SG be.lost
 for ‘The boy who was hospitalized has died.’
- (338c) *wani yaro wanda ya kwanta a asibiti ya rasu*
 certain boy REL 3SG stay PREP hospital 3SG be.lost
 ‘A boy who was hospitalized has died.’

In Gidar (Central), the *de dicto* domain of the head is coded by the relative marker *án*, identical with the interrogative marker ‘what’, and by the absence of subject pronouns in the relative clause:

- (339) *ǎák án ná gèǎmǎ-n . . .*
 woman REL FUT take-3M
 ‘A woman who will choose him . . .’

- (340) *díi án ná gəmǝ-t...*
 men REL FUT take-3F
 ‘Men who will choose her...’

For a head in the *de re* domain, the relative marker is *məs*, and subject pronouns code the gender and number of the head within the relative clause:

- (341) *nə sən-nə-k dǝf məs dǝ-kí-uk ánkà*
 1SG know-3M-PRF man REL 3M-bring-2SG here
 ‘I know the man who brought you here.’
- (342) *nə sən-tə-k glúk məs tǝ-kí-uk ánkà*
 1SG know-3F-PRF woman REL 3F-bring-2SG here
 ‘I know the woman who brought you here.’
 (Frajzyngier 2008a)

The use of post-relative markers to code the existential status of the head noun is illustrated by the following example from Mupun (West). The *de re* status of the head noun is coded by a demonstrative that follows the relative clause. This demonstrative cannot be used if the existence of the head noun has not yet been established:

- (343) *kuma naat dǝ get wu maŋ an nə səm wur a F.*
 also boss REL PAST 3M take 1SG DEF name 3M COP F.
 ‘The boss who employed me was called F.’
 (Frajzyngier 1993: 507)

- (344a) **naat dǝ wu mbə maŋ an nə*
 boss REL 3M FUT take 1SG DEF
 for ‘the boss who will employ me’

Cf.:

- (344b) *naat dǝ wu mbə maŋ an*
 boss REL 3M FUT take 1SG
 ‘the boss who will employ me’

The grammatical role of the head of the relative clause is coded through a variety of means. Relative markers distinguish between subject and non-subject roles in some languages. In Daba (Central), the marker *ama* (vowel variable) codes the subject role and the marker *lay* codes non-subject roles:

- (345) *galmay ma nja.tu mbluk*
 brother.my REL leave trip
 ‘my brother who was on a trip’

- (346) *hiddi lay kat ηgo dəm*
 man REL 1SG PRF meet
 ‘the man whom I met’
 (Mouchet 1967: 95)

The role of the head of the relative clause can be coded through anaphors (‘resumptive pronouns’) within the relative clause:

- (347) *to, mo kə teη sat n-mun nə pe də*
 well 3PL PRF already tell PREP-1PL COMP place REL
mu n-dəm di n-sie a n-S.
 1PL FUT-go there PREP-first COP PREP-S.
 ‘Well, they already told us that the place where we will go first is S.’
 (Mupun, Frajzyngier 1993: 504)

The role of the head does not have to be formally marked if it can be computed from other elements of the sentence, e.g. from the gender and number characteristics of the subject of the relative clause, as in the following example from Mupun:

- (348) *mat də miskoom cen sə war wa ba ji*
 wife REL chief chase DEM 3F return come.back come
 ‘The wife whom the chief chased away returned.’
 (Frajzyngier 1993: 501)

5.36 Conclusion

As this chapter has demonstrated, there are many gaps in our knowledge of the coding means available in Chadic languages and the functions they encode. The grammatical system of Proto-Chadic has yet to be reconstructed. Once a reconstruction has been accomplished, we will be able to say which forms and functions constitute retentions and which constitute innovations. The field is wide open for further inquiry.

Cushitic

Maarten Mous

6.1 Geographical distribution and speakers

The Cushitic family consists of more than thirty languages spoken in Northeastern and Eastern Africa. Lewis (2009) mentions forty-five languages because Ethnologue distinguishes five Oromo languages and six Somali languages. The Cushitic languages fall into a number of groups:

- Beja;
- the Agaw or Central Cushitic languages: Awngi, Bilin, Khamtanga, Kemant, and a number of smaller endangered languages including those of the Falashas, the Ethiopian Jews;
- the Highland East Cushitic languages: Kambaata-T'imbaaro-Alaaba-K'abeena, Hadiyya-Libido, Sidamo, Gedeo, and Burji;
- the Lowland East Cushitic languages: Afar, Saho; Oromo, Konso, Dirayta; Dhaasanac, Arbore, Elmolo; Yaaku; Bayso; Dullay (Harso-Dopase, Gawwada-Gulango, Ts'amakko); Rendille, Boni, Somali;
- the Southern Cushitic languages: Dahalo; Aasáx, Kwadza, Burunge, Alagwa, Gor(a)wa, and Iraqw.

I do not include the mixed language Ma'a/Mbugu in this overview. This is a language classified as (South) Cushitic on the basis of its lexicon and its historical origin. The people once spoke a Cushitic language, shifted to a Bantu language and tried to shift back by creating a parallel lexicon with root forms from their original language, from Maasai, from Gorwa and from their dominant Bantu language but manipulated in form; see Mous (2003). Regardless of one's views on classification of this mixed language, typologically the language is Bantu.

Omotic is not taken to be part of Cushitic, as it is in some proposals for classification. This does not reflect a point of view on the part of this author, who actually has no opinion on this issue. The separation of Omotic and Cushitic makes the writing of

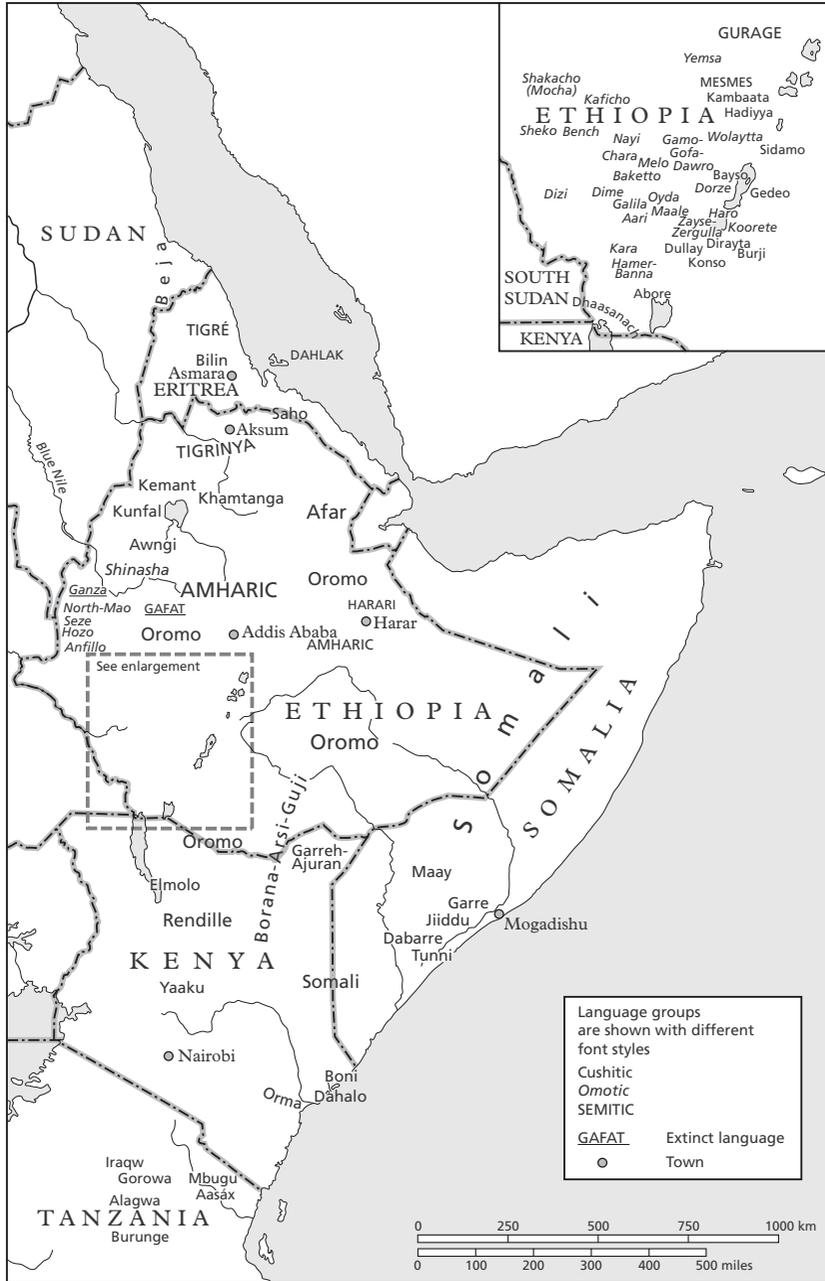
the respective chapters definitely more manageable. The debate on the classification of Omotic is dealt with in the chapter on Omotic.

Many variants of language names exist in the literature. Only the most common ones, which may lead to confusion, are given here, with the variant that is used in this chapter listed first: Gedeo = Darasa, Oromo = Galla, Boni = Aweer, Dirayta = Gidole, Yaaku = Mokogodo, Alagwa = Wasi, Aasáx = Aramanik. The following are simply spelling variants: Afar = Qafar = 'Afar, Khamtanga = Xamtanga, Bilin = Blin.

The northernmost and easternmost language is Beja, spoken in Egypt, Sudan, and Eritrea (see map 6.1). Other Cushitic languages spoken in Eritrea are Saho and Bilin; and in Djibouti, Afar. The bulk of the Cushitic languages are spoken in Ethiopia. Kenya has several Cushitic languages: Dahalo, Elmolo, Yaaku, and several dialects of Oromo (Boraana, Orma, Waata). The southernmost Cushitic languages are or were spoken in Tanzania: Aasáx (extinct), Kwadza (extinct), Alagwa, Burunge, Gorwa, Iraqw.

According to calculations of glottochronology and long-range comparison by the Moscow school, the time-depth of Cushitic is deeper than that of any other branch of Afroasiatic (Militarev 2005). Despite this time-depth, the Cushitic languages are typologically relatively homogeneous. In the main Cushitic-speaking area, the languages are in contact mainly with other related languages, Cushitic or Ethio-Semitic. In the more southern areas, the languages are, and have been, in contact with unrelated languages, mainly Bantu and Nilotic. There must have been intensive contacts between Cushitic languages and Nilotic languages at several points in time and space. In fact, Heine *et al.* (1979) postulated a now-extinct Cushitic language, Proto-Baz, on the basis of loanwords in Nilotic languages. Similarly now-extinct Cushitic languages have been hypothesized in the Taita hills of Kenya (Ehret and Nurse 1981). Nurse (1988) and Ehret (1998) argue for a number of now-extinct Southern Cushitic languages in Tanzania on the basis of loanword evidence in Bantu languages. The intensive contact between Cushitic languages and Ethio-Semitic languages in the highlands of Ethiopia has led to the proposal of an Ethiopian *Sprachbund* (among others, Ferguson (1970)). The validity of the *Sprachbund* and the nature of the observed similarities have been critically discussed by Tosco (2000b).

The Cushitic languages vary greatly in number of speakers. The largest is Oromo, with more than 20 million speakers according to Ali and Zaborski (1990), and the second largest is Somali, with more than 7 million speakers. Estimates of the numbers of speakers for these largest Cushitic languages diverge immensely, due to political factors that are involved. The Oromo language has spread enormously in the past and is spoken over a vast area in Ethiopia and Kenya. Oromo was for a long time the lingua franca of southern Ethiopia, but this role is now taken over by Amharic. Somali is the official language of Somalia, but also spoken in all neighbouring countries. Somali became



Map 6.1 Cushitic, Otic, and Ethio-Semitic languages

a fully functioning official language used in education at all levels in a remarkably short period of time (Laitin 1977). Somali and Oromo are both taught in several places in the world and teaching material is available. Afar, Beja, Hadiyya, Kambaata, and Sidamo each have about a million speakers or more. Awngi, Khamtanga, Konso, Iraqw have 100,000 speakers or more. The other languages have fewer speakers, and some of them are endangered: Yaaku and Elmolo in Kenya have only a handful of very old (semi-)speakers left. In Tanzania, Kwadza and Aasáx are extinct (Winter 1979). The Agaw languages Kunfal and Kailiña (Appleyard 1996a, 1999) and Kemant (Zealealem 2003) are highly endangered.

The Cushitic peoples traditionally depend on animal husbandry and agriculture. Several groups such as the Afar, Arbore, Beja, Bayso, Dhaasanac, various Oromo groups, Rendille, and Somali have specialized in transhuman animal husbandry; others, such as the Konso, Iraqw, Dullay, and Highland East Cushitic groups, have a highly developed agricultural economy. Some specialized in hunting: Dahalo, Yaaku, Aasáx, Kwadza, Boni, and Elmolo (fishermen).

In Ethiopia, the Ethiopic script is used for a number of Cushitic languages. Oromo has opted for a Latin-based script. In Somali, the choice was also ultimately for a Latin base. The pharyngeal sounds pose problems for those languages that have them. Somali uses *c* for the voiced pharyngeal fricative, as in the name *Cali*; Afar uses *q*, as in the language name *Qafar*; Iraqw uses *ʕ*. In this chapter the official orthographies of Somali and Oromo are used when the sources do so, but otherwise I use *ʕ* for this sound. The voiceless pharyngeal is rendered *x* in Somali, *c* in Afar, *hh* in Iraqw and *h* in this chapter, except for where the source uses the official orthography. I use double symbols for length and the following symbols for consonants: *C* for ejectives and implosives, *ɗ* for the retroflex *d*, *sh* for the palatal fricative and *ʈ* for the voiceless lateral fricative; see [section 6.4.4](#) on consonants.

Beja is quite deviant compared to the rest of the Cushitic languages. This is in line with the sub-classification of Cushitic. Beja is a single-language primary branch of Cushitic. It has even been proposed that Beja should be classified at a higher level within Afroasiatic (Hetzron 1980: 78–101). This situation has some consequences for the typological coverage of Cushitic in this chapter. Instead of providing two typologies, one of Beja (see Hudson 1974, 1976) and one of the rest of Cushitic, I have decided to allow Beja to be somewhat less present in this typological overview.

Eastern and Southern Cushitic languages are mentioned most frequently in this overview. This correlates to the fact that Eastern and Southern Cushitic languages display the greatest variety and form the vast majority of the Cushitic languages. A lot of work has been done on Eastern and Southern Cushitic in recent years and for most of these languages modern comprehensive grammars are available. The Agaw languages are currently in need of a detailed study, specifically Bilin.

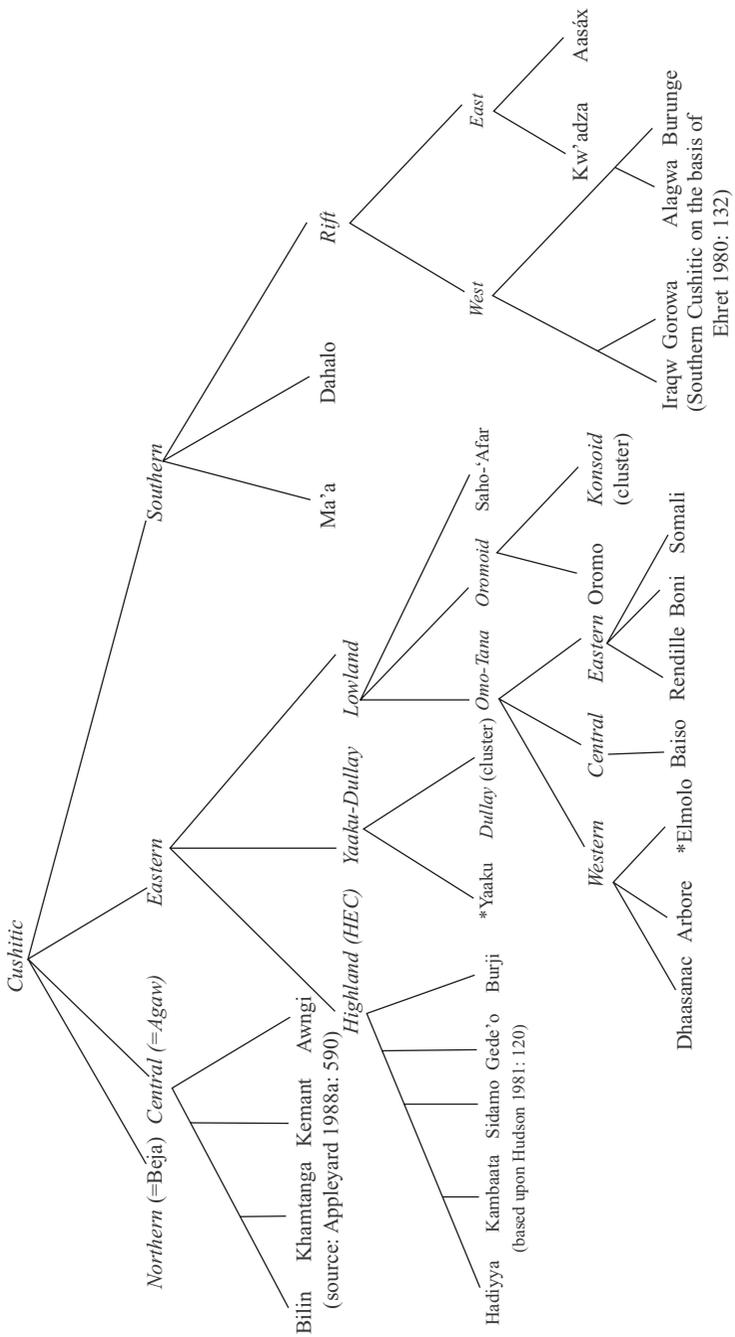


Figure 6.1 *Cushitic classification in the classical view (Tosco 2000a: 89).*

6.2 Internal classification

The present state of insight into the internal subclassification of Cushitic is given in Tosco (2000a); see figure 6.1. A historical overview of Cushitic classifications can be found in Lamberti (1991). The main issues regarding Cushitic internal classification are the position of Southern Cushitic and the relationship between Highland East Cushitic (HEC) and Central Cushitic (Agaw). Hetzron (1980) proposed the inclusion of Southern Cushitic in East Cushitic on morphological grounds, and most experts would agree. Ehret, for example, has changed his position on this; compare Ehret (1980) with Ehret (1987). The actual position of South within East is difficult to establish due to the lack of lexical correspondences (Kießling and Mous 2003) and also because of the anomalous presence in Southern Cushitic of a lateral fricative and affricate which is claimed to be cognate with Afroasiatic laterals (Dolgopolsky 1987; Takács 2000). Kießling (2001) reviews Hetzron's arguments for the inclusion of South in East on the basis of new data and insights, specifically in Southern Cushitic. Hence, in the tree in figure 6.1, South appears tentatively at the highest level. The positions of Bayso and Yaaku within Lowland East Cushitic are not clear, but the data for these languages are limited. Blažek and Tosco (1994) have proposed a closer link between Dahalo and Yaaku. The classification of Burji as Highland East Cushitic had been obscured by the various ways in which Burji participates in the Dullay–Konsoid–Burji contact area (Sasse 1986).

Most of the debate on classification is about external matters: the genetic relation of Omotic as separate or part of Cushitic (see chapter 7 on Omotic) and the position of Beja as a Cushitic language or a separate branch. In the Tsamay area there is a language, Ongota (or Birale), that has so far escaped classification; see Savà and Tosco (2000).

Cushitic phonological and lexical reconstruction is very much 'in progress'. Lowland East Cushitic lexicon and phonology were reconstructed by Paul Black in his unpublished Ph.D. thesis, and the phonology of Proto-East Cushitic was reconstructed by Sasse (1979). Heine (1979) has reconstructed Proto-Sam (Somali-Boni-Rendille). Southern Cushitic has been reconstructed by Ehret (1980) and recently, in more detail, by Kießling (2002) and Kießling and Mous (2003). The Highland East Cushitic lexicon has been reconstructed by Hudson (1986). A reconstruction of the Agaw languages has recently become available (Appleyard 2006). Blažek is working on an etymological dictionary of Beja (Blažek 2003). Ehret has published a lexical and phonological reconstruction of Cushitic (Ehret 1987), and Arvanites (1991) has reconstructed the glottalic consonants of Cushitic.

6.3 Scholarship on Cushitic

There is no comprehensive up-to-date bibliography of Cushitic languages. For Somali, one can use Lamberti (1986a) and M. Diriye Abdulahhi's website (Diriye Abdulahhi

2002); for Highland East Cushitic, there is the *Bibliography of Highland East Cushitic* (Hudson 2006). Publications on Cushitic languages can be found in general African languages journals, such as the ones mentioned in the chapter on Chadic, in the *Journal of Ethiopian Studies*, and in the now-discontinued journals: *Afroasiatic Languages*, *Journal of Afro-Asiatic Languages*, and *Rassegni di Studi Etiopici*. There are regular conferences on Cushitic and Omotic studies: Sankt Augustin near Bonn (Bechhaus-Gerst and Serzisko 1988), Turin, Berlin (Griefenow-Mewis and Voigt 1996), Leiden (Amha, Mous, Savà 2007), and Paris in 2008. Introductions to and overviews on Cushitic can be found in Palmer (1970), Hodge (1971), Fleming (1976), Zaborski (1987), Sasse (1981c, 1987a, and b), Cohen (1988), Tosco (2000a), and Gragg (2001). Palmer (1970) gives an overview of the historical development of Cushitic studies, and Zyhlarz (1956) explains the origin of the term ‘Cushitic’.

In the following list I give the most important descriptive works (grammar, dictionary, texts) for each language. The list is selective and criteria vary by language. That a language has more references does not mean it is better described. For most languages, some data are, or soon will be, available. There remain a number of languages that are in need of description: Bayso, Bilin, Boni, Burji, Harso-Dopase in Dullay, and Bussa (Mosiye); more detailed studies are definitely necessary for Arbore, Dahalo, Rendille, and Saho; and for the highly endangered languages Elmolo and Yaaku, description is very urgent or too late.

Beja: Roper (1928), Hudson (1964), Morin (1995), Wedekind *et al.* (2003), various articles by Vanhove (2000, 2004a and b).

Agaw as a whole: Hetzron (1976a), various publications by Appleyard.

Awngi: Hetzron (1969).

Bilin: various articles by Palmer, Kiflemariam *et al.* (1992).

Kemant: Zelealem (2003), Appleyard (1975).

Khamtanga: various articles by Appleyard.

Highland East Cushitic: Gebre-Tsadik *et al.* (1985).

Libido-Hadiyya: Sim (1981, 1989), various articles by Plazikowsky-Brauner.

Kambaata-K’abeena-Alaaba-T’imbaaro: Crass (2005), Schneider-Blum (2007), Treis (2008).

Sidamo: Moreno (1940), Gasparini (1983), Wedekind (1980), Anbessa Teferra (2000), Kawachi (2007).

Gedeo: Gasparini (1994), Wedekind (1990a).

Burji: Sasse (1982).

Lowland East Cushitic

Afar-Saho: Bliese (1981), Banti and Vergari (2003), Parker and Hayward (1985), Hayward (1998b), and various other articles by Hayward.

Yaaku: Heine (1975).

Dullay: Amborn *et al.* (1980), Savà (2005).

Oromoid

Oromo: Ali and Zaborski (1990), Argaw and Philipsson (1988 [1991]), Baye (1987, 1988), Clamons (1992), Gragg (1982), Lloret (1988), Owens (1985a), Stroomer (1987, 1995).

Konso-Dirayta: Black and Shako Otto (1973), Black (1973), Bliese and Sokka Gignarta (1986), Wondwosen (2006).

Omo-Tana

Dhaasanac: Tosco (2001).

Arbore: Hayward (1984a).

Elmolo: Heine (1980).

Bayso: Hayward (1978a), Lamberti and Haberland (1988).

Rendille: Oomen (1978, 1981), Pillinger and Galboran (1999), Schlee (1978), Sim (1981).

Boni: Heine (1982), Sasse (1980).

Somali: Andrzejewski with Sheila Andrzejewski (1993), Andrzejewski and Lewis (1964), Johnson (1974), Laitin (1977), Lamberti (1986a, 1986b, 1986c), Luling (1987), Puglielli *et al.* (1985, 1998), Puglielli (1981, 1984), Saeed (1984, 1987, 1999), Serzisko (1984), Tosco (1997).

Southern Cushitic

Dahalo: Tosco (1991).

Alagwa: Mous (unpublished).

Burunge: Kießling (1994).

Iraqw: Mous (1993), Mous *et al.* (2002), Berger and Kießling (1998).

6.4 Phonology**6.4.1 Syllable structure and word structure constraints**

Cushitic languages have open and closed syllables. Most languages do not allow an empty onset; the onset is minimally filled with a glottal stop. Onsets are usually simple and consist of one consonant. For example, in Arbore, onsets and codas contain maximally one consonant if we disregard glides and laryngeals (Hayward 1984a: 58). The coda allows the same set of consonants as the onset and is also simple: either empty or consisting of one consonant.

Word-internal consonant sequences are limited. They are either geminate ambisyllabic consonants or sequences of two consonants that obey the sonority hierarchy, as in Arbore {glide/vibrant} < lateral < nasal < spirant < stop (Hayward 1984a: 60), and in Dhaasanac liquid < nasal < fricative < coronal stop < non-coronal stop (Tosco 2001: 51–3); in K'abeena the first consonant of a consonant cluster (non-geminate) is either the glottal stop or a sonorant (Crass 2005: 37).

A number of Highland East Cushitic languages and Bayso have sequences of glottal stop and sonorant that are sometimes analysed as complex phonemes – see Hudson (1989: 11ff.), Cerulli (1938: 41) – and sometimes as sequences of two phonemes. Hayward (1978a: 543) discusses both analyses for Bayso and opts for the complex phoneme solution on the basis of syllable structure and the variation in phonetic realization of the glottalized labial obstruent [ʔb] ~ [pʰ]. K'abeena has 'l, 'm, 'n, 'r, 'y, which are analysed as consonant sequences by Crass (2005: 39). These complexes generally arise through metathesis, but in Hadiyya 'l sequences arise through dissimilation of *l-t* in which *-t* is the 2sg/3f agreement suffix – see Sim (1989: 14–15); however, non-derived 'l sequences exist as well.

Due to rich morphological systems, words are often long even if the roots are relatively short. Vowel epenthesis and vowel deletion are common processes when longer words are formed. Oromo (Lloret 1988), Somali (Saeed 1999: 26–7), and Iraqw have a rule that deletes the vowel of a short syllable between two (short) syllables if a morpheme boundary is involved, e.g. Iraqw *gawid-en* /difficult-PL/ → *gawden*, *lawala-u* /spear-PL/ → *lawlu* (Mous 1993: 30). Various languages have root structure restrictions that involve the quality of the vowel (*e* or *o* vs *i*, *a*, *u*), length of the vowels, and accent. For example, in Oromo there are strong tendencies to several co-occurrence restrictions on vowels in roots, with the vowels being identical or, alternatively, with either V₁ or V₂ being *a* (Owens 1985a: 16–17). These restrictions are violated at the word level and do not hold for loanwords; thus they are more relevant for language history than for synchronic analysis.

The minimal word is a heavy syllable in Iraqw, which does not have CV words with a short vowel (Mous 1993: 26); K'abeena, however, allows CV words with a short vowel (Crass 2005: 35).

6.4.2 Accent and tone

The Cushitic languages are accentual or restricted tone languages. The distinction between tone languages and accent languages is not straightforward, because the term 'accent' stresses the organization of prominence in the word and the term 'tone' stresses the physical realization by pitch. Pillinger (1989) described Rendille as an accent language underlyingly and a tone language with downdrift on the surface. Somali has been

analysed as a tonal-accent language by Hyman (1981); for Oromo, see Andrzejewski (1970), Owens (1980), and Banti (1988a); for Afar, Hayward (1991b). There are a number of Cushitic languages in which tone does not play a role at all; they are purely accentual. Crass (2005) describes K'abeena as a language with stress on the ultimate or penultimate syllable, depending on the status of the final vowel (whispered or fully voiced). Other Highland East Cushitic languages are also stress-accent languages. For all Cushitic languages, whether stress, tone, or tonal-accent, the role of prominence at the lexical level is minimal, but the role in morphology is considerable; see Sasse (1981c: 205) for such a characterization of Cushitic tone. Lexical minimal pairs in tone exist for Iraqw and other Southern Cushitic languages but only marginally so, and partly because of a tone rule that derives names. For example, in Iraqw there are minimal pairs such as *konkomo* 'rooster' and *konkomó* 'insect species', *fooro* 'foam' and *fooró* 'locust species'; these words for insects show qualities of names (Mous 1993: 21). The tonal systems of the Agaw languages are fairly uncommon; Hetzron (1997: 483–9) describes Awngi as having four tones in which high and mid are the most important ones, compared to low and high–mid fall. Joswig (2006a: 17) reanalysed the mid as a low tone and Hetzron's low tone as a contextually conditioned variant of his low tone and Hetzron's mid.

The role of tone in morphology and syntax is important. In Oromo, *hin* is a negative morpheme but *hín* is a focus morpheme. Tone is essential in case marking, in gender distinction, in verb conjugations, and so on. In Somali, *lá* 'with' and *la* 'one, someone', and *ku* 'you' but *kú* 'in', differ in tone only (Saeed 1999: 42–3); these differences in tone are due to the fact that adpositional particles such as *lá* 'with' and *kú* 'in' have a high tone and tone is linked to this grammatical category. In Iraqw, all definite nominal suffixes (possessives, demonstratives) are high-toned (Mous 1993: 21).

The Cushitic tone-accent languages are atypical accent languages in the sense that not all words contain an accent (high tone). For example, in Somali, the pre-verbal adverbial clitics *wada* 'together' and *kala* 'apart' are toneless. For some of the monosyllabic toneless grammatical morphemes, one could argue that they are clitics. However, there are also syntactic positions or functions that are marked by the fact that they are toneless. In the Southern Cushitic languages, the majority of the nouns are toneless in all positions and receive tone only through suffixation of high-toned morphemes; Hayward (1984a: 98) notes the same for Arbore.

For none of the Cushitic languages is tone distinctive on every syllable of the word. Tone is distinctive on the final syllable(s). For example, for Somali, Saeed (1999: 42) distinguishes three accentual patterns or melodies: high on the last mora and low elsewhere; high on the penultimate and low elsewhere; and low on all moras. Once a low tone follows a high tone in a word, it is rare that a high tone follows again in the same word. But it does occur, for example Arbore *lúkkùtásút* 'his hens' (Hayward 1984a: 99).

It also occurs in Somali when a high-toned suffix is added to a word with a high tone on the penultimate, e.g. *gúrigú* ‘the house (remote)’ (Saeed 1999: 43). High tones are at the end of the lexeme (ultimate or penultimate), but due to suffixation with suffixes that impose a high tone, a word may end in a series of high tones, for example Iraqw *gàjээр-’éé-dá-r* ‘isà /work-my-that-of yesterday/ ‘that work of mine of yesterday’.

There are grammatical morphemes that consist of a (change in) tone only. The Beja first-singular possessive is only a low tone and the third-person possessive only a high tone in the underlying form (Appleyard (1991: 7), based on Hudson (1976)). In Somali, the subject case in many nouns is marked by removing the high tone, and the genitive case is marked by shifting the high tone to the final mora: for example, *díbì* ‘bull absolutive’, *dìbì* ‘bull masculine nominative’, *dìbí* ‘bull genitive’. There is no shift of tone in *bisád* ‘cat absolutive’, *bisàdì* ‘cat feminine nominative’, and *bisád* ‘cat genitive’, since the genitive already has a final high tone (Saeed 1999: 44). Banti (1988a) analyses the tone distinctions as accent feeding tone: the underlying accent is realized in the absolutive on the ultimate or penultimate mora, while the genitive is characterized by an accentual pattern of ultimate accent and the nominative has a number of allomorphs involving adding an (empty) mora to the end. In several Cushitic languages, gender is distinguished by tone differences only. This is valid for Somali – e.g. *ínàn* ‘boy’, *inán* ‘girl’, *nâyì* ‘male lamb’, *nâyì* ‘female lamb’¹ (Saeed 1999: 19) – and similarly in Rendille: *ínàm* ‘boy’, *inám* ‘girl’, *mààr* ‘bullock’, *mààr* ‘heifer’ (Pillinger 1989); see Appleyard (1991: 21–4) who suggests a role for tone in gender marking in Proto (Lowland) East Cushitic.

Certain grammatical suffixes either require tonal changes on the preceding moras or have high tone on the preceding syllable as part of the suffix, e.g. in Oromo the nominal plural marker *-lée* (*màgàlàà’-lée* → *màgàlálée* ‘markets’) and adjectival plural markers *-áa* and *-óo* (Owens 1985a: 93–4). Inherent tone on suffixes can have a different effect on preceding tones and can lower preceding high tones. This happens in Beja (Hudson 1976: 101–2); for example, the high tone of 1sg *-’n* disappears in *tam-a-n-ee-’k* ‘if I ate’ (compare *tam-a-’n* ‘I ate’). The reverse also happens in Beja in *tì-díf-a* ‘you went’ where the high tone of the root suppresses the accent of the past tense suffix *-’a*. In many Cushitic languages the addition of high-toned interrogative suffixes removes all preceding high tones, e.g. Somali *gúri-kée* → *gùrìgée* /house-which?:M/ ‘which house’ (Saeed 1999: 43). This is also the case for Iraqw and Alagwa and is in fact a phonologized intonational pattern. The possessive suffixes in Arbore take away any immediately preceding high tone, but not high tones that are separated by a toneless syllable/vowel, e.g. *buurú-h-ásut* /porridge-M-his/ → *bùurùhásùt* ‘his porridge’, but *lúkkù-t-ásut* /hens-F-his/ → *lúkkùtásùt* ‘his hens’ (Hayward 1984a: 98–9).

The tone-bearing unit is the mora; this is, among others, shown for Somali (Banti 1988a: 13; Saeed 1999: 41) and Dhaasanac (Tosco 2001: 36).

Table 6.1 *Proto-East Cushitic consonants.*

	t		k			
b	d		g			
	d', d'₁		k'			
f	s	š	x	ħ		h
		z		'		
m	n					
	l					
	r					
w		y				

Based on Sasse (1979).

In terms of historical development of tone/accent systems, Appleyard (1991) has proposed that Highland East Cushitic lost its tone; Kießling (2002) has shown how high tone (partly) developed in Southern Cushitic.

Hetzron (1997a: 483) describes Awngi as having stress independent of tone. Stress falls on the penultimate and is accompanied by a slight rise in pitch. Joswig (2006b) cannot confirm this.

6.4.3 Vowel system

Cushitic languages typically have ten vowels, five long, five short, *i, e, a, o, u*.

A number of Cushitic languages have whispered vowels word- or clause-finally. This is true for Oromo (Voigt 1984; Stroomer 1988; Lloret 1989, 1997), the Southern Cushitic languages Burunge (Kießling 1994) and Alagwa (Mous unpublished), and for K'abeena (Crass 2005).

The Agaw languages have no length opposition in their vowels, and they tend to have a sixth vowel: Bilin has a high central vowel [i̠], Kemant has a high and a mid central vowel [i̠, ə] (Fallon 2006: 96; Zelealem 2003: 158; Hetzron 1976a: 12). Joswig (2006a) shows that the occurrence of Awngi's sixth vowel *i̠* (high central) is, except for a limited number of exceptional words, predictable.

Somali has full tongue root advancing (ATR) vowel harmony. Vowels within one word are pronounced either with or without ATR (see Kim with Kraska 1992; Pia 1965, 1984).

6.4.4 Consonantal systems

The consonant systems are presented here in three tables: first, the system that Sasse (1979) reconstructed for Proto-East Cushitic (table 6.1); second, the system of

Table 6.2 *Ts'amakko consonants.*

p	t	c	k			'
b	d		g			
b'	d'		g'	q'		
	ts'	c'				
	s	š		x	ħ	
	z	ž			ʿ	h
m	n	(ɲ)				
	l					
	r					
w		y				

The voiced glottalized stops are implosive and the voiceless q' is ejective.

Source: Savà (2005).

Table 6.3 *Afar consonants.*

	t		k			'
b	d		g			ʿ
	d̥					
f	s (sh)				ħ	h
m	n					
	l					
	r					
w		y				

Source: Hayward (1974).

Ts'amakko, with glottalized obstruents and pharyngeals (table 6.2); and third, that of Afar, with no glottalized obstruents but with a retroflex *d* and pharyngeals (table 6.3).

I use the following symbols for consonants: ʿ, ' , *h*, *ħ* for the glottal and pharyngeal consonants and *C'* for ejectives and implosives, *d̥* for the retroflex *d*, *sh* for the palatal fricative, and *ɬ* for the voiceless lateral fricative.

The gap due to the absence of a voiceless plosive *p* is common in Cushitic and can be observed in Beja, Agaw, Sidamo, Gedeo, Somali, Rendille, and elsewhere. A number of other languages do have *p*. Black (1974a) and Sasse (1979) did not reconstruct *p* for Proto (Lowland) East Cushitic (see Svolacchia (1987) for an overview of this phenomenon).

Most languages have glottal consonants ʿ and *h*. There is often complete assimilation of vowels across the glottal stop, as in Oromo (Lloret 1995a: 62), Iraqw (Mous 1993: 36–7), and historically in Cushitic (Sasse 1979: 53). In some languages there is no

opposition between two identical vowels separated by a glottal stop and a long vowel, for example in Oromo (Stroomer 1988) and Gedeo (Wedekind 1980: 140; 1990a: 129), where V'V alternates with glottalized [V:] in fast speech.

Several languages also have the pharyngeal fricatives ' and *ħ*. These are Bilin as the only Agaw language, Afar, Somali, Rendille, Dullay (Dobase, Gollango, Ts'amakko), and the Southern Cushitic languages. The pharyngeal fricatives are absent in the Agaw languages (except for Bilin), in Highland East Cushitic, in Dhaasanac-Arbore-Elmolo, Yaaku, Oromo-Konso-Dirayta, and Boni. The voiced pharyngeal is sometimes realized with initial glottal closure. This is the case in Dullay (Hayward and Hayward 1989: 183 n.10), including Ts'amakko. In Iraqw there is no closure but creaky voice (Mous 1993: 18).

Pharyngeal consonants have a centralizing effect on neighbouring vowels; in Rendille, for example, all vowels are centralized in the environment of a pharyngealized or pharyngeal consonant (*ɗ, g, k, x, ħ*), as is evidenced by an increase in F1 (first formant) and a slight increase of F2 (Esser 1991: 147–8). Dullay *a* is fronted in the environment of ' , *ħ*, and, to a lesser extent, *q* (Amborn *et al.* 1980: 67); according to Hayward and Hayward (1989: 183), this extends to the glottal consonants as well.

Cushitic languages provide arguments for a feature grouping 'guttural' consonants together (see Hayward and Hayward 1989). The pharyngeal and glottal consonants, and to some extent also the uvular stop and fricative, behave similarly in a number of ways. In Afar, such consonants in one root are either identical or non-homorganic; ' , *ħ*, and *h* count as homorganic. In Iraqw, there is morphophonological vowel assimilation that applies to the vowel of the (final) verbal derivation which assimilates completely to a primary vowel *i, a, or u* in the syllable preceding it, provided that the intervening consonant is a guttural, a uvular stop, or, in some cases, even a velar fricative (Hulst and Mous 1992).

Cushitic languages typically have glottalic consonants: implosives, ejectives, or both. In Konso the opposition in stops is primarily along the lines of glottalic versus pulmonic; it has four implosive consonants *b', d', j', and g'*, which are devoiced when geminated, and four pulmonic stops *p, t, c, k*, which are voiced whenever a vowel follows. Neighbouring Burji has a voiceless ejective series *p', t', c', k'*, plus an implosive *d'*. Dhaasanac has the four implosives, which are word-finally devoiced and realized with egressive air stream mechanism (Tosco 2001: 19). Oromo has *p', t', k', and d'*. Lloret (1995a) shows that Oromo *d'* differs phonologically from the ejectives and behaves like a glottal stop or a plain voiceless stop in many respects. Geminated *d'* alternates with plain *t* in verbal conjugation; Lloret proposes 't as the underlying form, with mutual assimilation. Lloret (1995b) proposes a feature analysis (using feature geometry) for Oromo in which glottalic consonants are specified for constricted glottis but not for voice, and implosives differ from plain stops only in terms of [constricted voice] but not in voice; ejectives

have pharyngeal as an extra place of articulation in addition to their oral place of articulation. The Cushitic languages that have ejectives in the four places of articulation tend not to have pharyngeals; this is true for the Highland East Cushitic languages. The Agaw languages, except for Bilin, Arbore, Oromo, Konso, Dhaasanac, and Boni, have implosives where the others have ejectives, and have no pharyngeals. Most languages that have pharyngeals in their inventory, e.g. Afar, Rendille, and Somali, do not have ejectives/implosives. Separate from this is the presence of an implosive (Oromo, Arbore) or pulmonic retroflex *d* (Afar, Rendille, Somali). Note that the parameter presence of glottalic consonants vs pharyngeals does not align with genetic units. Southern Cushitic has pharyngeals and ejective affricates *ts'* and *tʃ'* but no other implosive/ejective stops. The ejective lateral affricate is cognate with *d'ɿ* in Sasse's (1979) reconstruction (see Kießling and Mous 2003). The bilabial glottalic stop in Arbore is a devoiced or voiceless implosive (Hayward 1984a: 53). The Cushitic languages do not seem to have constraints on co-occurrence of glottalic consonants in one root (Wedekind 1990a).

Gemination of consonants is common. Many languages have gemination as a morphological process. For example, Konso geminates the final root consonant of a verb to form a singulative verb stem, and Gedeo uses final gemination for imperative plurals (Wedekind 1990a: 51). In the languages that have gemination as a morphological process, there is usually no restriction – or only a few restrictions – on the set of consonants that can occur geminated: in Konso, all consonants may be geminated; in K'abeena, all except for the glottal consonants (Crass 2005: 37); and in Oromo, all except for *h* (Lloret 1997: 499). Many geminate consonants arise through assimilation of consonants that come together in morphological concatenation, e.g. Oromo *laal-ne* → *laalle* 'we watched'; *moor-nii* → *moorrüü* 'fat:nominative'; *did-te* → *didde* 'you refused' (Owens 1985a: 22). This is also the case in the CVC- reduplication in Dhaasanac (Tosco 2001: 46–8). Dhaasanac also has prosodically conditioned gemination: the consonant after a short open syllable or after a diphthong is geminated, thus ^h*agísu* 'hurry!' is realized as ^h*aggíso* (the initial ^h is not underlying), and *g'uoro-m-i* as *g'uorrome* 'I was tired' (gemination is not realized on *s*).

Degemination occurs, too. In Arbore, geminates undergo degemination when followed by another consonant or a word boundary, e.g. *háw* 'steer' is underlyingly *háww*, and *'iy hey^he* 'she became replete' comes from *lhey^hy-t-el* (Hayward 1984a: 62–3). In Dhaasanac, prosodically defined degemination occurs optionally when the following syllable also starts in a geminate (Tosco 2001: 49–50).

6.4.5 Metathesis

Metathesis is relatively common in consonant clusters, but the extent to which it occurs differs from language to language. In Dirayta, metathesis has occurred in its recent history, inverting obstruent–sonorant sequences in order to fulfil the sonority conditions

in consonant clusters: (semivowels <) liquids < nasals, fricatives < stops; *d'ilk* 'elbow' against related Konso *d'ikla*; *taŋk* 'honey' against Konso *takmá* (Black 1974b). Burji has metathesis of causative *s* and a preceding stop (Sasse and Straube 1977: 249). In Rendille, there is metathesis of the final stem consonant and the consonant of the preceding syllable, plus vowel drop before the plural suffix *-ó*; the final consonants involved are *r*, *b*, and *h*, e.g. *baḥáb-o* → *babḥó* 'armpits'; *útaḥ-o* → *uktó* 'goatskins'; *ugár-o* → *urgó* 'skinbags' (Oomen 1981: 50).

The language in which metathesis is synchronically most productive is Sidamo, in particular in the verb conjugation; consider the following verb forms with the 1pl ending *-inéemmo*: *'amad-inéemmo* → *'amandéemmo* 'we grasp', *gat-inéemmo* → *gantéemmo* 'we are left over', *got'-inéemmo* → *gont'éemmo* 'we sleep', etc. (see Yri 1990: 35, also Murray and Vennemann 1982).

Bilin has various consonant alternations, e.g. devoicing and/or spirantization of root stops in derived singulars, *ləx-a*, singulative of *lək* 'fire'; *dərgum-a*, singulative from *dərkum* 'sycamore'. Fallon (2006: 117) unifies these alternations as consonant mutation: 'Blin displays a variety of mutation processes, all of which appear to be morphologically (or lexically) determined. The mutations involve the features [voice], [continuant], [sonorant] and [lateral], as well as complex mutations involving combinations of these features. Some of these mutations may have originally been the result of lenition processes induced by affixation of a vowel-initial suffix.'

6.4.6 Reduplication

Reduplication occurs lexically and as a grammatical process. The former is presumably often the result of the latter. Grammatical reduplication includes plural formation in nouns, frequentative on verbs, and habitual on verbs. Repetition of a word (which I do not consider a phonological process) is used for distributive meaning, for example the repetition of a number in (1). In K'abeena the repetition of a modifier indicates maximal validity of the characteristic (Crass 2005: 291). Ideophones often display expressive repetition. But ideophones also show reduplication. In Somali, reduplication and insertion of *l* is common in ideophones, e.g. *tixitx* ideophone for 'dropping', *malaf* ~ *maf* ideophone for 'wipe out, exterminate' (Salaad and Tosco 1998: 127, 132).

- (1) q'aac'c'-e=ma dookko dookko bad'd'am-inki
 bush-P=to/in one.M one.M hide.oneself-3PLCONS.A
 'One by one they hid themselves in the bush.'
 (Ts'amakko, Savà 2005: 79)

In Alagwa, lexical roots show the same three types of reduplication that occur as grammatical processes. Reduplication of the final root consonant, which is frequent in

derivations, is rare in the lexical domain, but in the lexical domain we see reduplications of medial root consonants, *lugaag-óo* ‘tree species’, ‘*omomoróo* ‘ant species’, *sararaakwi* ‘tree species’. The reduplication of the initial CV- and initial CVC- of the root is more common in the lexicon than as a morphological process.

Grammatical reduplication in Cushitic is prominent in plural formation in nouns and adjectives, and frequentative and habitual formation in verbs. Banti (1988b) provides an overview of Cushitic reduplication in his discussion of adjectives.

In addition to the reduplicated material, vowels may be added as part of the process. The most commonly added vowel in reduplication in Cushitic is *a*. An added vowel may undergo the regular vowel assimilation processes of the language, e.g. Iraqw *hehe'ees* from *he'ees* ‘to finish’ with assimilation through a guttural consonant (Hulst and Mous 1992).

Sometimes the added vowel can be argued to be an epenthetic vowel. This is, for example, the case when the added vowel is a vowel that is otherwise only used as an epenthetic vowel. In some languages one could argue that (short) *a* is an epenthetic vowel in reduplication – though the most common epenthetic vowel in Cushitic in other contexts is *i*. Reduplication can be viewed as initial or final depending on whether initial or final material of the base is reduplicated.

There is no one-to-one relationship between form and function of reduplication across or even within languages. Across languages one particular type of reduplication can serve different functions. For example, final reduplication is used for nominal plural formations in Somali and Alagwa but for habitual verb forms in Iraqw. And within one language the same function may have a variety of reduplication processes that are (free) alternatives or lexically determined. Thus the Somali verbal frequentative derivation (and plural adjective) is either *Caa-* or *CV-* or *CVC-* depending on the lexical item. Another example is the Rendille frequentative verbal derivation which is either *CVC-* or *VC-* reduplication – e.g. *furfura* from *fura* ‘be open’ and *iddiiba* from *diiba* ‘hand over’ – but an alternative derivation is geminate forming *aC₁-*, e.g. *ahhida* (or *hidhida*) from *hida* (Pillinger and Galboran 1999: 33). Initial reduplication occurs predominantly in verbs and adjectives, and final reduplication mostly in noun plural formation. These observations are only tendencies: final reduplication (gemination) is used for singulative (punctual) verbal derivation in Konso and Ts’amakko and for habitual in Iraqw; initial reduplication does not occur productively in nouns in Cushitic but does show up in lexicalized cases.

Cushitic languages show many different kinds of productive reduplication processes: initial, final, and medial. The copied material ranges from only C to CVC. In addition to the copied material, vowels may be added, and mostly the quality and length of such an added vowel is particular to the reduplication process in question. Within initial CVC reduplication processes we have to distinguish between those that reduplicate *C₂* and

Table 6.4 *Cushitic reduplication patterns.*

<i>added vowel</i>	<i>final C</i>	<i>initial C</i>	<i>initial+gemination</i>	<i>initial CVC</i>
epenthetic	-(v)C _f	–	–	–
imposed, e.g. a	-aC _f	–	–	C ₁ V ₁ C ₂ C ₃ a-
copied V	–	(C ₁ V ₁ -)	C ₁ V ₁ C ₁ -	C ₁ V ₁ C ₂ -

those that require gemination of the root initial consonant. Most instances of C₁V₁-reduplication are synchronically or diachronically related to C₁V₁C₁-reduplication; the same holds for final C reduplication and final C gemination. Medial reduplication can be linked to final reduplication. Initial reduplication is mainly used for verbal aspect and the plural of adjectives, while nominal plurals often make use of final C reduplication. However, various different reduplication patterns occur in one language and even for one and the same function. The Cushitic reduplication patterns are summarized in the table above (see Downing and Mous 2011).

6.5 Morphological typology and processes

Cushitic languages show all types of morphological processes: suffixation, prefixation, infixation, ablaut, stem alternation, reduplication, and tonal marking. The languages are usually rich in morphology, and grammatical categories are realized by (segmental and suprasegmental) morphemes. Suffixation dominates over prefixation and infixation is rare. Kießling (2003a) discusses how infixation arose historically in Southern Cushitic through the combination of more common processes such as suffixation and reduplication in combination with historical changes. Sequences of suffixes are not uncommon, as in the earlier example *gàjéér-' éé-dá-r 'isà* /work-my-that-of yesterday/ 'that work of mine of yesterday' (Iraqw, Mous 1993: 230). Stem ablaut occurs, for example, in the Agaw languages (Appleyard 1992).

6.6 Lexical categories

Nouns and verbs are clear-cut categories. Adjectives are less clear as an independent class in some Cushitic languages. For Somali, there is a debate whether the category of adjectives is an independent word category (Banti 1988b). Afar's adjectives are stative verbs, whereas Ts'amakko's adjectives are nouns. Other lexical categories that are recognized are postpositions, conjunctions, and ideophones. Derivational processes are mainly from verb to noun; the morphemes to derive a verb from a noun are identical to causative or middle verbal derivation.

6.7 Nominalization

It is not uncommon for a Cushitic language to have a large number of nominalizing formations. Crass (2005: 71–80) gives twelve different deverbal nominalizers – and a few less productive ones – for K’abeena. Iraqw has twenty deverbal nominalizers (Mous 1993); Sidamo has close to twenty (Teferra 2000: 67–9). A limited number of these are fully productive and some have clear specific semantics. Some of these have a specific meaning such as agentive, result of unaccusative verbs, or extent; but some suffixes are used for a variety of meanings and many different ones denote abstract nouns; ultimately, which deverbal nominalizers can be used with a specific verb is a lexical matter. A functionally common nominalization consists of the agentive noun, for example Sidamo *hat’ ar-aančo* ‘butcher’ from *hat’ ar* ‘to butcher’ (Teferra 2000: 67). Other nominalizations include instrument nouns and abstract nouns. Sidamo uses the same *-aančo* suffix for instruments, e.g. *fey-aančo* ‘broom’ from *fey* ‘sweep’ (Teferra 2000: 67), and a suffix *-imma*, *-ima* for abstract nouns, e.g. *but’-ima* ‘poverty’ from *but’* ‘be poor’, *ged’ d’-imma* ‘old age’ from *geed’ d’* ‘grow old’ (Teferra 2000: 7); the latter suffix is also used to nominalize adjectives, e.g. *danč-imma* ‘goodness’ from *danča* ‘good’ (Teferra 2000: 69). Several nominalizations of the same verb can co-occur, e.g. Iraqw *faara*, *faaro* ‘counting’ from *faar* ‘count’, where the derivation in *-a* is completely productive but in this lexeme refers to a specific act of counting, while the derivation in *-o* is lexically restricted and refers to ‘counting’ in general (Mous 1993: 75). In K’abeena there is some overlap between deverbal and denominal nominalizers; this is a common situation.

6.8 Nouns

Nouns have the grammatical property of gender. Gender (section 6.11) is defined on the basis of agreement. The number of agreement classes is either two or three. For those in which it is three, the third one interrelates with the category of number; there are alternative analyses reducing these systems to a two-gender system. Thus the analysis of gender is closely linked to the analysis of number. Section 6.9 shows that number is derivational in nature, and most languages have a variety of number derivations for both plural and singular. Definiteness is less generally marked and interrelates with case marking. Case marking (section 6.12) is of the marked nominative type, that is, the subject (both subject of intransitive and agent of transitive) is marked and the object is in the unmarked citation form – but not in the Agaw languages, where the accusative is marked. There are no other nominal categories. Pronouns and numbers can be considered special nouns but are discussed separately (see sections 6.22 and 6.19). The final vowel of nouns drops under certain circumstances and can be argued to be not part of the noun (root see section 6.10 on terminal vowels).

6.9 Nominal number

Number is not an obligatory category. One can use an underived basic form of the noun that is neutral for number in situations in which the specification of number is considered irrelevant. There is number agreement in the subject marking on the verb, but for several languages, agreement on the verb is with gender and not with number. This is the case in Iraqw, for example (Mous 1993). Within the noun phrase there is number agreement on the adjective. Sometimes this agreement is semantic rather than morphological. For example, in Iraqw one can say *notóo úr* /paper.money (notes) big/ ‘a lot of money’ or *notóo ur-én* /paper.money (notes) big-PL/ ‘large-denomination notes’ with a distributive reading for the plural adjective. Most languages have more than one plural derivation and also singular derivation. The forms of the number derivation diverge greatly within Cushitic (see Zaborski (1986b) for an overview). Number derivations impose gender on the noun. The choice of the number derivation is lexically determined but partly correlates with the gender of the base noun. As a consequence there is a phenomenon called ‘polar gender’, meaning that the plural form has the opposite gender from the singular form. The derivational nature of number is also evident from the fact that lexemes vary in the number of number forms that they have and in the nature of their interrelatedness. For example, in Ts’amakko (Savà 2005: 61–5), we can have a lexeme like *zilang’a* (f) ‘rainbow’, which has only one form, and one like *gurl-o* (m) ‘cat’, which has the following number derivations: singular *gurl-itt-o* (m), *gurl-itt-e* (f), and plural *gurl-ad’ d’-e* (p). In the following, I will discuss these number properties in a little more detail.

Mass, collective, and/or transnumeral (i.e. not number-specific) nouns can be distinguished on the basis of their morphosyntactic properties: in Oromo, non-count nouns such as ‘water’ do not take numeral modifiers (Owens 1985a: 94), and in Somali transnumeral nouns need a relative clause in order to be used in counting – ‘two that is orange(s)’ (Saeed 1999: 58). The small set of transnumeral nouns have only one number form, but that can refer to an individual (singular or plural), the substance, or a collective (Serzisko 1992). In Somali one has to distinguish count nouns, mass nouns, collective nouns, and transnumeral nouns; only the lexical set of count nouns regularly form plurals. In the construction Number + Noun, in which Number is the head, the count noun is not in the plural, e.g. *labá kóob* /two cup.SG/ ‘two cups’ (Saeed 1999: 56–7).

The feature ‘number’ has two values based on agreement: singular reference and multiple reference. In Bayso (Hayward 1978a), there is an extra value of paucal reference. Because ‘plural’ will be used as a value for gender, I follow the terminology that Hayward (1984a) has suggested: multiple reference and singulative reference. Derivationally, nouns can be of three sorts: base, derived plurals or pluratives, and derived singulars or singulatives. The base is often semantically neutral for number and is used

when number is irrelevant (see, for example, Savà (2005: 47) for Ts'amakko, Crass (2005: 63) for K'abeena). In Oromo, most nouns do not have derived plurals.

External agreement is shown in subject agreement of the verb. Some languages have words that are singular in meaning but require plural agreement on the verb. For those languages, plural is considered to be a value of gender, and agreement on the verb is with gender only. I will come back to that issue after the discussion of gender. For languages with only two values of gender, subject number agreement on the verb can be lexically determined. For example, in Somali, mass nouns have either singular or plural agreement on the verb depending on the lexeme; those that require plural agreement end in *ó*, which is a plural suffix (Saeed 1999: 57). In many languages there are verb forms that do not show subject agreement. There is no agreement with the object in number. Noun-phrase internal agreement includes agreement on adjectives. Adjectives show plural agreement through initial reduplication, for example in Somali (Saeed 1999: 108), in Southern Cushitic (Kießling 2002; Mous 1993, unpublished), and in Oromo (Owens 1985a: 87, 93), but number agreement is not strictly obligatory. Plural suffixation on adjectives occurs in Oromo. Demonstratives and possessives do not show number agreement.

Plural noun derivations vary greatly in form: reduplication of final consonant (Bilin, Somali, Southern Cushitic, Konso, and Rendille), gemination (Bilin, Arbore, Dhaasanac, K'abeena, Konso, and Rendille), change of stem vowel (i.e. 'broken plural' or ablaut) (Southern Cushitic), and suffixation of various shapes: -V, -(V)C(C)V, etc. An example of infixation is the Iraqw plural formation <ee>_i for which the vowel *ee* is infixes before the final root consonant and the root is followed by a suffix *i*, e.g. *digeemi* 'boundaries' derived from *digma*; this combination of infix and suffix is an allomorph of the plural suffix *-eri* used with stems that consist of three consonants, and its shape is explainable by a preferred light-heavy syllabic pattern for the plural (Mous 1993: 53).

Many East Cushitic languages have four to six different plural formations (Oromo, Somali, Konso, Dhaasanac, Ts'amakko, Bayso, and K'abeena). Arbore has more than ten, and the Southern Cushitic languages have even more. In several languages there is irregular allomorphy (or similarity in plural formatives) involving length of the vowel or consonant of the plural formative (Dhaasanac, Southern Cushitic, and Konso). For example, Dhaasanac has plurals formed with *-a(a)m*: *deger* 'barren', plural: *deger-aam*; *kur* 'knee', plural: *kurr-am*; *fuoc-u* 'bride-wealth', plural: *fuoc-am* (Tosco 2001: 86–8). Suppletive plurals typically occur for the following lexemes: 'women', 'cattle', 'goats', 'people', 'sisters', 'children', 'uncles' in Burunge (Kießling 1994: 60).

The choice of the plural formative is lexically determined, but correlations have often been observed with the following properties of the base: gender, quality of the final vowel, presence of a particular singular suffix, syllabic structure, and accent

type of the base noun. Thus, for Somali, number derivations have been described in terms of declensions, where each declension is defined by, *inter alia*: (i) whether there is gender polarity between singular and plural; (ii) the form of the plural suffix; (iii) the accent pattern in singular and plural; and, sometimes, (iv) the final vowel of the base (Andrzejewski 1960). In Arbore, multiple-reference suffixes that end in *o* are all (p) and have a feminine base. In Rendille, multiple-reference words formed with *-aC* (p) and *-Ce* (p) are used with polysyllabic masculine bases, and multiple-reference words formed with *-ó* are used with feminine bases. In Khamtanga, there are several different multiple-reference formations, the most common being *-ʻan*; other formations include dropping of the final vowel *a*, change of consonant, and gemination of the final root consonant (Appleyard 1987a). The other Agaw languages have similar complex number formation, e.g. Bilin (Palmer 1958). All languages for which we have dialect information show regional variation in choice of plural marker for some of the lexemes.

Singulatives are common, not only for individual entities belonging to collectives, masses, or sorts, but also when there is no apparent semantic motivation. For example, Dhaasanac has a derived singular *bil-ti* ‘knife’ from *bilu* (Tosco 2001: 79). Singular human and animal individuals are often derived by distinguishing males and females, for example Dhaasanac *lúa* (f) ‘lions’, sg: *luoc* (m) ‘lion’, *looti* ‘lioness’ (Tosco 2001: 79); Arbore *ʻízze* (f) ‘gazelle’: *ʻízze-t* (m) ‘male gazelle’, *ʻízze-té* (f) ‘female gazelle’. Sometimes the feminine singulative is the second derived form, derived from the male, for example Arbore *hokkól* ‘lame (people)’, *hokkol-an* ‘a lame male’, *hokkol-an-té* ‘a lame female’; *gelebá* (f) ‘Dhaasanac’, *geleba-n* (m) ‘male Dhaasanac’, *geleba-n-té* (f) ‘female Dhaasanac’ (Hayward 1984a: 162). The singulatives are used for the singular of pairs – Dhaasanac *gunu* (m) ‘testicle’, sg: *gunti* (f); for the singular of collectives – *tiiši* (f) ‘ripe sorghum’, sg: *tiišiti* ‘a single plant of ripe sorghum’ (Tosco 2001: 79–80); and for the partitive of mass nouns, e.g. Ts’amakko *ʻandʻe* (p) ‘water’, sg: *ʻandʻ-itto* (m), *ʻandʻ-itte* (f) ‘drop of water’ (Savà 2005). Most languages have about five different singulative formations, and often at least one of them contains *-t*.

There is a strong interplay between singulative and definiteness in Oromoid. In Bayso, the singulative *-ti* ~ *-titi* indicates individualization or particularization (Hayward 1978a: 106).

Names for people and their languages have dedicated suffixes. The *-ac* in Dhaasanac is such a suffix; in Arbore, individuals of an ethnic group are derived by suffixes that are not used for other words (Hayward 1984a: 183); in Alagwa, the suffix *-aʻisa* derives language names, such as *imbeek-aʻisa* (f) ‘Maasai language’ from *imbeeká* (f) ‘Maasai’ (Mous unpublished); in Kʻabeena, there is a suffix *-sinata* that derives language names from names for people (Crass 2005: 83).

6.10 Terminal vowels

In the Omotic languages, final vowels of nouns are often considered not to be part of the stem; see Hayward (1987) and chapter 7 on Omotic in this book. In Cushitic a similar analysis can be argued for; however, in many languages such an analysis is just one of the possible options. Arguments for a special status of the final vowel include the following: (i) the number derivations usually erase the final vowel of the noun; (ii) for several languages, not all vowels occur word-finally – for example, in Konso, nouns end in *a*, with the exception of names, which may end in *i*, *o*, or *e*; and (iii) for some languages there is a correlation between the quality of the final vowel and its gender. For example, in K’abeena, nouns that have a short final vowel *-e* are feminine and those that have *-a*, *-aa*, *-o*, *-oo*, *-i*, *-u*, or *-ee* are masculine, unless they contain an additional formative *-rʹ* (Crass 2005: 61–2); in Ts’amakko, nouns that end in *-o* are masculine, those that end in *-a* are feminine, and those that end in *-e* are feminine or plural in gender. No nouns end in *u* or *i* (Savà 2005: 51–2). Hayward (1983) distinguishes between terminal and non-terminal ultimate vowels in Saho-Afar on the basis of phonological properties.

6.11 Gender

Gender is very interesting in Cushitic because of its interrelatedness with number. Here I adhere to the Cushitic practice of recognizing ‘plural’ as a category of gender for those languages that have this third category. Note, however, that the typological specialist of gender and number, Grev Corbett, has a different view on Cushitic ‘plural’ as a value of gender (see Corbett 1991, 2000; Corbett and Hayward 1987; and Mous 2008).

Gender is a property of nouns in terms of agreement: internal noun–modifier agreement and external subject–verb agreement. Morphological (automatic) subject agreement on the verb is either with number and, within singular, with gender (the typologically common situation) or with gender only (the typologically special situation). As an example of the latter, I present the situation in Iraqw (see example 2). All nouns fall into one of three groups depending on agreement with the verb. The three agreement classes are termed feminine, masculine, and plural, because the first group of nouns has the same agreement as a third-person female subject (‘she’); the second group has the same agreement as a third-person male subject (‘he’); and the third group has the same agreement as a third-person human plural subject (‘they’). I use multiple reference for the denotation of ‘plural’ as a value of number. Arbore is another example of a language which has only gender agreement on the verb, as can be seen from the agreement for ‘water’ in example (3). See table 6.7 for the agreement patterns in external agreement in example (3) and for Arbore internal agreement distinctions.

Table 6.5 *Iraqw internal agreement patterns: demonstratives.*

	<i>hiima</i> (m) 'rope'	<i>hasam</i> (f) 'dilemma'	<i>gi' i</i> (p) 'ghost'
DEM1	<i>hiimuwí</i>	<i>hasamarí</i>	<i>gi' iká</i>
DEM2	<i>hiimusíng</i>	<i>hasamasíng</i>	<i>gi' isíng</i>
DEM3	<i>hiimuqá'</i>	<i>hasamarqá'</i>	<i>gi' iqa'</i>
DEM4	<i>hiimudá'</i>	<i>hasamadá'</i>	<i>gi' idá'</i>

Iraqw subject gender agreement on the verb

- (2a) daaqay i giilín i giilín
 boys 3 fight:3SG.M 3 fight:3SG.M
 'The boys are fighting.' 'He is fighting.'
- (2b) haysé i harweeriirín i harweeriirín
 tails 3 make:circles:3SG.F 3 make:circles:3SG.F
 'The tails make circles.' 'She is making circles.'
- (2c) haysó i harweeriiriná' i harweeriiriná'
 tail 3 make:circles:3PL 3 make:circles:3PL
 'The tail is making circles.' 'They are making circles.'

External agreement in Arbore

- (3a) néek 'íy yeece 'A lion came.'
 komayté 'íy teece 'A tortoise came.'
 'úmмо 'íso yeece 'The children came.'
- (3b) daac 'ay gíra 'There is a rat.'
 'ingiré 'ay gírta 'There is a louse.'
 bíce 'asó gira 'There is water.'

Noun-phrase internal noun–modifier agreement requires the same division of the nominals into three genders. This is shown for Iraqw in table 6.5, where the masculine nouns require the linker *u*; the feminine nouns require the linker *r* (deleted before an alveolar consonant); and the (p) gender nouns have no gender linker. In Arbore, there are several agreement markers for noun-phrase internal agreement (see table 6.6) when modifying a noun. These markers occur on adjectives (Adj), on possessives (poss), on demonstratives (D), and on the modifying question word 'which?'. They require the same three genders as the subject agreement on the pre-verbal 'selector' (preV) and on the verb 'to be'.

Internal gender agreement markers often involve *ku* for masculine and *ta* for feminine, or forms developed out of those (see also Bryan 1959).

Table 6.6 *Internal agreement in Arbore.*

	pre-V	to be	came	Adj	poss	D	D	which?
masc	y	<i>gíra</i>	<i>yeečče</i>	-á	<i>ha-</i>	-h-	∅	<i>bú-</i>
fem	y	<i>gírta</i>	<i>teečče</i>	-á	<i>ta-</i>	-t-	t	<i>bító-</i>
plur	<i>só</i>	<i>gira</i>	<i>yeečče</i>	-o	<i>toha</i>	h-	∅	<i>to-</i>

Table 6.7 *Possessive and demonstrative agreement.*

m f p	m/p f	m f	none
Alagwa, Burunge, Iraqw, Arbore, Boni, Dullay, K'abeena definites	Alagwa pronouns, Burunge pronouns, Iraqw pronouns, Arbore genitive	Elmolo, Oromo, Somali, K'abeena demonstratives	Konso, Dhaasanac, Tsamay, K'abeena possessives

The values for gender, based on the internal noun phrase agreement of possessives and demonstratives in East Cushitic languages, are summarized in table 6.7.

Personal pronouns do not always show the same gender distinctions as nouns do. For example, in Iraqw there are only two third-person pronouns: *inós* 's/he' and *ino'ín* 'they'. In Arbore, the sex of the possessor is differentiated in third-person singular possessives, and deictic locative pronouns referring to human antecedents display sex difference using the words for 'man', 'woman', 'people'. Personal pronouns in Cushitic in general tend to refer to humans only and are primarily used for contrast. They usually can take the nominal suffixes.

Another important and typologically interesting feature of Cushitic gender is that it is a property of the word and not of the lexeme. Singular and multiple reference forms of the same lexeme often differ in gender, sometimes in systematic ways. This has given rise to the concept of gender polarity (Hetzron 1967, 1972b). In Somali a large number of nouns have the opposite gender in singular reference – multiple reference pairs. Serzisko (1982) has analysed this phenomenon of opposite gender in terms of markedness. The more general Cushitic picture is not one of polarity of gender but rather of 'plural' and feminine as common genders for multiple-reference words, in combination with correlations between choice of multiple-reference formation and the gender of the base. Thus the polarity of gender is only part of the picture and is not a property of the gender system as such; the more general picture is rather that singular and multiple reference within one lexeme are often different in gender.

Gender is not predictable on the basis of the meaning of the word. Words with male connotations can be feminine and the other way around; for example, in Alagwa: *seree'a* (f) 'buffalo', *karama* (f) 'castrated bull', *isa'amu* (m) 'breast, teat', *ɬaama* (f) 'person

who is made ill (male or female)'. For most words the choice of gender has no semantic base at all; compare the words for gourds in Konso *d'ahaan-aa* (p) 'gourd(s)', *hulp-a* (m) 'large gourd for water', *murraa-ta* (f) 'gourd for drinking', *xott-aa* (p) 'large water gourd', *shaww-aa* (p) 'gourd with handle'.

There is some evidence for semantic associations with gender in terms of size and endearment/pejoration, as is so common in the Omotic and Semitic languages of Ethiopia. This is the case in the Western Oromo dialects, in which the gender system has developed into one with masculine as basic gender; use of feminine gender is restricted for reference to females and for expressing diminutives and pejoratives (Clamons 1999: 392), as is also the case in Agaw (Hetzron 1976a: 14). In more general terms, gender denotes the semantic notion of significance (masculine) vs insignificance (feminine) (Tucker and Bryan 1966: 511; Castellino 1975: 352ff.; Sasse 1984a: 117). There are parts of the lexicon where gender clearly has a common semantic base in all languages: agentives distinguish male and female sex, which correlates with the gender of the derivational suffix; and derived singulars for animates are often sex-specified in the gender.

Gender is partially predictable from the formal properties of the noun. Number suffixes are gender-specified, and once a number suffix is recognized, the gender of the noun is known. Here, too, there is no full predictive value. Words ending in what seems to be one of the number suffixes may have a different gender, and some homophonous number suffixes differ only in gender. There are also homonyms that differ in gender only, e.g. Arbore *'elló* (m) 'cowrie shell' vs *'elló* (f) 'fear'. We have already seen that terminal vowels can be indicators of gender. Typical correlations between word form and gender are those in Afar and Somali: Afar feminine nouns are vowel-final nouns and unaccented; consonant-final and accented vowel-final nouns are (m); nouns with final *e* or *o* are (f) (Hayward 1998b). In Somali, polysyllabic masculine nouns ending in a consonant have the accent / high tone on the penultimate vowel; those that are feminine have the accent / high tone on the ultimate (Saeed 1999). Final high tone for feminine is also reported for Rendille (Oomen 1981: 40–3), except for those feminine nouns that end in a vowel, while masculine nouns have penultimate accent. Oomen proposes that the contrastive pitch is caused by the loss of a feminine suffix in feminine nouns (Oomen 1981: 39). The difference in tone or accent placement is related to word-final reduction processes: in Borana Oromo, feminine nouns mostly have long final vowels and masculine nouns have short final vowels (Stroomer 1987: 70). The assignment of gender to loanwords can show a clearer picture of form–gender correlations; in Iraqw, nouns ending in *u* tend to be masculine, nouns ending in other vowels tend to be feminine, and loanwords from Swahili follow this pattern (Mous 1993: 41). But loanwords can also be assigned to one of the classes, as is the case in Ts'amakko, where all loans are feminine (Savà 2005).

Several proposals have been made for recognizing 'default' gender. Hayward (1992) proposes that (f) is the default gender for Afar. Mous (1993) has suggested that (f) is the default gender for Iraqw on the basis of (f) subject agreement in subject complement clauses. It is sometimes difficult to determine default values for gender that are independent of other factors, such as the gender of the general word for 'thing' or the phonological properties of the vowel that happens to be the marker of the default value of gender. There are, however, languages with a default gender in which all non-sex-distinguishable nouns are of the same gender.

The interplay between gender and number is in the (p) value of gender. This class has to be set up because of words that require third-person plural agreement. Underived (p) words constitute a relatively small set, ranging from 130 in Konso to 4 in Afar. Many, but not all, of these words have some connotation with multiple reference, for example 'people', 'children', 'women' in Afar (Hayward and Corbett 1988: 265). Examples in Alagwa are *daaqaay* (p) 'children', *tikay* (p) 'women/wives', *yawa* (p) 'cattle', *aaraa* (p) 'goats', *baaluu* (p) 'days', *fayee* (p) 'marriage settlement / bride price', *kwa'u* (p) 'house of many poles', and words for liquids, collectives, and for time and geographical concepts (Mous unpublished). Other kinds of words that often appear in this group are words for part of the day. But also clearly singular words appear in this class, e.g. 'tail' in Iraqw, 'healed wound' in Alagwa. For many languages, a large number of the derived multiple reference words are (p). In Bayso all paucal words are (p). However, all relevant languages also have derived multiple-reference words that are feminine (Alagwa) or masculine (Bayso), though few languages have both. For example, Iraqw has (p), (f), and (m) derived multiple-reference words, but the (m) derived nouns are ambivalent in terms of number. Derivation for singular reference is never (p) and is always restricted to (m) and (f).

Oomen (1981: 56) proposes that (m) is the unmarked gender and used for [–count] (transnumeral) nouns, and feminine gender is the marked gender to indicate [+count], either plurality or singularity. Despite the attractiveness of this proposal to account for the relative rarity of derived (m) multiple-reference nouns, the proposal does not hold for the other Cushitic languages that do have derived singulars in (m). In Rendille, no feminine plurals are derived from a feminine base, and this is also a strong tendency for the Southern Cushitic languages. The historical explanation that Oomen offers for Rendille is that these words already had the feminine suffix.

There are additional connotations of (p) and multiple reference in the external agreement phenomena. Many languages have two options for agreement with multiple-reference subjects: regular morphological agreement according to the gender of the subject, including (m) or (f) agreement, or semantic agreement by means of the third-person plural ending on the verb. Many languages show an alternative of semantic multiple reference agreement to morphological gender agreement for the subject of the

verb. In Alagwa, multiple-reference words that are (f) can be combined with either a third-person singular feminine ending of the verb or a third-person plural ending of the verb. In the latter case the agreement is semantically based. A second connotation of multiple reference and plural gender agreement is that the same semantic agreement of a third-plural verb is observed as a resolution of gender conflict for a coordinated structure with mixed gender; this is one of the strategies to resolve a gender conflict in Afar (Corbett and Hayward 1987). A further complication is that several Cushitic languages have reduced verb conjugation paradigms in which the underspecified verb form is homophonous with that of a third-person singular masculine subject; see section 6.23.

Feminine is associated with multiple reference. In Afar, numbers higher than ‘one’ trigger feminine agreement. In Arbore, Alagwa, and Iraqw, multiple-reference formations are mainly feminine or plural in gender, rarely masculine. In Borana Oromo, (f) adjectives are used for mass meaning (Owens 1982: 47). In Rendille, change to feminine gender marks either sex specification or multiple reference (Oomen 1981: 43).

6.12 Case

Case in Cushitic is typologically interesting, since the most common Cushitic case system is that of marked nominative, which is relatively rare among languages of the world. Marked nominative refers to the fact that the noun is case-marked for the subject function (subject of an intransitive verb and agent of a transitive verb), and the base form of the noun is used when the noun is not a subject, that is, in isolation, in object position, and when it is the predicative noun in a nominal sentence (Hayward (1988a: n.8); see Gensler (2000) and König (2006) for an overview of this phenomenon and its areal spread). In both the marked nominative case system and the nominative–accusative system, the subject of a transitive and the subject of an intransitive clause are treated the same way; in both the marked nominative case system and the ergative–absolutive system the agent of a transitive clause is marked and the object of a transitive clause is unmarked. A third general case form is the genitive, and some languages mark the head noun in a genitive phrase (anti-genitive or construct case) – see section 6.14. There are additional case forms in some languages, as well as adverbial case clitics and postpositions. In this section I deal only with core case: marked nominative. The nominative is often termed ‘subject case’ in Cushitic studies. The unmarked case is called ‘absolutive’, in line with the unmarked case value in the ergative–absolutive system; some authors prefer the term ‘accusative’ for the unmarked case. In fact, the historic origin of the use of the term ‘absolutive’ in Cushitic studies is from the Italian *forma assoluta* ‘absolute’ as used by Moreno (1935: 187) and not from the term that expresses the complement of ‘ergative’ (Banti p.c. 2008).

Sasse (1984a) presents an overview of the marked nominative case system in Cushitic. He summarizes its characteristics as follows: (i) absolutive rather than nominative (subject) case is the citation form of the noun; (ii) the absolutive rather than the nominative case is the predicative form of the noun in a verbless sentence; (iii) the absolutive is also used for the vocative, for measure constructions, and with adverbial case markers – it also occurs when case is neutralized as a consequence of group inflection or focus marking. Gensler (2000) adds that the absolutive is used for the fronted topic and for the emphatic noun *in situ*. Languages differ in the choice of case they use for the subject in nominal clauses: Oromo uses the absolutive for the subject of a verbless equative clause (Owens 1985a: 98), while Somali uses the nominative (Saeed 1999: 187). The focalized subject is in the absolutive; in that situation there is no subject agreement on the verb, e.g. in Somali and Arbore (Hayward 1984a: 113). The explanation for this is that these constructions go back to a fossilized cleft sentence (Hetzron 1972b; Hayward 1984a: 113–26). In Borana Oromo, relative clauses are not marked with a nominative case marker (Owens 1982: 53). Dirayta is exceptional within Cushitic in that it has a marked accusative case system: synchronically the nominative case form is the unmarked form and the absolutive form is best treated as derived (Tosco 1996). K’abeena marks both accusative and nominative case, but the nominative can be analysed as more marked and based on the accusative (Crass 2005: 86).

An exemplary overview of the use of nominative and absolutive case is presented by Owens (1985a: 98–102). I copy his overview with some examples here (see 4). The absolutive is unmarked in the sense that: (i) it lacks morphological marking; (ii) it is used as the citation form; (iii) it is the basis of morphological processes such as genitive marking and coordination marking; and (iv) it is used in a large variety of other contexts. The nominative is marked in the sense that: (i) it needs morphological marking; (ii) its function is restricted; and (iii) it can be specifically formulated as marking the (focused and non-focused) subject of a tensed clause (both the subject of an intransitive clause and the agent of a transitive clause).

Absolutive case in Oromo

- (4a) equative predicate
 xun bishaan kursháashaa
 this water dirty
 ‘This is dirty water.’
- (4b) direct object
 hurrée-n arká d’olki-t-i
 fog-NOM sight prevent-F-IMPFV
 ‘Fog reduces visibility.’

- (4c) causative object
 nama sún intalaa-f xennáa xann-isiis-e
 man that girl-DAT present give-CAUS-PAST
 'He made that man give the girl a present.'
- (4d) goal, location object
 magaláa deema
 market go
 'He will go to the market.'
- (4e) time complements
 inníi saa'áa afur si bóodá maná tur-e
 he hours four you after house stay-PAST
 'He stayed behind four more hours than you at home.'
- (4f) predicative
 maná adíi akka gaarí-tti díimáa dib-e
 house white as nice red paint-PAST
 'He painted the white house red very well.'
- (4g) unit of measure
 xaráa-n ás írráa kilométríi diddám fagata
 road-NOM here from kilometres twenty far
 'The road is twenty kilometres from here.'
- (4h) object of postposition
 inníi xeesúmmáa sun bírá jira
 he guest that near exist
 'He is near to that guest.'

Nominative case in Oromo

- (5a) subject of adjectival predicate
 híid'ii-n díim-tuu
 lip-NOM red-F
 'A lip is red.'
- (5b) focused patient subject (S) of verbal clause
 nyaan-níi ní nyaatama
 food-NOM focus eat:PAS
 'The food is being eaten.'
- (5c) focused agent subject (S) of verbal clause
 sáree-n adíi-n ní iyyi-t-i
 dog-NOM white-NOM focus bark-F-IMPV
 'The white dog is barking.'

- (5d) non-focused agent subject (A) of verbal clause

haat-tīi okkótée goot-t-i
 mother-NOM pot make-F-IMPFV
 ‘Mother is cooking.’
 (Owens 1985a: 98–102)

The nominative (subject) case marking is often limited to certain nouns. It is restricted to masculine nouns in Saho, Afar, Dirayta, Sidamo, and Kemant. In Saho, only masculine nouns ending in vowels are involved. In Dirayta, some singulative masculine nouns are excluded from case marking (Tosco 1996: 28). In Rendille, the nominative occurs only on feminine nouns ending in a consonant, provided that the noun is noun-phrase final (Oomen 1981: 45). An overview of such restrictions is offered in Tosco (1994a: 226–8).

Recurrent formal characteristics of the nominative case are low tone and a final vowel *i*. In Somali, the nominative case is primarily marked tonally on the last element of the subject phrase by lowering of the tone of the noun (but by penultimate high tone in one of the declensions) and by a suffix *i* for some feminine nouns (Hyman 1981; Banti 1984; Lecarme 1988). Lowering of tone and final vowel *i* are also characteristics of the nominative in Saho and Afar. In K’abeena, the subject case is marked by retraction of the accent by one syllable (Crass 2005: 87). In Sidamo, masculine nouns change the final vowel to *i* or *u* for the subject case. In Oromo, the nominative is not always marked; when it is, it is marked by *-i* (m), *-ti* (f), or *-ni* plus voicing and lengthening the final vowel.

Nominative case marking is on the head noun and on its modifiers in Oromo; the nominative and absolutive distal demonstrative pronouns are used interchangeably (Owens 1985a: 87). In Arbore (Hayward 1984a: 150), the nominative is marked on the head only.

Sasse (1984a) reconstructs a nominative case system for Proto-Cushitic and case marking on nouns by changing the short final vowel *-a* for absolutive to *-u* or *-i* for nominative on masculine nouns only; there was a different situation for nouns ending in long vowels. Consequently, word-final reduction processes resulted in the restrictions of case marking that we find in the present-day languages. New nominative case marking also developed, such as Oromo nominative *-n*. In Burji, a new feminine nominative case was formed by suffixing the feminine subject demonstrative pronoun; these pronouns were distinct in case for masculine and feminine in Proto-East Cushitic: **ka* MASC.ABS, **ku* MASC.NOM, **ta* FEM.ABS, **ti* FEM.NOM for the proximal demonstrative pronoun (Sasse 1984b: 117).

Other case systems occur, too. The Agaw languages have a nominative–accusative system, and several languages have no distinction between nominative and accusative case (Southern Cushitic, Konso, the Dullay languages, and Beja). In Agaw the accusative

is marked; the nominative (subject) is unmarked and identical to the word form in isolation (Bilin and Awngi), except that in Kemant there is marking for the masculine subject as well. In Bilin and Kemant, the accusative is used with definite objects only (Hetzron 1976a: 17). The Agaw languages have non-core case marking as well.

There is a tendency for a correlation between definiteness and case marking. Hayward (1988a) shows that in Burji indefinite-base subject nouns are marked by the nominative case, including gender agreement. Definite expanded subject nouns are case-marked differently, by reduction of their final vowel, and, for masculine words, addition of *i*. Whether the nominative case in Burji is marked or not is determined by the degree of indefiniteness. Such a system is a natural development, as is explained by Comrie (1981: 123), since if case marking is variable, it might be expected in objects that are high in animacy and definiteness or in subjects that are low in animacy and definiteness, according to the odd-man-out principle; i.e. only the less common situation would be case-marked. In the case of Burji, the latter gave rise to an indefinite subject marker, which for masculine nouns is superimposed on definite marking.

6.13 Genitive

The genitive links the nominal modifier to its head, e.g. Somali *gúri-ga Calí* /house-the:ABS Ali:GEN/ 'Ali's house' (Saeed 1999: 175). The genitive marks the possessor in a predicative possessive construction, e.g. K'abeena (6). The genitive is also used with certain modifying suffixes. For example, in K'abeena the ordinal number suffix, the privative, and the similitive suffixes require genitive marking on the noun, e.g. *k'aak'ummeé t'eeni-gga* /september:GEN rain:GEN-similitive/ 'like rain in September' (Crass 2005: 100).

- (6) ti t'ák'utⁱ 'aye-rr^a
 DEM1:F:marked animal:NOM who?:GEN-COP:P
 'Whose animals are these?'
 (Crass 2005: 100)

In Oromo, as in many other Lowland East Cushitic languages, the noun plus a modifier noun form a tonal phrase and gender-sensitive tone rules apply. In Oromo a segmental gender-sensitive genitive-case marking in the form of a genitive pronoun (glossed 'associative') is optional (7a), but obligatory when replacing the head noun (10b) (Owens 1985a: 103–4).

- (7a) oww-íi (xan) ibiddá namá gubaha
 fire-NOM ASSOC.M fire person burns
 'Heat from a fire burns a person.'

- (7b) tan intalá suní arke
 ASSOC.F girl that.GEN saw
 ‘He saw that girl’s.’
 (Owens 1985a: 104)

In Afar there is a distinction between definite (marked by *-ih*) and indefinite genitives, with the latter used when no other modifier occurs. The Burji genitive also makes a definite/indefinite distinction (Hayward 2002: 63). In Agaw the genitive precedes the head noun and agrees in gender and number with the head noun (there is a competing genitive construction in which there is no agreement) (Hetzron 1976a: 19).

In Arbore, both the head and the genitive are potentially marked; the form of the head marking consists of tone patterns and suffixes and depends on the gender and phonological shape of the head noun, while the genitive noun is marked with a suffix containing *t* and has certain tone patterns, depending on the tone pattern of the head noun (Hayward 1984a: 150–7).

The phrasal properties of genitive case marking (e.g. in Awngi, in which genitive case is marked on every element of the noun phrase) are discussed in section 6.21.

6.14 Construct (or anti-genitive) case

In the Southern Cushitic languages the nominal modifier is not marked and follows its head while the head noun is marked for construct state involving gender agreement. Construct case refers to the marking of the head noun in a construction in which it is modified. In Iraqw, the construct case is marked by a high tone on the final syllable of the head noun: *afé-r mar’i* /mouths:CON-F houses/ ‘doors’ (the non-construct form of the head noun is *afee*), *murúu ‘ayma* /things:M:CON eating/ ‘food’ (the non-construct form of the head noun is *mura*). Nouns modified by an adjective or a relative clause are also in the construct case; if the head noun is understood, a gender-sensitive construct case pronoun is used, e.g. *ar mar’i* /INDEP.CON.F houses/ ‘those (i.e. mouths) of the houses’.

6.15 Non-core cases and clitics

The Agaw and Highland East Cushitic (HEC) languages have additional cases: K’abeena (HEC) has dative case, instrumental-comitative + locative case, and ablative case. Formally these are built on the genitive. The instrumental-comitative is also used for noun coordination; it has partial semantic and formal overlap with the locative (Crass 2005: 105–6).

Several of the Lowland East Cushitic languages and Southern Cushitic languages have case clitics that have a fixed position in the clause. Arbore, Dhaasanac, Elmolo, Dullay, Boni, Rendille, Somali, Dahalo, Alagwa, Burunge, and Iraqw have case clitics

that are linked to the verbal complex rather than to the noun phrase. The case clitics have also been termed ‘adpositional clitics’, or ‘applicative’. They typically have a fixed position preceding the verb and indicate the role of one of the noun phrases in the clause. The case clitic is not necessarily attached to that noun phrase (8e, f). The usual ‘cases’ are dative (8b), instrumental/comitative (8a, c), locative/allative (8d, e), and ablative (8d). The clitics get cliticized either to the following verb (8d, f) or to the preceding (pro)nominal (8c, e), which may often be an object pronoun, but again not necessarily referring to the object of the case relation (8d). It is because of these properties that these morphemes are referred to as clitics rather than suffixes (in addition to the fact that they need a host).

- (8a) 'um ye kí šúun
children me with gather.IMP.SG
'Bring me the children.'
(Dhaasanac, Tosco 2001)
- (8b) kúu lo-s-o ħab-it Juma
2SG.M OPT-DAT-O.M tell-2SG Juma
'You should tell Juma.'
(Alagwa, Mous unpublished)
- (8c) 'ana fu'umay-ħank-ⁱ ha-gi-ni-ri fa'a 'agim^a
1SG meat-N-DEM1 s1/2-O3PL-O.FOC-COM porridge eat.1SG.IPF
'ilibaa-goo-ba
milk-PRED-NEG
'I eat the porridge with *this* meat, not with the milk.'
(Burunge, Kießling 1994: 163)
- (8d) á-í-ká-soó-weyne
FOC-IO-from-to-drove.animals:we
'We drove the animals from [there] to [here] for him.'
(Rendille, Pillinger and Galboran 1999: 30)
- (8e) buura a-n suum-i qaas-áan
beer O.F-EXPEC poison-DIR put-1PL
'We'll put poison into the beer.'
(Iraqw, Mous 1993: 246)
- (8f) moor d'éeká ká-habta
home children at-remain
'It is the children who remain at home.'
(Boni, Sasse 1981b: 256)

Somali and Rendille allow stacking of case clitics; the other languages do not. The actual forms of the case clitics and a discussion of their history can be found in Appleyard (1990: 27) and Biber (1984: 51–2); see also Mous (2005) for the addition of Southern Cushitic.

6.16 Adpositions

The word category of pre/postposition is not straightforward. Most languages have special sets of nouns that translate like pre/postpositions and are at various stages of grammaticalization toward postpositions (or preposition, in the case of the Southern Cushitic languages). Hayward (2002) addresses the analytical problem of whether these relational clitics are case markers or postpositions, such as the locative marker *l* in (9), and whether some others are postposition or relational nouns, such as the direction marker *ula* in (9). Using the guiding principle that case markers do not attach to adpositions, he argues that relational nouns are not postpositions, because they often have the genitive case. And as a consequence, the relational clitics to which no core case can be attached are analysed as postpositions.

- (9) hiyawt-i 'eel-i ula-l adiik yane
 man-NOM well-GEN direction-LOC going he.is
 'A man is going towards the well.'
 (Irob Saho, Hayward 2002: 57–8)

Konso relational nouns can be defined as a separate word category on the basis of the fact that they do not occur as head in a noun phrase in a genitive construction, even though most can be shown to be derived from nouns. Relational nouns can be combined (10) and are often combined with a case clitic, such as locative *-opa* in (11), and directional adverbs.

- (10) iifsa tarapeesa g'ara-dela ca
 lamp table on-upwards be:IPF
 'The lamp is above the table.'
 (Daudey and Hellenthal 2004: 87)
- (11) aree-pp-opa-xata xooye
 here-at-DEST-downwards come:IMP
 'Come down to this place.'
 (Daudey and Hellenthal 2004: 88)

Dullay has cliticized postpositions for genitive-locative, benefactive, instrumental, directive, and ablative (Amborn *et al.* 1980: 89). Ts'amakko has four adpositional clitics that are attached to the noun phrase. Some, like the clitic *nu*, have a wide variety of functions (12) (Savà 2005: 103–7).

- (12a) 'ano beze=nu gaz-o 'ooš-i
 1SG.SUBJ Beze=from hair-M shave-3SG.UNM
 'I have shaved Beze.'
- (12b) bog'ol-k-o=nu q'ol-e c'ox-ind'a
 king-SG-M=from cattle-P milk-PLUR.IMP.B
 'Milk the cattle on behalf of the king!'
- (12c) laabl-e gaan-t-e=nu šeeg'-i
 cloth-F woman-SG-F=from bring-1SG.UNM
 'I brought the cloth to the woman.'

If the body part 'back' is used for 'up', the semantics of the relational noun may reflect a cattle-focused culture (Heine and Reh 1984). This is the case in Iraqw; Carlin and Mous (1995) argue that the model is not necessarily that of a cow but more that of a container, e.g. *baati i daandú do'* 'The iron sheets are on top of the house' with *daandú* meaning 'back (body part)-of' (Carlin and Mous 1995: 124), but see Reh (1999) for counter-arguments.

6.17 Adjectives

The category of adjective is not always clear-cut in Cushitic languages. In several languages there is a (static) verb conjugation type that plays an important role in the function of descriptive modification. This is the case in Somali and Afar (Banti 1988b: 208–13). These verbs form a conjugation class of their own and follow the head noun in a subject relative clause – for example, (13).

- (13) shalay baa ri-dii caddayd la qashay
 yesterday FOC goat-DEF.NOM be.white:PAST:3F IMPERS killed
 'Yesterday the white goat was killed.'
 (Somali, Banti 1988b: 209)

There are two other kinds of words in Somali that translate as adjectives: nouns that are used as predicates in a relative clause, e.g. *nin marti ah* /man guest is/ 'a man who is a guest' (Banti 1988b: 214), and attributives, that is, invariable nouns that modify the head noun, e.g. *meel sare* /place high/ 'a high place' (Banti 1988b: 217). These nouns cannot be used independently, and they need a dummy head noun when used predicatively, e.g. *waa kan sare* /DECL this high/ 'it is the higher one'. Many languages have a group of modifying nouns, e.g. Ts'amakko, Arbore, and K'abeena. Nevertheless, there is evidence for an independent category of adjective in many of the Cushitic languages. For example, Treis (2008: 256) argues for an independent category of adjectives in Kambaata on the basis of the fact that it has gender and case inflection markers that are distinct from those in other word classes.

Adjectives can be defined morphologically by number agreement. Adjectives are often the only word category that shows agreement with number, especially for languages that have gender agreement in the verb. In the Southern Cushitic languages, Rendille, Bilin, Oromo, Arbore, and Dhaasanac adjectives show number agreement, singular being unmarked. Ts'amakko is one of the few East Cushitic languages with no number agreement in adjectives.

The languages that show number agreement in adjectives tend to have various ways in which number is marked on them, but these are different from nominal number marking. The most widespread number agreement marking on adjectives is by partial reduplication of the initial CV, e.g. in Arbore (plus vowel lengthening in Dhaasanac, plus gemination of the root-initial consonant in Oromo), or complete reduplication, as in Rendille. Southern Cushitic and Bilin have *-an* for plural number agreement, K'abeena has *-aa'nut^a* and other markers, Rendille has a prefixed *a-* (Oomen 1981: 61), and Oromo has *'-óo* or *-óotá* (*-o* marks (p) gender in adjectives in Arbore).

Number agreement is claimed to add meaning for some languages. In Borana Oromo, Stroomer (1995) points to the distributive reading imposed by a reduplicated adjective, where 'a group of good bulls' is expressed by a singular adjective and 'scattered good bulls' is expressed by a plural reduplicated adjective. The same is valid for Iraqw (see the example on 'paper money' in section 6.9 on nominal number).

In addition to number agreement, adjectives show gender agreement. Agreement involving adjectives can be complex, as in Arbore or in Burunge and Iraqw where an adjective noun needs gender marking and the adjective is both number- and gender-marked. In Arbore we have three options for agreement on an adjective modifying a multiple reference noun; see (14) in which *-a* on the adjective marks (masculine/feminine) gender, *-o* marks (plural) gender, and reduplication on the adjective marks number.

Arbore adjective gender agreement

- (14a) 'ed'í-ha fa-fayya'an-á
 sheep.goats-M RDP-good-M/F
 'good sheep and goats'
- (14b) 'enug-mé-ta gu-guud-á
 kids-MR-F RDP-many-M/F
 'many lambs/kids'
- (14c) k'accó-ha 'í-'ils-o
 stones-P RDP-heavy-P
 'heavy stones'
 (Hayward 1984a: 201f.)

In some languages there is no gender agreement on the adjective itself, only on the head noun, e.g. Alagwa and Rendille. In others, such as Oromo and Ts'amakko, (gender) agreeing adjectives follow the noun without additional (gender) marking on the noun.

In Arbore the adjective is invariable and shows no agreement when used predicatively, in which case it needs a predicative suffix *-d'a*.

6.17.1 Adjectival derivation

Adjectives are derived from verbs by inchoative derivation in Ts'amakko, but in this language the inchoative suffix *-ay* is also present in the regular gender markers for adjectives: *-akko* (m), *-atte* (f), and *-ayke* (p). Southern Cushitic has an unproductive *-ar* deverbal adjectival suffix. Ts'amakko has *-al* (~ *-ol*) to derive adjectives from nouns.

6.18 Adverbs

Adverbs are not a clearly defined major word class in Cushitic languages. Most grammars include a section on adverbial expression in which expressions for time and place are presented. These expressions may be nominal in nature, lexicalized phrases, or difficult to categorize in a word class.

Some languages have a restricted set of adverbs that can be defined syntactically as admissible in the verbal piece. For Iraqw these are *adá* 'quickly/soon/immediately', *adawa* 'all together', *ak* 'more/further', *al* 'together', *baló* 'one day / ever / never (in combination with negation)', *geerí* 'ahead/firstly', *lak* 'almost', *mak* 'somewhat', *malé* 'again/first', *qaró* 'already/nearly', *sang* 'now/just/already', *tawo* 'in vain / uselessly', *tsibi* 'truly', *tsuwá* 'for sure', *tibe* 'again' *algee* 'slightly / a bit'. In Alagwa a number of adverbs seem to be derived by *-nkoo*: *bankóo* 'first', *hinkóo* 'now', *lankóo* 'some time / some day', *ʎankóo* 'before'; others end in *-ee*: *baree* 'if', *sigee* 'far', *tsigée* 'fast/early', *tsobolee* 'truly'. Other languages, too, have adverbs that end in *óo*, for example Oromo *fágóo* 'far', *d'íhóo* 'near', *dikk'oo* 'little' *gúddóo* 'very'. In K'abeena adjectives in the locative case are used as adverbs. K'abeena has a few de-adjectival adverbs derived by the simulative suffix *-gg^a* (Crass 2005: 239). Oromo has some adverbs that modify the verb or adjective that they precede, such as 'much, very', 'little', 'very'.

In the Oromoid languages Oromo and Konso, postpositions can be used adverbially, e.g. the Oromo postposition *waj* 'together' in *núu wáj d'ufe* 'he came together (with someone)' (Owens 1985a: 121).

6.19 Numerals

Most Cushitic languages have basic numbers for 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 100, and 1,000. The highest numbers are often borrowed, e.g. in Alagwa 100 and 1,000 are borrowed from Swahili; in Ts'amakko, they are borrowed from Amharic.

In the Lowland East and Southern Cushitic languages, numerals are a subset of nouns, but they mostly follow the noun and without any genitive marking. The head noun does not need to be plural when followed by a number higher than 1 in Dullay and Somali, among others. In Somali, numerals precede the head noun.

Being nouns, numerals have inherent gender. In Iraqw, 1 to 9 are feminine, but the units 10, 100, and 1,000 are masculine; in Arbore, only the units 1 and 100 are masculine, the other numerals are feminine or plural. In several languages the nouns for the units such as 10, 100, and 1,000 tend to have multiple-reference forms (though not the unit 10 in Arbore).

The higher numbers 11 to 99 are formed by the formula {term for '10(s)'} *n* {term for 'and'} *m*, in which the multiplicator *n* is usually expressed by simple juxtaposition and addition is expressed by the common coordinator in the language. For example in Arbore, '87' is expressed as *tommón súye san tuzba* /10:CON 8 and 7/ (Hayward 1984a: 211). Multiplication by 1 is optional or not expressed. This system operates in Arbore, Southern Cushitic, and Dullay, among others. The word for 10 can either be used in its singular form (Arbore) or its plural number form (Southern Cushitic and Dullay).

A slightly different system is one in which the numbers 20, 30, etc., are lexicalized but are etymologically related to the basic numbers 2, 3, etc. This is the case in Borana, K'abeena, Dhaasanac, and Afar.

Ts'amakko has a different basic unit, 20, which is a word meaning 'body'; the numbers between 10 and 19 are formed by 10 followed by the number between 1 and 9, without a coordinator (Savà 2005).

Numerals do not agree in gender with the head noun. In Dhaasanac, the word 'head' may intervene between the head noun and the numeral as a kind of generalized numeral classifier: *kulic mé tiki'd' d' i* /day head one/ 'one day / once upon a time'. Often and exceptionally the numeral 1 does show gender agreement (Arbore, Ts'amakko, and Alagwa). In Dhaasanac the numeral 1 has a different form when used independently, as in counting, and when used as a modifier. The numeral 1 can express 'a certain', as in Alagwa *wokoo* 'a certain' from *wak* 'one'.

In the noun-numeral construction with no gender agreement, the noun is usually in the singular, e.g. in Oromo, Ts'amakko. An example is *gulm-a salah* /beer.calabash-F four/ 'four beer calabashes' (Ts'amakko, Savà 2005: 87–8).

In Somali, numerals are the head of the noun phrase when they modify a noun, e.g. *áfár naagóod* /four.ABS women:GEN/ 'four women' (lit. 'four of women') (Saeed 1999: 70).

Numerals occur in subject, object, predicate, and adverbial positions. Arbore numerals have predicative forms containing the predicative suffix *-d'*, which is also used for adjectives in the predicative function.

The syntactic behaviour of numerals is different in Highland East Cushitic, Agaw, and Beja, where the order is numeral–noun, and the numeral is more a modifier and less a noun, e.g. K'abeena *lamalu 'annúcci-'ne* /seven:M:marked father:ABL-IPL.POSS/ 'among our seven forefathers' (Crass 2005: 211).

Not all languages have ordinal numerals: Arbore lacks them; in Dhaasanac, the element *ki* is added after the head noun and a determiner after the numeral used as ordinal, for example *máa ki 'afuur-a lman ki* four-DET/ 'the fourth man' (Tosco 2001: 106). In some languages ordinals are derived from cardinals; for example, Borana has a suffix *-eesoo* for ordinals, e.g. *af-eesoo* 'fourth'; this suffix contains the adjectival suffix *-oo* (Stroomer 1995: 61). The ordinal for 'first' is usually lexically different, e.g. 'érkob 'first' in Dhaasanac; *durá* in Oromo from *dúrá* 'in front'.

In Dullay, numerals can be used as verbs with inchoative meaning, e.g. *salh* 'become four', from *salah* 'four' (Amborn *et al.* 1980: 97).

The category of numerals can include quantifiers. This is, for example, the case for Arbore *búli(h)* 'all/every' and Alagwa *toomee* 'all', *túk^u* or *tík^u* 'all/whole', and modifying question words such as *mi* 'which?', *miili* 'which?', *mag(a)* 'how many?'. In K'abeena, the quantifier 'all' behaves like other numerals. In Oromo *heddúu* 'many' and *díkk'óo* 'few' are numerals and do not co-occur with numbers.

Number gestures vary according to geographical area. In the Southern Cushitic languages, showing numbers by gestures is in line with the common East African system: 2 = forefinger and middle finger brushing against each other; 3 = forefinger, middle finger and ring finger (no movement); 4 = forefinger and middle finger as pair separate from ring and little finger in a V; 5 = raised fist, often moving; 6 = 3 + 3; 7 = 3 + 4; 8 = 4 + 4; 9 = 4 + 5; 10 = two fists hitting each other. Dhaasanac has the East Nilotic system of Maasai and Turkana, in which 2 is presented by the middle and the forefinger extended and brushed against each other; 3 is presented by forming a circle with the top of forefinger and thumb together and the other fingers extended; 4 as described above; and 5 by a fist in which the thumb appears between pointing and middle finger (see Tosco (2001: 107); compare with Zaslavsky 1973: 250 and Gulliver 1958). The counting gestures are different from the gestures showing numbers and they display a great deal of variation and areal influence. Counting on finger digits is very common in Ethiopia; counting by closing fingers of one hand starting with the little finger is common in Kenya and Tanzania.

6.20 Ideophones

Cushitic languages are no exception to other African languages in that they have an extensive word category of ideophones. It has, however, rarely been described. Dhoorre and Tosco (1998) is a thorough study of Somali ideophones with an impressive set of

examples; Crass (2005) pays due attention to them; they are described for the Southern Cushitic languages; see also Mous (2000) on ideophones riddles.

Ideophones are not always a separate word class. In Somali, ideophones are feminine nouns; in Dhaasanac, they are a sub-class of adverbials or nominals (Tosco 2001: 249–50).

Some languages have grammatical morphemes that are limited to sound-symbolic words. This is the case for K'abeena, which has a nominalizing suffix *-iti* that is restricted to ideophones (Crass 2005: 84, 233). In Iraqw, there is a de-ideophonic verbalizing suffix *-eel*.

As in many other languages, one of the ways to introduce an ideophone is by the verb 'to say' or another direct speech introducer. This is the case for Alagwa, Iraqw, Somali, and K'abeena. In K'abeena the verb 'to make' is used in transitive or causative constructions (Crass 2005: 229); see also section 6.24 on 'to say'.

There are special phonological characteristics of ideophones: uncommon sounds, and uncommon sequences of sounds. In K'abeena, ideophones often end in a geminate consonant. And there is often expressive lengthening, tone, and reduplication.

6.21 Structure of the noun phrase

The Cushitic languages are divided into languages with head-final and those with head-initial noun phrases. This does not correlate with differences in basic word order or other characteristics that are universally associated with the position of the head, such as position of the adverb, pre- or postpositions, or prefixing or suffixing strategy. The distribution of head-final vs head-initial noun phrases is areal rather than genetic: noun phrases in Lowland East Cushitic and Southern Cushitic are head-initial; in Afar-Saho, Highland East Cushitic, and Agaw, noun phrases are head-final. (The areal nature of the order is evident from map 3 in Banti 1988b: 254).

Tosco (1994b) provides a typological overview of noun phrase syntax in Cushitic (see table 6.8) and proposes a historical scenario in which modifier–head order is an innovation in Highland East Cushitic and Saho/Afar that resulted from grammaticalization of a left cleft construction; this explains the recurrent determiner–gender affixes on the preposed modifiers originating from copulas in Highland East Cushitic.

Bilin (Agaw) has both orders: head-final and head-initial. As in Beja, the order head–modifier is used to emphasize the modifier (Morin 1995: 46). In Dhaasanac, possessive phrases can be either head-final or head-initial; the head-final phrases require a final possessor or emphasis marker, e.g. *cár b'íl=lé* /snake house-EMPH/ 'the house of the snake', vs *b'íl caríet* /house snake:GEN/ 'snake house' (the emphasis marker is absent in compounds with dependent-head order such as *b'íl 'afu* /house door/ 'door of the house' (Tosco 2001: 254–5)).

Table 6.8 *Word order patterns in noun phrases in selected Cushitic languages.*

Language	Adj, N	Gen, N	N, Poss	Dem, N	Num, N	Rel, N	No. of Mod N orders	No. of N Mod orders
<i>HEC</i>								
Hadiyya	Adj N	Gen N	Poss+N	Dem N	Num N	Rel N	6	∅
Kambaata	Adj N	Gen N	Poss N, N+Poss	Dem N	Num N	Rel N	6	(1)
Sidamo	Adj N	Gen N	N+Poss	Dem N	Num N	Rel N	5	∅
Gedeo	Adj N	Gen N	Poss N	Dem N	Num N	Rel N	6	∅
Burji	Adj N	Gen N	Poss N	Dem N	Num N	Rel N	6	∅
Afar	Adj N	Gen N	Poss N	Dem N	Num N	Rel N	6	∅
<i>LEC</i>								
Dullay	N Adj	N Gen	N+Poss	N Dem	N Num	N Rel	∅	6
<i>Oromoid</i>								
Konso	N Adj	N Gen	N Poss	N Dem	N Num	N Rel	∅	6
Oromo	N Adj	N Gen	N Poss	N Dem	N Num	N Rel	∅	6
<i>Omo-Tana</i>								
Somali	N Adj	N Gen, Gen N+Poss	N+Poss	N Dem	Num N	N Rel	1 (2)	5
Arbore	N Adj	N Gen	N Poss	N Dem	N Num	N Rel	∅	6
Bayso	Adj N	N Gen	N Poss	Dem N	N Num	N Rel	2	4
Dhaasanac	N Adj	N Gen	N+Poss	N+Dem	N Num	N Rel	∅	6

Source: Tosco (1994b).

The presence of a modifier within the noun phrase requires that the head noun be repeated by a gender-sensitive marker. These markers are etymologically linked to *ku* (m), *ta* (f), and *ki* (p); but more often than not these are reduced to *kV* (m/p) and *tV* (f) or even further reduced to suffixes. The amalgamation of such a marker with the head noun results in the construct state of the head noun, i.e. the shape of the noun when modified. The Southern Cushitic languages require a gender-sensitive genitive marker before a modifier: for the independently used modifiers, this has become part of the possessive or demonstrative pronoun; when following the noun, the marker is fused with it, resulting in construct case on the head noun. Take, for example, the following noun phrase (15) from Iraqw, in which the gender linker is realized as *r* before the possessive suffix, as *ta* in the independent demonstrative, and as *ar* before the final modifying noun phrase.

- (15) dooʎa-r-ók ta-qá' ar bará qaymo
 hoeing-F-2.SG.POSS INDEP:F-DEM3 INDEP.CON.F in:CON field
 'that hoeing of yours in the field . . .'

A head-final language such as K'abeena also requires a gender-sensitive marker for nominal modifiers. The determiner *ta* (agreeing with the head noun in gender) precedes the nominal modifier 'hand' in (16a) and the genitive pronoun 'mine' in (16b); it is also needed before relative clauses.

(16a) ta 'anga forkott^u
 DEM1:F:UNM hand:GEN rawness:NOM
 'the rawness of this hand . . .'
 (Crass 2005: 325)

(16b) ta 'ii sažžat^a
 DED1:F:UNM 1SG.GEN advice:ACC
 'my advice'
 (Crass 2005: 326)

Some languages require a phrase-final determiner *ka*. In Dhaasanac, this general determiner is repeated if two (deictic) modifiers are used, for example, 'adda kú=*a* ti=*a* /aunt your-DET that-DET/ 'that aunt of yours' in which the determiner *ka* appears as *a* (Tosco 2001: 253).

In Oromo, a possessor, relative clause, numeral, 'which', demonstrative, 'all', and 'other' can all occur without a head noun. The genitive (associative) marker must be used in this case for relatives and third-person possessives, including nominal modifiers.

Modifiers that follow the noun are suffixes, clitics, or independent words. Determiners such as demonstratives and possessives may be suffixes to the noun, as in the Iraqw example (15) above. These can also occur as independent words.

The order of modifiers in the noun phrase varies from language to language. In Iraqw, the order is noun-possessive/demonstrative/indefinite suffix - demonstrative/indefinite pronoun-numeral/adjective/adverb/relative clause. In Oromo, it is noun adjective possessor-relative/numeral/'which'/other-demonstrative-only/all. Numerals often follow the adjective, e.g. Ts'amakko 'orgayn-e busk-e xobin /male.goat-PL.P castrated-P five/ 'five castrated male goats'.

In addition to linkers with gender agreement, other agreement phenomena may occur within the noun phrase. Adjectives may agree in gender, in addition to the gender linker on the head noun and, independently, in number, as discussed in section 6.9 above. Several languages show case agreement within the noun phrase. In Oromo, both the noun and the following adjective agree in case marking. There is case agreement in all qualifiers in Awngi. In example (17) the locative that refers to the whole noun phrase is repeated after each word in the final position; the plural genitive referring to 'the doorways of' is found after each word in the higher genitival phrase before the locative; and the masculine genitive referring to the 'nice house of' is found before the locative in the lower genitive phrase. There is much variation in this area of noun-phrase syntax among

common for a definite referent not to be marked for definiteness. In section 6.21 on the noun phrase, we have seen that definite markers may occur several times or at certain positions in the noun phrase for grammatical purposes only. In Rendille, the relative marker is used on nouns that are modified.

When there is a noun phrase with several nouns, it is commonly impossible to use the position of a definite marker to indicate differences in definiteness between the nouns. For example, in Somali a noun is marked as definite if it modifies another definite noun, and no distinction can be made between ‘a’ and ‘the’ in ‘car of the company’, *baabuurka shirkada*.

Several languages have definite markers that are distinct from demonstratives. K’abeena has a definite marker *-n-*[gender linker] (always followed by gender / proximal demonstrative markers) which is added to most numerals. It can be combined with other definite markers, e.g. *gú’mi-n-ti-s^e mancot^a* /all:F:NOM-DEF-F:NOM-DEF.F woman:ACC:COP.F/ ‘All are women’ (Crass 2005: 120–1).

Definite markers are often combined with other definite modifiers. For example, Somali possessives require an additional definite marker. Definite markers can also be used with inherently definite words such as personal names. In Somali, personal names that are modified by a relative clause will be marked as definite; geographical names contain a definite marker, e.g. *ingriiska* ‘United Kingdom’. Iraqw allows demonstratives after names and personal pronouns (Mous 1993: 90, 282).

The interplay of definiteness and number is still to be researched. In Somali, the noun form that is unmarked for number will be used in indefinite contexts, e.g., *dad baa yimin* ‘people have come’; but in combination with the modifier ‘all’, the noun must be definite, e.g., *dadka oo dhan way siman yihiin* ‘all people are equal’; the noun must also be definite in general statements such as *dadka ma noolaan karocunto la’ aan* ‘a person cannot be without food’.

6.21.3 Demonstratives

The languages vary greatly in the number of distinctions in degree of distance marked by demonstratives, from only one in Konso to four in the Southern Cushitic languages. Oromo, K’abeena, Dhaasanac, and Somali have two, proximal and distal; Afar and Rendille have three degrees of distance. Within the same branch, the number of distinctions may be different: within the group of Sam languages, Somali has two degrees, Rendille has three, and Boni has three, of which one is used referentially. Whereas deictic adverbs in some languages refer to the same, higher, or lower altitude, demonstratives refer to the distance from the deictic centre, the speaker.

It is common for demonstratives to require gender agreement with the head noun, as is the case in Somali, Rendille, Southern Cushitic, K’abeena, and Khamtanga. In Oromo

this is the case for the proximal demonstrative only and not for the distal demonstrative. There is no gender agreement in Dhaasanac.

6.21.4 Demonstrative pronouns

The Somali and Rendille demonstratives may be used independently. In the Southern Cushitic languages, independent demonstratives need a gender-sensitive base that is different from the gender linker when used as a suffix. Dhaasanac uses the word *see* ‘thing’ as head when demonstratives are used independently. K’abeena uses independent forms that have a prefix stem *hi* plus gemination of the second consonant, gender marking, and a definite suffix (Crass 2005: 128–9), while the Afar demonstratives need a suffix *h* when used independently (Bliese 1981: 15–16).

Several languages have separate referential markers, but in others demonstratives are used to refer backward or forward in discourse and in time. Kießling (1994: 80–1) discusses the discourse functions of Burunge third- and fourth-degree distance demonstratives, which are proximal non-spatial and distal non-spatial, where non-spatial refers to something not visible. The proximal non-spatial form is used for a referent that has been mentioned earlier in the narrative and that should be readily available in the hearer’s memory; this demonstrative will be used for the protagonist of the story. The distal one is used for referents that have been introduced much earlier and might not be prominent in the hearer’s memory; it is also used for contrasting the opponent to the protagonist. In Iraqw the third- and fourth-degree distance demonstratives are the only ones that can occur reduplicated, and this only in referential use.

Demonstratives are used as definite markers even in languages with separate definite markers. Arbore uses the proximal demonstrative *-ló* for definiteness, which can be added to phrases containing the distal demonstrative *-átto* (Hayward 1984a: 191); in Konso there are two markers *-se* and *-ose* (plural *sene*) for definiteness and demonstrative respectively, and the difference between the two is far from obvious. A demonstrative form *se* – and variants thereof – is widespread in south Ethiopia across language groups: Dirayta has a proximal demonstrative *se* as an intruder in the demonstrative system (see Tosco 1996); Dullay has a proximal demonstrative *se*, and distal *-ssa*; Dime (South Omotic) has *sini*; Koorete (Ometo) has *se-*; Maale (Ometo) has *se* and *soo* for elevation deixis; Zayse (Ometo) has distal *so*; Gamo (Ometo) has *sekki*; and Burji has *-shi*. Outside the area, *se* is the invariant demonstrative of Yaaku.

6.21.5 Deictic adverbs

Deictic adverbs ‘here’ and ‘there’ are sometimes derived from demonstratives, as in Alagwa *ta*, *tay-s*, *ha-qa*, and *ha-d^a*. But these are used alongside *diitⁱ* and *diis*,

based on the word *dii* ‘place’ and a demonstrative of the first and the second degree, respectively.

Dirayta has a system of elevation deictic adverbs distinguishing (i) higher elevation ‘*ele*, (ii) lower elevation *hate*, and (iii) level elevation *da-se*; the same distinctions are made in Konso. The distinctions of elevation are only made for remote distance, i.e. when facing away from the mountain slope (Hayward 1980: 285). Some Omotic languages of the area, such as Maale, Dime, and Zayse, have this feature too.

Separate referential markers exist, for example in Oromo, where something forementioned is *xáani/táani*, the proximal demonstrative is *xana/tana*, and the distal one is *sana*, which is invariant for gender (Owens 1985a: 87–8). In Dhaasanac, *giri* is used for anaphoric deixis (Tosco 2001: 226–30). Awngi has a referential article *-ká* ‘used strictly in the sense of “the aforementioned”’ (Hetzron 1976a: 39). Boni distinguishes between back-reference in discourse and forward-reference (Sasse 1980: 81).

6.21.6 Particular marker

There are two types of particular markers. One is used as a marked indefinite specific, similar in meaning to the indefinite article in English, but is only used when it is crucial enough to mention that the entity from a relevant set is to be understood as new in the discourse. Examples are Iraqw *-kool-kaal-kaariya* ‘a certain’, with double gender marking, i.e. in the usual gender linker that precedes the marker and in the form of the marker itself (18). The other kind of particular marker has the meaning ‘one of a set’. This is used in Boni *-óo* to indicate a singular, specific referent (Sasse 1980: 81). This *-óo* is used, for example, in *reg nísóo* ‘man half-*-óo*’ to refer to one half of the men, thus to a part of a given set (Sasse 1980: 84). Dhaasanac uses *náa* for particular deixis; it is often followed by the proximal demonstrative and the general determiner (Tosco 2001: 227–8).

- (18) loo’a-r-ka wak-ee garma-ko i hootat-ín
 day-F-INDEF.F one-BGND boy:M-INDEF.M 3 live:HAB-DUR:3M
 ‘One day a certain boy was living, . . .’
 (Mous 1993: 93)

6.21.7 Which?

Several languages have modifying question words that show similarities with the markers discussed above. Rendille has a suffix *-koh* ‘which?’ (Pillinger and Galboran 1999: 18–19); Oromo has *xámí/támí* (Owens 1985a: 88); Dirayta has *hekámm/hekánt/hekammad’ d’u* (Hayward 1980: 286); Arbore has *búkolbítokoltoko* for

m/f/p as selective interrogative definitives, *bíteh* ‘whose?’ and *kaakó* ‘how many/much?’ (Hayward 1984a: 199–200). The question word ‘which?’ is the interrogative counterpart of the particular marker. The descriptions are not detailed enough to determine whether the question word ‘which?’ refers to a predefined set (‘which of those?’) or to a set to be construed in discourse.

6.22 Pronouns

There are various types of personal pronouns. One set of personal pronouns is often analysed as a special set of nouns; they can be modified by the usual nominal suffixes such as definite and demonstrative suffixes. Personal (pro)nouns typically distinguish person, number, and gender. Zaborski (1989) provides an overview of Cushitic independent pronouns. The person distinctions made are first, second, and third. In Somali, Rendille and Dhaasanac, there is a distinction between inclusive and exclusive first-person plural. Gender distinction is usually restricted to the third person but sometimes extends to the second person, as in Beja and Dahalo, for bound pronouns only (Tosco 1991: 37). Beja has gender distinction in the second-person plural, as does Dahalo, but for the bound pronoun only (Tosco 1991: 37). Southern Cushitic has gender distinction in the second person (singular) only and not in the third person.² There is no gender distinction in pronouns in Dhaasanac (Tosco 2001: 210).

Possessive markers (suffixes and pronouns) usually show the same distinctions as the personal nouns. However, in the Southern Cushitic languages the distinction in gender for the second person is not present in the possessives, which do not distinguish gender of the possessor at all. On the other hand, in Harso-Dullay the possessive distinguishes gender in the second person but not in the independent personal pronoun (Amborn *et al.* 1980: 91, 97). In K’abeena, the third-person possessive *s* also acts as a definite marker (Crass 2005: 114–15).

Final elements of the noun may be elided when a possessive is used, for example the feminine linker *t^a* is deleted before possessives in K’abeena (Crass 2005: 114). Possessive suffixes and pronouns often require additional definite markers. In Somali, where this is the case, such definite marking is left out when the possessed noun is a kinship term; the same applies to Khamtanga (Appleyard 1988b: 18).

In addition to the independent pronouns, most languages have other sets of personal pronouns that are more pronominal and less like a subset of nouns. In Somali there are subject pronouns and two series of object clitic pronouns; the subject pronouns cliticize to the left onto the right of the focus marker, and the object clitic pronouns are positioned within the verbal complex; the second series is used only when there are two non-third-person objects, the third-person object pronouns being zero. Third-person object pronouns are zero in Boni, Rendille, Konso, Elmolo, and Dhaasanac. Dahalo,

Southern Cushitic, Dullay, and Oromo have object pronouns, too; see Appleyard (1990) and Biber (1984: 53–4).

A non-specific subject pronoun that is different from any of the other pronouns, like French *on* or German *man*, is found in Somali *la*, Rendille *la*, Boni *li*; Arbore *na*, Elmolo (*a*)*na*, and Southern Cushitic *ta* or *da*. In some of the languages, this option is in addition to the possibility of a passive derivation on the verb. The semantics of the Southern Cushitic *ta* is not just non-specific subject but includes senses of collectivity and of human agent. For Iraqw, the impersonal subject marker can also be used to refer to a specific collective group, yet there is no plural marking on the verb. In Burunge, the impersonal subject pronoun is so unspecific that no independent personal pronoun can be used in connection with it. In Arbore, the impersonal subject is identical in form to the first-person plural marker. In Iraqw, the impersonal subject marker can refer only to human agents, while in the related language Burunge it can be used even with weather verbs, i.e., verbs in which reference to anything remotely related to a controlling agent is absent. The Elmolo equivalent of the impersonal is termed an ‘intransitive’ prefix by Heine, since it suppresses the possibility of expressing two complements; it too can be used with agentless transitive verbs, such as ‘to have diarrhoea’ (the undergoer is indicated in the object pronoun) (Heine 1980). The Arbore impersonal subject construction is also used for middle situations, which do not have the clear distinction between agent and patient that is found in a standard active transitive situation, as is evidenced by example (19). The object pronoun in the Elmolo example (20) shows that the undergoer is an object.

- (19) *ína k’are*
 IPS shave
 ‘He shaved himself / he was shaved.’
 (Arbore, Hayward 1984a: 308)

- (20) *kesé ené-ke-(e)ld-e*
 2SG IPS-O.2SG-have.diarrhoea-PF
 ‘You have diarrhoea.’
 (Elmolo, Heine 1980: 198)

All the languages that have object pronouns have a reflexive/reciprocal pronoun. Oromo has a distinct reciprocal pronoun. A language like Somali has a combined reflexive/reciprocal object pronoun *si*; others, like Konso, have a separate reflexive, *isi*, and a reciprocal, *ollí* ‘together / each other’. The reflexive/reciprocal pronouns have a root similar either to the Oromo distinct reciprocal root *wali* – as is the case in Dhaasanac, Elmolo, and Arbore – or to the Oromo reflexive *ffi* – as is the case in Dullay, Konso, Boni, Rendille, and Somali – or a root that is related to the first-plural pronoun,

as is the case in Alagwa, Burunge, and Iraqw. The Arbore reflexive is not a separate object pronoun but consists of the object pronoun followed by *tta* and *wal-* prefixed to the verb (Hayward 1984a):

- (21) yé-tta ([éfi]) wal-síbe
 I-SFX léhe³ REFL-anoint
 'It was I that anointed myself.'
 Arbore (Hayward 1984a: 227)

6.23 Verbs

Verbal inflection typically includes the expression of aspect (and tense, mood, and evidentiality), dependent/independent clause, person (subject) marking, and negation. Verbal inflectional morphology tends to be complex. Various conjugational classes have to be distinguished; sometimes this reflects the application of morphophonological rules, and sometimes the classes are related to derivation, but it often goes beyond that. The most basic aspectual distinction which most languages display is that of Perfective vs Imperfective, often distinguished by a vowel difference. In addition many languages have a dependent or subjunctive third type with yet a different 'aspect'-encoding vowel. Zaborski (1975) offers a comprehensive overview of the Cushitic verbal system in a historical approach; see also Zaborski (1997, 2005b), Voigt (1985, 1996), and Banti (1987a and b, 1994, 2001) for historical scenarios for the development of the main types of conjugations in Cushitic.

There are many structurally different conjugations. First of all, several languages distinguish between a prefix and a suffix conjugation. The suffix conjugations are dominant. Then there are paradigms with reduced person agreement. New formations typically arise in the form of compound tenses or auxiliary constructions.

6.23.1 Prefix conjugation

The prefix conjugation is the remnant of the pre-Cushitic conjugation type and survives in a number of languages, but typically in a restricted set of frequent verbs. For example, in Somali it is only the verbs 'to be', 'to come', 'to know', 'to lie', and 'to say' (Saeed 1999); in Awngi only 'to bring', 'to come', 'to know', 'to remain' and 'to be' (Hetzron 1969: 44ff.). Arbore has at least twelve prefix-conjugation verbs which follow two different conjugation patterns (Hayward 1984a: 261–5). Beja, Afar, and Saho have larger numbers of prefix-conjugation verbs. In Afar, the prefix conjugation is growing because of borrowings from Semitic languages (see Hayward 1978b and Hayward and Orwin 1991). In the prefix conjugation of Afar, the person components and the first-plural number component are prefixed; first singular, third masculine and third

Table 6.9 Prefix conjugation in Afar.

	'to eat'
1sg	<i>ok'me</i>
2sg	<i>t-ok'me</i>
3sgm	<i>y-ok'me</i>
3sgf	<i>t-ok'me</i>
1pl	<i>n-ok'me</i>
2pl	<i>t-okmee-'ni</i>
3pl	<i>y-okmee-'ni</i>

Source: Bliese (1981: 110).

plural are differentiated (see table 6.9); aspect and mood are indicated by stem-vowel mutation (identical stem vowels, but not *a*, for the perfect, and *a* as first stem vowel in the non-perfect) (Hayward 1978b: 355–9).

6.23.2 Person marking

Person marking on the verb usually has seven values: 1sg, 2sg, 1pl, 2pl, 3masc, 3fem, 3pl. Beja is deviant in that it consistently distinguishes between 2masc and 2fem. A common characteristic is what Tucker called the 'block pattern': the endings of 2sg and 3fem are identical, and the endings of 1sg and 3masc are identical. The identity of a 2sg and a 3fem verb form, namely *t* or its reflex, is indeed shared in all of Cushitic; the identity of 1sg and 3masc is common but is not always significant, as it may be the result of a merger of two different endings (Banti 2001). The 2pl and 3pl forms are often plural forms based on 2sg and 3masc respectively. Thus, there are usually at least three different person forms: 1sg/3masc, 2sg/3fem, and 1pl. In Dhaasanac there are only two forms: the distinct 1pl form is absent and is replaced by two forms: the 1sg+ form for the inclusive 1pl form and the 2sg+ form for the exclusive 1pl form, thus: 1sg/3masc/3pl/1pl.incl and 2sg/3fem/1pl.excl/2pl (Tosco 2001: 112). In addition, Cushitic languages often have a verb form that is not inflected for person (or that has the 3masc ending, which is often zero). This form is used for expressing an unspecified subject (French *on*, German *man*); in K'abeena, it is also used for respect (Crass 2005: 157). In Arbore, the third-person plural verb form is used for impersonal clauses; in addition, a clitic *na* has to be used on either the focused element or the selector (subject clitic) (Hayward 1984a: 304–8).

6.23.3 Suffix conjugation

The most common conjugation type in Cushitic, the suffix conjugation, goes back to a construction of a nominalized verb followed by an inflected auxiliary, a proposal

Table 6.10 *Suffix conjugation in Ts'amakko.*

	'to drink'	'to eat'
1sg	'úg-í	žf -i
2sg	'úg-dí	žf -tì
3sgm	'úg-í	žf -i
3sgf	'úg-dí	žf -tì
1pl	'úg-ní	žf -nì
2pl	'úg-dè	žf -tè
3pl	'úg-è	žf -è

Source: Savà (2005: 146)⁴.

which is attributed to Praetorius (1893) (see Banti 2001 for a full discussion). The suffix conjugation typically distinguishes the seven person forms mentioned above and is marked for aspect. As an example, I give the conjugation of Ts'amakko (table 6.10).

Conjugation classes of the suffix conjugation are defined along formal and/or semantic lines. In Somali, three main conjugation types are based on whether the verb has no derivational suffix, a causative suffix, or a middle suffix. In Iraqw as well, different conjugations are set up for verbs ending in *w*, as in the inchoative suffix, and those ending in *m*, as in the durative suffix. In Dhaasanac, verbs ending in a coronal constitute a class apart (Tosco 2001: 123). The Awngi verbal conjugation is complex, with tonal differences for groups of verbs (see Hetzron 1969).

6.23.4 Reduced paradigms

Several languages have inflectional paradigms with reduced distinctions in subject marking. Banti (2001) calls it the Cushitic 'second suffix conjugation' or the 'East Cushitic Stative conjugation'; he also discusses the possible correlates of this paradigm in Semitic and Old Egyptian and suggests that the lack of distinction in gender in the third person is a result of the fact that the person endings go back to possessives, except for the third person, where no possessive was used (Banti 2001: 21). In the reduced paradigm there is no difference between masculine and feminine third person. Examples are the Saho affirmative and negative non-past paradigms, the rare Somali inflected paradigm for affirmative and negative non-past (usually the non-past is rendered by an invariable form plus an inflected form of 'to be'), the Burji affirmative past, and the Konso adjectival conjugation. In Saho-Afar and in Somali, the reduced paradigm is characteristic of: a lexically defined group of verb roots including 'to be' or copula, 'to have', and 'to lack'; emotion-cognitive verbs such as 'to hate', 'to love', 'to know'; and adjectival concepts such as 'white', 'red', 'new', 'long', 'bad'. Hayward (1978c) shows that so-called 'adjectives' in Afar are in fact a category of stative verbs and that

Table 6.11 Negative dependent forms of *kat* 'to sell' in Konso.

	Perfective - <i>nin</i>	Imperfective - <i>ninkinin</i>
1sg	<i>an kannin</i>	<i>an kanninkinin</i>
2sg	<i>ak kannin</i>	<i>ak kanninkinin</i>
3sg	<i>a kannin</i>	<i>a kanninkinin</i>
1pl	<i>ainu kannin</i>	<i>ainu kanninkinin</i>
2pl	<i>aishina kannin</i>	<i>aishina kanninkinin</i>
3pl	<i>aishoona kannin</i>	<i>aishoona kanninkinin</i>

their verbal category is shown by subject agreement, among other criteria. Additional arguments are presented by Vanhove (2000) for the Djibouti Afar dialect of Tadjoura. Negative stative forms also exist in Afar, but these cannot occur in the attributive position (Hayward 1978c: 13). The stative verbs of Afar are the 'quasitransitives' 'to have', 'to lack', 'to like/love', and 'to hate' ('quasi' because these verbs cannot be passivized); equatives 'to be (copula)' and 'not to be (negative copula)'; attributives such as 'good', 'thin', 'difficult', and many more. An example of a reduced paradigm is the following:

Saho affirmative non-past of 'usuba' 'to be new'

- (22) 1sg 'usubiyó
 2sg 'usubitó
 3sgm 'usubá
 3sgf 'usubá
 1pl 'usubinó
 2pl 'usubitín
 3pl 'usubón

(Banti 2001: 8)

Language-internally and cross-linguistically, the reduced paradigms often alternate with invariable paradigms. For example, in Somali the focused form of the inflected affirmative non-past is invariable, and in Rendille the equivalent of the Somali reduced paradigm is invariable (Banti 2001: 7–8). Such invariant paradigms are common in negative and focused tenses. The Konso negative dependent paradigms are invariable: the perfective paradigm ends in *nin*; the imperfective paradigm in *ninkinin*. The verb in table 6.11 is *kat* 'to sell'; the final stem consonant assimilates; the initial elements are the subject clitics that I discuss in section 6.26.

6.23.5 Compound and auxiliary constructions

Most languages have various conjugations that have compound and auxiliary constructions, i.e., an auxiliary construction in which the inflected element is an auxiliary verb

Table 6.12 *The Konso compound negative present continuous and related paradigms.*

	PresContinuous	NegPresContinuous	Neg 'be'
1sg	<i>in kanni</i>	<i>an kanin-co</i>	<i>co</i>
2sg	<i>ik kanni</i>	<i>ak kanin-kkitto</i>	<i>kitto</i>
3sgf	<i>i kanni</i>	<i>kanin-kitto</i>	<i>kitto</i>
3sgm	<i>i kanni</i>	<i>kanin-co</i>	<i>co</i>
1pl	<i>in kanninna</i>	<i>an kanin-kinno</i>	<i>kinno</i>
2pl	<i>ik kannittan</i>	<i>ak kanik-kittan</i>	<i>kittan</i>
3pl	<i>i kanni</i>	<i>kanin-can</i>	<i>can</i>

and the lexical verb is infinitival, or a compound consisting of an invariant form and an inflected element. The Konso negative present in table 6.12 consists of an invariant verb form ending in *nin* plus the negative 'to be'.

New verb paradigms easily arise through grammaticalization of a non-finite (converb) form followed by an inflected light verb. The renewal of paradigms is clear in Kambaata from the double person marking, e.g. a 2PL marker in the imperfective, *-teenánta*, consists of *-t-een-á-nta/2-PL-aspect-2PL/* (Treis 2005a; see also Tosco 1996).

6.23.6 Converbs

The Agaw and the Highland East Cushitic languages have converbs, that is, non-finite verb forms that function in linking clauses. K'abeena has five types of converbs. The converb that consists of the stem inflected for person and followed by an epenthetic whispered *i* is used for sequential events. Other converbs are inflected and can be marked for progressive, negation, or telicity (Crass 2005: 176–88). Converbs are also reported for Agaw (see Hetzron 1969). Depending on the definition of converb, other languages also make use of converbs; see section 6.33 on clause chaining.

6.23.7 Aspect

In addition to person, the verb is usually conjugated for aspect. Most languages have different paradigms for perfective and imperfective; a third conjugational paradigm is the optative. The major difference between these three is often in the aspectual vowel, *e*, *a*, or *o* respectively. Another distinction that is often made is between so-called 'independent' and 'dependent' sentences, which require different paradigms. Many Cushitic languages have additional semantic categories coded in the system which are not aspectual. For example, Awngi encodes tense and evidentiality (Hetzron 1978). Kambaata expresses 'intimidative' (hortative not to do something) (Treis 2005a).

6.23.8 Negative verb forms

Negative verb forms consist of a different set of paradigms that are not based on the affirmative set, as is the case, for example, with the reduced paradigms for negative forms (see above, sections 6.23.4 and 6.23.5). In Highland East Cushitic and Agaw, negative suffixes or infixes are used with modified forms of the affirmative verb (Appleyard 1984: 202–3). There is often a fair degree of differentiation among negative verb forms within a group of related languages. Such is the case in Agaw (Appleyard 1984: 203) and also in Southern Cushitic, where Iraqw has a suffix *-ka* originating from a verb *kaah* ‘to be absent, lack’ and Alagwa has *-baʔ* from the quantifier ‘without’; in both cases they are preceded by nominalizing morphology (Kießling 2002: 381–9).

2.23.9 Imperative

The imperative usually has two forms: a general one consisting of the verb stem and a second one specifically used with multiple addressees. A number of languages have a vowel ending for the general imperative or for certain verbs. This is often *i* (Konso, Somali, and Dullay), but it can be different, e.g. *u*, for middle derived verbs (Konso, Dhaasanac, and Somali). In Dahalo, the imperative has an ending *i* for a singular addressee in the imperfective, a copy vowel in the perfective, and *e* and *o* respectively for plural addressees; a particle signalling direction toward the speaker (hither) can be added (Tosco 1991: 59). Negative imperatives (or prohibitives) are often part of the negative subjunctive/optative paradigm or need an extra predicative negation marker such as *ma* (see example 23 below). In the Southern Cushitic languages, there are more elaborate imperative paradigms with additional and combined marking of direction (toward speaker or not) and the presence of an object argument; see the following example of Iraqw, and note that the low tone on *-ang* and *-are*’ indicates the presence of an object in *how-aŋ* ‘bring *it* to me’, while *dooʔ-áŋ* ‘dig for me’ has no object and no high tone.

Iraqw imperatives

- (23)
- | | |
|--------------|-----------------------------|
| dooʔ | ‘dig!’ |
| dooʔ-é’ | ‘dig! [to many]’ |
| dooʔ-eek | ‘dig it!’ |
| dooʔ-aak | ‘dig it! [to many]’ |
| dooʔ-áŋ | ‘dig for me!’ |
| dooʔ-aré’ | ‘dig for me! [to many]’ |
| huw-aŋ | ‘bring it to me!’ |
| huw-are’ | ‘bring it to me! [to many]’ |
| ma dooʔ-aar | ‘don’t dig’ |
| ma dooʔ-ara’ | ‘don’t dig [to many]’ |

6.24 The verb ‘to say’

It is common among Cushitic languages to form compounds with a verb ‘to say’. Appleyard (2001) calls these composite verbs, while Cohen *et al.* (2002) use the term ‘descriptive compounds’. Many of the Semitic and some of the Omotic languages of Ethiopia share this feature with the Cushitic languages; it is one of the features of the suggested Ethiopic *Sprachbund*, and the origin is Cushitic (Appleyard 2001). The construction is also proposed to be the origin of the suffix conjugation in Cushitic (Praetorius 1893); Appleyard (2001) proposes the verb **iy(y)* ‘to say’ as the basis for the suffix conjugation. The verb ‘to say’ typically incorporates ideophones (it is universally common for ideophones to be introduced by a verb ‘to say’). Some Cushitic languages use ‘to say’ to incorporate quotes, e.g. Oromo *muu jed’e* ‘express dislike’ (lit. ‘say m-m’) (Appleyard 2001: 4). A language such as Afar (Cohen *et al.* 2002) uses the verb ‘to say’ or ‘to put’ to make intransitive or transitive verbs respectively. The incorporated root (verb root, adverb, ideophone, noun) may be reduplicated or lengthened, and sometimes an attenuative sense may be added, e.g. *dáaf-iyye* /sit.down-3.M.PERF:say/ ‘he hardly sat down’, but *dáffa-iyye* /sit.down-3.M.PERF/ ‘he sat down’. The newly derived verb functions as a lexical unit in the sense that it can undergo further derivation, but prosodically the unit can be broken up by adverbial particles and personal pronouns, e.g. *dúb ko-t hée-yyo* /IDEOPHONE you-on put-1SG.FUT/ ‘I’ll beat you’ (Cohen *et al.* 2002: 232). Vanhove (2004b) shows that in Beja this auxiliary ‘to say’ has grammaticalized into an intention or purpose marker, e.g. *ĩškwít áne* /strike:AOR1SG say:ACC1SG/ ‘I intended to strike’ (Roper (1928: 84), quoted in Vanhove (2004b: 154)). Vanhove argues that the remarkable fact is that the usual intermediate stages of quotative and complementizer were skipped in this instance.

6.25 Copula, verbs ‘to be’

Equative or identificational nominal clauses of the type *xun bíshaan* ‘this is water’ in Oromo (Owens 1985a: 79–82) often do not need a copula; juxtaposition of the subject and predicate noun phrase (in that order) is a complete clause. Alagwa allows NP NP clauses without the copula: *nyaraw xulxumbimoo* ‘a scorpion is an insect’; the Dahalo copula *-su* suffixed to the subject (first) NP is optional (Tosco 1991: 89–90). The subject may even be left out and understood as a third person, e.g. Dullay (*úso*) *t’iirakkó* ‘he is a man’ (Amborn *et al.* 1980: 104–6). This is more common when there is a copula present, as in Iraqw *a ló* ‘it is true’ (lit. ‘is truth’) (Mous 1993: 235). In Somali, the sentence-type marker *waa* DECL is used in such clauses, *Cali waa báre* ‘Ali is a teacher’, and the subject NP can be left out, *waa rún* ‘it is true’ (lit. ‘is truth’) (Saeed 1999: 186–9). Several other languages use the subject clitic in such sentences, e.g. Dullay

u-t' iirakkó 'he is a man' with focus on 'man' (Amborn *et al.* 1980: 104–6); Dhaasanac *máa-ti-a^h e d' aasanac* /man-that-DET 3SUBJ Dhaasanac/ 'that man is a Dhaasanac' in which the subject marker ^h*e* is optional (Tosco 2001: 288); and Alagwa *hare-r-óor na dooñum-uso' oo* /wife-F-our S.FOC cultivate-NOM.AG.FEM/ 'my wife is indeed a cultivator' with a subject focus marker *na*. The subject noun phrase in nominal equative clauses is in the nominative in Somali but in the absolutive in Oromo. Several languages have copula suffixes on the (second) predicative noun phrase. In Arbore, this is the copula *á, é, or d'á* (Hayward 1984a: 114, 122); Oromo has a copula suffix *-d'a* (after long vowels), *-a* (after short vowels), and *-i* (after consonants), e.g. *lafee-d'a* 'it is (a) bone' (Ishetu 1989: 85); in K'abeena, the gender-agreeing copulas are suffixes that derive from demonstratives (Crass 2005: 263–72), and the subject NP need not be expressed.

Oromo has a second enclitic copula *-iti*, used in nominal sentences involving possession, e.g. (*kun*) *godaa 'annan-iti* /this container milk:of-is/ 'this is (a) container of milk' (Ishetu 1989: 90). K'abeena also has such an alternative, *-t'*, with lengthening of the preceding vowel and invariant for gender; it is used in particular after names, adverbs, and demonstratives (in the genitive).

A suffixed copula on the predicative NP is common with questions and negation. Arbore has an interrogative copula *-ko* (Hayward 1984a: 122), which is required with interrogation intonation, and in Alagwa and Burunge a copular suffix is required for the question intonation and preceding a negative suffix, e.g. Alagwa *ñangañangay xulx-umbimô-ko* /chameleon insect:QUES-M.PRED/ 'is a chameleon an insect?' and *kurunkurú ts' irari-ko-bañ* /bat bird-M.PRED-NEG/ 'a bat is not a bird' (Mous unpublished). Rendille has *-mee* (Pillinger and Galboran 1999: 35–6); Harar-Oromo has *-mihi* as a negative copular suffix, which lengthens the preceding vowel and changes its tone to high, e.g. *bishaanî-mihi* 'it is not water' (Owens 1985a: 79–82), or a free form *miti* as a negative copula, sentence-finally (Kebede 1989: 90); K'abeena has the negative element *-ba* following the copular suffix; Arbore has a sentence-final element *and'í* for negation; and Dhaasanac has *muuniŋ*. Other languages use negative forms of a verb 'to be', such as *yahay* in Somali.

Past tense requires either the use of the full verb 'to be' rather than a copula (Oromo *tur-*; Dullay, Konso, Dhaasanac) or a past tense inflectional element on the subject pronoun (Alagwa, Iraqw, Dahalo). K'abeena uses a past marker that follows the copular suffix, comparable to the formation of a negative nominal equative clause. Future also requires a full verb. The verb 'to become' is used for future nominal clauses, e.g. Oromo *tah* 'to be, become'. In Konso this is *c-aad'* 'to become', which is middle derived from 'to be'; similarly in Dullay, where middle-derived *ooll-ad'* 'to be, stay, wait' is used in all tenses. Subordinate nominal clauses require verbs rather than copulas: K'abeena *ih* 'to be', and Oromo (with the exception of the affirmative adjective, which can be used on its own in a relative clause).

Locative and existential nominal clauses usually require a verb. For example Oromo *jir-* locative ‘to be/exist’ (Kebede 1989: 90), Somali *jir-* locative ‘to be /exist’, Dhaasanac *’iddik* ‘to be there / stay / live’, Dullay *’ak* ‘to be / be somewhere / live’, Alagwa and Burunge *waar* ‘to exist’; Kemant has deictic locative and existential *wan-* and locative *səmb*. Iraqw has a locative copula *alilta* for first- and second-person subject, third-person subject, and collective third-person subject respectively (this is different from the equative copula); in addition, an existential defective verb *deer* exists, and there is a full deictic locative verb *diirii* ‘to be here’ developed from *diiri* ‘this place’ (Kießling 2002).

Clauses with adjectives used predicatively often have some verbal qualities. For a number of languages, adjectives are in fact stative verbs (see Afar in 6.23.4 above). In Iraqw and its relatives, the adjective is preceded by a sentence element (selector; see section 6.26 below) which is comparable to the one used in passive clauses; in Dhaasanac, adjectival clauses are negated with the element *ma*, used otherwise in verbal clauses and different from nominal clauses. Somali uses the verb *yahay* ‘to be’ with adjectives.

Bilin has a copula that is used for nouns and adjectives as complements, and a locative verb ‘to be’ is used with locative adverbs and nouns in the locative case. Both have suppletive forms. These verbs and the verb ‘to have’ have the intriguing property that there is a complete reversal of the usual aspect/time relations. For example, in the pair *’əxəx^w* ‘who is’ and *səŋéx^w* ‘who was’ the former has the vowel sequence and tone pattern (crucial here) that is otherwise used for the past tense, e.g. *taməx^w* ‘who tasted’, and the latter has the properties of the present tense – compare with *taméx^w* ‘who tastes’ (see Palmer 1965). Palmer proposes that the historical explanation is that the verb ‘to have’ is from ‘to take’, hence ‘took:past’ is ‘have:present’, and one of the verbs ‘to be’ is from ‘to happen’, hence ‘it happened’ (past) is ‘it is’ (present).

Cushitic languages often have a verb ‘to have’: Dullay *seeq*, Iraqw and Alagwa *koom*; Kemant (Appleyard 1975: 341–2) and Bilin (Palmer 1965) also have such verbs.

6.26 Selectors / indicator particles / INFL / sentence type markers

Cushitic languages are verb-final, but many of them have an additional inflectional element in the sentence that is separate from the verb and that has been variously termed ‘selector’ in Southern Cushitic languages, ‘indicator particle’ in Somali, and ‘focus marker’ in Oromo. The prime function of selectors is to express elements of information structure. The Cushitic languages that have selectors are Alagwa, Arbore, Boni, Burunge, Dahalo, Dhaasanac, Dullay, Elmolo, Dirayta, Iraqw, Konso, Oromo, Rendille, and Somali; the languages that have no selector are Afar, Agaw, Bayso, Beja, Burji, Haddiyya, Kambaata, and Sidamo. In all languages that have a selector, either the selector has a function as sentence-type marker and these sentence types are at least partly related to backgrounding information, or the selector expresses focus in one way

Table 6.13 *Overview of the properties of selectors.*

	Sen type	Mood	Foc	Sub	ImpS	Object	Obj pro	Case	Deixis	Tense/Aspect
Arbore	y	y	n	y	y	y	n	y	y	y
Dhaasanac	y	y	n	y	n	y	y	y	n	n
Elmolo	n	–	n	y	y	n?	y	y	y	y
Dullay	n	n	y	y	n	y	y	y	n	n
Konso	y	y	y	y	n	y	y	n	n	n
Oromo	n	y	y	y	n	n	n	n	y	n
Boni	n	y	y	n	y	n	y	y	y	n
Rendille	n	n	y	n	y	n	y	y	y	n
Somali	y	y	y	y	y	y	y	y	y	n
Dahalo	n	y	n	n	n	y	n	y	y	y
Alagwa	y	y	y	y	y	y	y	y	y	y
Burunge	y	y	y	y	y	y	y	y	y	y
Iraqw	y	y	n	y	y	y	y	y	y	y

Source: Mous (2005).

or another. The only exceptions are Elmolo and Dahalo. Nearly all languages with a selector, with the exception of Boni and Rendille, also mark the subject in the selector. These latter languages use independent subject pronouns where others use subject suffixes or clitics. Rendille and Boni do, however, have an impersonal subject marker that is integrated into the selector. They also have object pronoun clitics that are part of the selector. Inflectional subject marking is typically a characteristic of the verb. Thus selectors assume part of typically verbal functions. In this sense the sentence-defining properties are divided over verb and selector.

While in some languages the position of the selector determines the scope of focus, in a number of other languages the position of the selector is more fixed and the position of the object vis-à-vis the selector determines the information value of the object. Syntactically there are three types of selectors: (i) those that define the left border of a syntactic unit, such as the verbal piece in Somali; (ii) those that indicate focus as a pro-clitic to the verb; and (iii) those that indicate focus by their position in the sentence. Once the selector has a fixed position, it also has a stronger syntactic function in the semantics of the placement of complements in relation to the selector; in addition to subject marking, these selectors also have the verbal quality of valency. By developing more verbal functions, such a pivot attracts other inflectional marking such as tense/aspect marking. There seems to emerge a division of labour in marking grammatical roles in several of these languages: subject on verb, object in selector, and others in the ‘case’ clitics which have a fixed position between the selector and the verb.

An overview of the categories that are expressed in and on selectors is given in [table 6.13](#). The column ‘Sen type’ shows whether sentence type is indicated, ‘Mood’ whether

interrogative or negative is indicated, ‘Focus’ whether the selector has focus meaning, ‘Sub’ indicates whether the subject is indicated in the selector, ‘ImpS’ whether the selector may contain an impersonal subject, ‘Object’ whether the noun object can separate selector and verb, ‘Obj pro’ whether the language has an object pronoun series different from the independent pronouns, ‘Case’ whether adverbial ‘case’ markers occur on the selector. ‘Deixis’ indicates direction marking, and *Tense/Aspect* indicates whether tense/aspect is expressed on the selector (in addition to the verb).

Selectors with all the inflectional categories that can be expressed on them can develop into quite extensive inflectional complexes, specifically in Dahalo, Alagwa, Burunge, and Iraqw, as can be seen for Dahalo in (24) and for Iraqw in (25).

- (24) b’á-ka-vá-ji ɫággwa
 NEG-IRR-PAST-HAB love:EI:3M
 ‘He didn’t love him.’
 (Dahalo, Tosco 1991: 71)

- (25) mu-s-tu-nd-a-y hanîs
 QUES-REAS-IMPS-O.2.PL-PERF-DIR give:PAST
 ‘Why were you (plural) favoured?’
 (Iraqw, Mous 1993: 123)

In Alagwa, Burunge, and Iraqw, there are different sets of selectors for main clauses as opposed to consecutive clauses, and yet another set for object relative clauses. In Arbore, the selector indicates both sentence type, which is (definite) indicative in (26), and subject, which is third-person singular in (26). Other sentence types that are indicated in the selector in Arbore are indefinite indicative future, indefinite indicative present, jussive, and negative.⁵ The subject marking is either suffixed or prefixed to these sentence-identifying selectors. Not every Arbore sentence, however, has a sentence identifier (Hayward 1984a). In Dhaasanac, too, there are these two categories, of sentence type (indicative and non-indicative) and subject. In Konso, independent, dependent, jussive, and negative clauses all require slightly different selectors.

- (26) mo ’í-y k’or k’úure
 man DEF.IND-3S tree cut:3SG.M:PERF
 ‘The man cut the tree.’
 (Arbore, Hayward 1984a: 110)

In addition to the main distinctions in sentence type expressed in the choice of selector, some languages also have mood prefixes that mark negative and prohibitive sentences,

as well as content questions corresponding to *what*; the marker for both is commonly *ma*. Different ways of expressing questions exist as well, for example in the form of question words; for negation, most languages have additional negation marking on the verb. Additional mood distinctions in the selectors, such as conditional and concessive, are made in Alagwa, Burunge, and Iraqw. Some of these originate in grammaticalized adverbs.

Focus is the central concept for the selectors. In some languages the selector itself marks focus, most often verb focus or sentence focus. Several languages have constituent focus markers that are separate from the selectors. For example, in Dhaasanac, topic and focus are the main organizational factors in syntax. Neutral sentences have subject-case marking on the subject and no focus selector (27a). The presence of a selector indicates verbal focus, i.e., the verbal focus marker *ha* in (27b); there is an additional verbal subject pronoun as in (27b), or a full (subject) pronoun as in (27c). When the subject is topicalized, a subject pronoun is used, as in (27d). Subject focus is expressed by the addition of a nominal focus marker cliticized to the subject NP (27e), as shown in Tosco (2001: 261–73).

- (27a) 'ar kufi
 bull:s die:PF.A
 'The/A bull died.' (neutral)
- (27b) 'ár ha hí d'iyime
 bull FOC 3.VERB make.noise:IMPF.A
 'The bull *is making noise*.' (verbal focus)
- (27c) só ha yú muura
 meat FOC I cut
 'I'll cut the meat.'
- (27d) 'ár hé kufi
 bull 3s die:PF.A
 'The bull died.' (as answer to 'What happened to the bull?')
- (27e) 'ár=ru kufi
 bull=FOC die:PF.A
 'The bull died.' (subject focus)

Selectors differentiate at least between speech act participants and third persons (Alagwa, Burunge, Iraqw), or make person distinctions without gender and number differentiation (Dullay, Konso), or distinguish both person and number (Arbore, Dhaasanac, Elmolo), or distinguish gender as well (for third person, in Somali). Cushitic languages do not distinguish second singular and third feminine in the subject

agreement on the verb, and many of them also do not distinguish between first singular and third masculine. Thus, the subject marking in the selector resolves that ambiguity.

Many of the Cushitic languages have a separate impersonal subject pronoun that is used in passive-like sentences (see section 6.22 on pronouns, above). The verb used in the impersonal construction is always in the third-person singular masculine form (3M), except for in Arbore, where it is third plural (Hayward 1984a: 305). For those that have third singular masculine, one could also argue that the verb is simply not conjugated for person. There are some indications that this impersonal subject marker is of a different order from the subject pronouns. One such indication is that its structural position is different from the subject pronouns in Somali, according to Svolacchia *et al.* (1995).⁶ In Alagwa, Burunge, and Iraqw, the same markers, impersonal subject plus object pronoun, are used for predicative adjective constructions (28).

- (28) tɬ'away ku h́eer
rain(m) o.3:IMPS:O.M insufficient:M
‘Rain is insufficient.’
(Iraqw, Mous 1993: 203)

Object marking in the selector is not always compulsory and is dependent on the position of the full noun object; it is also related to the information structure. Those languages that have object pronouns in the selector complex (Elmolo, Dullay, Rendille, Somali, Dahalo, Alagwa, Burunge, and Iraqw) have them as enclitics to the selector, often replacing the fronted full object noun. Somali, Rendille, Boni, and Elmolo have a second series of object pronouns.

6.27 Verbal derivation

The common verbal derivations are causative *s*, middle *d* (also called reflexive, intransitive, or autobenefactive), passive *m*, inchoative *w*, and reduplication for frequentative and habitual. The non-reduplicative derivations are suffixes. Only Afar, Saho, and possibly Burji have derivational prefixes in addition to suffixes. A number of other derivations occur in a sub-set of languages only. The non-reduplicative verbal derivations are reconstructed for East Cushitic by Hayward (1984b) and for Agaw by Appleyard (1986a). Konso and Dullay have a singulative or punctual derivation that is formed by geminating the final root consonant, which indicates that the action is done once or a little bit. The forms for the common derivations given here are not valid for all languages; some Agaw languages have *-st* for passive, for example, and others use these derivations in different functions; for example, Iraqw has a durative *-m* and no passive; in the Agaw

languages the reflex of the *m* derivation denotes reciprocity (Appleyard 1986a: 17–18). Other derivations exist too; for example, Dullay has a ‘social’ derivation in some verbs such as *d’ih-im* ‘give advice’, *hor-im* ‘settle an appointment’ (Amborn *et al.* 1980: 118); several languages show signs of frozen derivations that are no longer productive and to which no meaning can be attached, e.g. *-pp’* and *-ott’* in K’abeena (Crass 2005: 145), *-an* in Dullay (Amborn *et al.* 1980: 118), *-ab’* in Ts’amakko (Savà 2005: 185), and *-b* in Dahalo (Tosco 1991: 48), *-a’* in Southern Cushitic for stative (Kießling 2002: 301). Southern Cushitic has a suffix *-eel* for sound-expressing verbs derived from ideophones and onomatopoeia. In a number of languages the vowel of the derivational suffix is analysed as a morphological epenthesis; see Lloret (1987) for Oromo, and Mous (1993) for Iraqw.

6.27.1 The causative

The causative is usually marked by a suffix *-s* or *-sh* preceded by a vowel *i*, which is sometimes analysed as epenthetic; the causative is *-d* in Dahalo and Bilin. Afar has a causative prefix *s-*. The causative introduces an external causer to the state of affairs. The causative may be doubled, or languages may have two causative forms, a short and a long one. There are in-depth studies of the Oromo causative (Owens 1985b; Lloret 1987; Dubinsky *et al.* 1988). The picture that arises from these is that the number of causative morphemes in a verb stem reflects the number of agents in the state of affairs; an unaccusative (agentless) intransitive basic verb requires a double causative, while an active (agentive) intransitive verb requires only one causative morpheme. This generalization requires that certain double causatives be recognized as reduplicated causatives, rather than double causatives, and function as intensives. In the related language Konso, double causatives are also common, but there is no agent-counting; instead, the double causative increases the indirectness of the influence of the extra causer on the state of affairs (Mous 2004c). Wondwosen (2006) also reports for Oromoid Dirayta that the distribution of single and double causatives is not along the lines of counting underlying agents. Double causatives are very common and are reconstructed for East Cushitic by Hayward (1984b) using several combinations of the reconstructed causative suffixes; double causatives are also reported for the Agaw languages (except for Kemant) (Appleyard 1986a), but are absent in Southern Cushitic and Dahalo. The latter languages have an intensive meaning as one of the functions of the causative; such a function is restricted to the reduplicated causative in Oromo (Lloret 1987).

The following Konso example shows that the derived causative in (29b) has the external cause expressed in the subject and differs from the underived verb in the expression of an external cause; interestingly, the causative verb is still intransitive (Mous 2004c).

- (29a) i awd'-é
 s3 bright-PF
 'It is midday / totally bright.'
- (29b) waag'a i awd'-ish-é
 god s3 bright-CAUS-PF
 'The weather is clear again [God has cleared up / caused brightness].'

The indirect causative in Konso expresses that the external causer has less direct control of the action expressed in the verb, as in the Konso sentence (30b).

- (30a) Mammó d'amtáa oorra d'am-sh-é
 Mammo food people eat-CAUS-PF
 'Mammo fed the people.'
- (30b) Mammó oorra d'amtáa d'am-aciis-é
 Mammo people food eat-ICAUS-PF
 'Mammo ordered the people to eat food.'

6.27.2 The middle

The middle is very common in Cushitic. In many languages the productive meaning of the middle is to express that the action is benefactive (or occasionally malefactive) to the subject, and hence it is called autobenefactive; the term 'subject-reflexive' is also used. This sense of the middle meaning is applicable to a wide range of verbs, and once the autobenefactive sense of the middle develops in a language, it becomes productive. The autobenefactive sense possibly spreads through language contact, since it is absent in the geographically distant Southern Cushitic languages; Hayward (1975: 221) considers the autobenefactive function as a good isogloss. Hayward distinguishes between middles of agentive verbs, which have either reflexive or autobenefactive meaning, and middles of patient-type, which are always intransitive and are often derived from nouns or adjectives (Hayward 1984b: 83–4). He also points to the formal complexity of the middle-derived stems, which often show alternation of consonants in different persons of the paradigm in conjugation. The Cushitic languages show the centrality of the body in the semantics of middles. The evidence for this lies in the presence of the sub-categories of the body in all the languages in table 6.14 and in the fact that a number of derived verbs are used for actions performed by the body as opposed to the individual. The fact that the marking is derivational rather than inflectional allows for a more lexical or concrete, and a less grammatical, meaning, when compared to inflectional middles and to syntactic constructions, as in Kemmer's (1993) study of the middle.

Table 6.14 *Semantic sub-domains of middles in some Cushitic languages.*

sub-category	Iraqw	Somali	Oromo	Afar
body care (groom and wear)	+	+	+	+
body motion (non-translational motion)	+	+	+	–
motion of hands	+	+	+	–
body activity	+	+	+	+
(negative) body state	+	+	+	+
(change in) body posture	+	+	+	(+)
hide oneself	+	+	+	+
remain–stay	+	+?	+	–
body-focused displacement / transl. motion	+	+	+	+
(negative) state of mind (emotion)	+	+	+	+
(complex) cognition	+	+	+	–
commissive, intentive	–	–	–	–
(emotional) speech	–	(+)	–	+
(inchoative) non-control / spontaneous action	+	+	+	+
(evaluative) facilitative	–	–	–	–
inherent reciprocal	–	+	–	–
autobenefactive	–	++	++	++
logophoric	–	–	–	–
work	–	?	+	+
intensive	–	–	–	–
separate	+	–	+	+
negative connotations	+	–	+	+

The spontaneous action middles are well represented in Cushitic middle-derived verbs, and this semantic aspect should actually be considered as part of prototypical middle meaning. The facilitative use, which is closely connected to the spontaneous action middle (Kemmer 1993: 148), is rarely, if ever, present. In the Cushitic languages there is relatively little use of the inherent reflexive and inherent reciprocal meanings of middle markers, which is not surprising given the presence of reciprocal/reflexive pronouns. Remarkable is the near absence of certain lexicalization patterns: there are virtually no commissive, intentive middles and relatively few emotional speech middles. Other lexicalization patterns emerge in Cushitic: the middle marking of verbs for ‘to hide’, ‘to remain/stay’, and a middle denominal verb ‘to work’. See Hayward (1975) for a historical overview of middle marking, Mous (2001) for a typological overview of the middle in Cushitic, Saeed (1995) for the middle in Somali, Mous and Qorro (2000) for the middle in Iraqw, and Mous (2007) for the middle in Konso.

The body orientation for the subject of middle-derived verbs is evidenced by the Iraqw examples in (31).

- (31a) ya'e-r-'ée' a-ga tunquláa'
 leg-F-my O.F-PF sprain:1SG
 'I sprained my ankle.'
- (31b) ya'e-r-'ée' aa tunqulu'-út
 leg-F-my S3:PF sprain-MIDDLE:3F
 'My ankle sprained.'

The middle is also used to express lack of control by external force, as in the following Konso examples (middle is expressed by the suffix *-ad'*).

- (32) pisha i urg'én 'water flowed'
 pisha i urg'-ad'-én 'water found its way by itself'
 i sukumé 'he rolled'
 i sukum-ad'-é 'he rolled by himself'

The benefactive reading of middle derived verbs is productive in Konso (33).

- (33) i-'aan-ad'-é 'he travelled for his own purpose'
 i-kod-ad'-é 'he worked for himself'
 alal-ad'-é 'he chewed for himself'

One of the differences between the middle and the passive is that, in the middle situation, no agent or cause/source of the action is present or imagined; compare (34b) with (34a) in Iraqw.

- (34a) inqwari kaa kunjuu-s
 sheet.F O3:IMPS:O.F:PF fold-CAUS:IMPS
 'The sheet has been folded.'
- (34b) inqwari aa kunjut
 sheet.F S3:PF fold:MIDDLE:3SG.F:PAST
 'The sheet is folded in a crooked way [you don't know how it got folded].'

6.27.3 The passive

The third valency-changing derivation is the passive. The passive has the patient of the base verb as subject, and the agent is no longer expressed. However, with the passive verb an agent is assumed to exist even if it is not expressed; the passive differs in this respect from the middle. Not all Cushitic languages have a derivational passive; for example, the Southern Cushitic languages and Dhaasanac do not have a derivational passive. Several Cushitic languages have an impersonal construction, sometimes in competition with the

passive (e.g. Somali, Afar). The form of the passive is *-am* (Somali, Konso, Dullay, Afar) or *-s(t)* (Khamtanga, Bilin).⁷ In the Dullay languages there is some overlap in function between the distinct passive and the middle (Amborn *et al.* 1980: 119; Savà 2005: 180–2). In K’abeena, there are two morphemes, *-ta’* (probably etymologically related to the middle (Hayward 1984b: 94)) and *-am*; in addition, there is a fixed combination of middle and passive, *-akk’-am* to express the reciprocal (Crass 2005: 143–5). Rendille has two derivations: the neuter-passive *-am* which does not imply the presence of an outside agent, e.g. *fur-m-a* ‘get opened’; and the true passive *-nam* which does imply an outside agent which is, however, never expressed: *fur-nam-a* ‘be (able to be) opened’ (Pillinger and Galboran 1999: 32–3). Hayward (1984b) reconstructs the Agaw languages with a derivation in *-t* that expresses middle and, in a small number of verbs, also passive, while the combined causative–middle *-əst* is a productive passive derivation (Appleyard 1986a: 8, 15).

The semantic restrictions on the base for the passive differ from language to language. In Somali, the base verb must be semantically causative and the passive cannot be used with experiencer verbs or with activity verbs such as ‘eat’, ‘carry’ (Saeed 1999: 138). In Konso, there are no general semantic restrictions on verbs that can form a passive; the passive can apply to all kinds of intransitive verbs: unergatives such as ‘go’, ‘swear’, ‘lie’, ‘live’; and an unaccusative intransitive verb such as ‘be satiated, satisfied’ which describes the (resultant) state/quality of the subject; and non-volitional body actions such as ‘burp’, ‘laugh’, ‘be smothered’ (see Mous 2007).

The passive requires the patient to have the subject function. The agent need not be expressed, as in the Konso sentence (35b). But in Konso even intransitive verbs can be passivized (as is common among the languages of Ethiopia), as in example (36).

(35a) anti inna kataata in erg-é
I boy food 1 send-PF
‘I sent the boy food.’

(35b) kataata inna i érg-am-t-é
food.F boy 3 send-PAS-F-PF
‘Food was sent to the boy.’

(36) urmalaá i áan-am-é
market 3 go-PAS-PF
‘The market was frequented.’

An impersonal (unspecific) subject construction using the third-person plural is commonly used and constitutes a functional competitor to the passive derivation. In Konso, sentences describing pictures that are used to elicit expressions for locational relations

make abundant use of impersonal constructions to describe situations. Not only the agent but even the action is irrelevant in these sentences (e.g. 37).

- (37) mataafaa shelfeeta kara xaay-e-n
 book shelf on put-PF-PL
 ‘A book is on the shelf. (lit. “They’ve put a book on the shelf”).’

6.27.4 The frequentative, habitual

Most languages have a derivation by reduplication that expresses plural action such as continuous, repetitive, or iterative action, or intensive or quick action. Plurality of the subject of an intransitive verb or of the object of a transitive one is a factor that may trigger the use of this derivation, but there remains a choice for the speaker to indicate such plurality in this way or not. The reduplication applies to the initial syllable of the verb stem and can take several forms across and within languages: for example $C_1V_1C_1$ -forming a geminate as second radical in the derived verb (except for consonants that do not occur as geminates), e.g. Somali *duudduub* from *dúùb* ‘fold’ but *jajab* from *jáb* ‘break’ (Saeed 1999: 49–50; Banti 1988b). In Somali, the vowel length in the reduplicant is identical to that in the original syllable, but most other languages, e.g. Oromo (Owens 1985a: 84) and Dahalo, require this vowel to be shortened: Dahalo *gagaalij* from *gaalij* ‘go home’ (Tosco 1991: 48). A second type of reduplication is $C_1V_1C_2$ -. Rendille has both, e.g. *furfura* from *fura* ‘be open’ and *diddiiba* from *diiba* ‘hand over’. In addition, Rendille has aC_1 - geminate forming an alternative derivation, e.g. *ahhida* or *hidhida* from *hida* (Pillinger and Galboran 1999: 33). The third common type of initial reduplication is C_1V_1 -. Note that this can also occur as a variant of the other reduplications where the reduplication would lead to inadmissible geminate consonants or consonant clusters. Nevertheless, a separate C_1V_1 - reduplication has to be recognized. It occurs, for example, in Dhaasanac where the vowel in the reduplicant must be long, e.g. *fáafa*’ from *fá*’ (Tosco 2001: 142), and in Boni where the vowel has to be short, e.g. *sisii* from *sii* ‘give’ and *d’ud’uud*’ from *d’uud*’ ‘consider’ (Heine 1977: 280–1). Southern Cushitic has C_1V_1 - and $C_1V_1C_2$ - reduplication with a difference in meaning, the former for frequentative and the latter for distributive/frustrative action (Kießling 2002: 192). Afar has a different type of reduplication for intensive action and in the Aussa dialect for frequentative action: the onset and the shortened rhyme of the final syllable is reduplicated and closed by the onset consonant giving rise to a geminate, thus $C_xV_xC_x$ - where C_x is the penultimate consonant, and inserted before the final syllable, e.g. *usussuul* ‘laugh heartily’ from *usuul* ‘laugh’, *biyayyaak* from *biyaak* ‘hurt’. If C_x is a geminate in the base, we get successive geminates, e.g. *iggiggif* ‘kill brutally’ from *iggif* ‘kill’. An exception to this pattern is *camcamm* ‘throw hard’ from *camm* ‘throw’

(Bliese 1981: 127–8). Final reduplication is very common in Southern Cushitic where the last root consonant is reduplicated. If the verb is derived the penultimate (root-final) consonant is reduplicated with an epenthetic *a*. If the base looks similar to a derived verb – that is, if the ultimate consonant is *m*, *s*, or *t* – it is the penultimate consonant that is reduplicated (see 38).

Alagwa pluractional derivation

38	'ag 'eat'	
	'ag-im	durative
	'ag-ag-im	pluractional
	foohim	'open'
	fooh<ah>im	pluractional
	(Mous unpublished)	

A number of different reduplications are used to derive verbs in the imperfective domain; in some languages several reduplication types are used for the same broad function; in others, distinctions in function can be made for the various reduplications. There are also languages that use segmental means for the same functions. K'abeena has *-ans*, a fixed combination of passive and causative, for repetitive, iterative, and frequentative (Crass 2005: 146); Dahalo has *-ameemit* for frequentative (Tosco 1991: 47), similar to the Southern Cushitic fixed combinations *-maamiit*, *-maamiis*, *-aamiim*, for habituais.

Dullay and Konsoid have a singulative derivation that consists of gemination of the final consonant which expresses that the action is done once or bit by bit. Some examples from Ts'amakko are 'ug 'to drink': 'ugg 'to sip'; kad' 'to climb': kad'd' 'to climb with one movement'; ka' 'to get up': ka'' 'to get up suddenly'; cox 'to milk': coxx 'to squeeze the udder once'. The singularity can refer to the number of objects – šab 'to tie': šabb 'to tie one thing at one time'; d'iš 'to plant': d'išš 'to plant one plant at one time'. Singulatives are preferred in imperatives (Savà 2005: 187). The derivation cannot apply to verbs that have a final geminate consonant, but some of those originate in this derivation.

6.27.5 The inchoative and verbalizers

The inchoative, or inceptive, derivations are de-nominal or de-adjectival verbalizers. Several forms are attested within one language and across languages. The inchoative derivation is *-aw(w)*, *-uy*, or *-um* in Dullay (Amborn *et al.* 1980: 117–18), *-ow* in Somali (Saeed 1999: 135–6), *-ow* or *-aw* in Rendille (Pillinger and Galboran 1999: 33), *-uw* in Southern Cushitic, *-um* in Konso, *-a'*, *-aaw*, or *-ee* in K'abeena (Crass 2005: 146–7).

Verbalizing derivation in general includes verbal derivational suffixes such as causative or middle, depending on the meaning of the resulting verb, and often containing

different vowels, *oo* or *ee*. The difference in the vowel is a relic of fusion with a preceding inchoative derivation. The typical verbalizing suffixes are *-ees* (K'abeena, Southern Cushitic) and *-ood* (Southern Cushitic). In K'abeena there is also *-aar* (Crass 2005: 153).

6.28 Structure of the simple clause

The coding of relationships between noun phrases and the predicate includes coding on the verb; subject and object pronouns in an inflectional complex; case marking on the noun phrase; pre-verbal adverbial case clitics; postpositions; linear order with respect to an inflectional complex; incorporation by the verb; verbal derivation; use of pause and other intonational means.

The syntax of many Cushitic languages is primarily governed by pragmatic principles. In a number of Cushitic languages there is a subject clitic (selector, see section 6.26) which is independent of the verb and which plays a role in focus. For some of these languages the subject clitic marks the beginning of what has been termed the verbal piece or the verbal complex, which ends with the verb. Even though this syntactic unit may contain the object, it is not comparable to a verb phrase for various reasons in the different languages. One such reason is that non-objects and sometimes subjects also occur within the verbal piece. Languages in which such a unit can be recognized are Somali and the Southern Cushitic languages. These languages show signs of being polysynthetic.

6.29 Syntactic categories and relations

The syntactic relation of subject is expressed by inflection on the verb. The object is less uniformly encoded. Some languages have an enclitic object pronoun. In most Somali dialects this pronoun is empty for the third person. Despite gender and person (and sometimes number) agreement of the subject on the verb and, in some cases, the presence of an object pronoun, the subject and object are not always uniquely distinguished. Independent pronouns often do not distinguish between the subject and object and are not obligatory. In the northern languages, the subject and object may be distinguished by word order. In the Lowland East Cushitic and Southern Cushitic languages, word order is determined by information structure.

6.30 Position of the verb in the clause

The verb tends to be final in the sentence. Most languages allow for material to appear after the verb for pragmatic functions, not only as an afterthought, e.g. Somali, Alagwa, Burunge. The position of the verb does not distinguish subject and object. The position immediately before the verb is one for something not in focus. Nouns can form a phonological and intonational unit with the verb for pragmatic reasons, showing signs

In a number of languages, objects are the arguments that can be referred to with object pronouns. Such is the case in the Southern Cushitic languages. For example, in (42) the feminine object pronoun *a* agrees with the object ‘beer’, and in (43) replaces an understood object – both in Iraqw.

- (42) buura a-ga wáh
 beer O.F-PERF drink:1.SG
 ‘I drank beer.’
- (43) g-a-na alhe’ées
 O.3-O.F-PAST finish:3.SG.M:PAST
 ‘He finished it [i.e. the field (f)].’
 (Mous 1993: 244)

6.32 Coding a third argument (adverbial case, postposition)

There are two different ways to code a third argument in Cushitic. One is by means of an adverbial case clitic. This is either linked to the noun or syntactically linked to the verb, in which case it may end up on the ‘wrong’ nominal (anti- iconicity); see section 6.15 on non-core cases and clitics. The other manner is by means of an adposition (see section 6.16 on adpositions), which is sometimes a clitic.

The semantics of a case clitic can be quite diverse. For example, the case clitic =*nu* in Ts’amakko marks the beneficiary (44), the representative (45), the goal (46), the purpose (47), the locative direction (48), and the basis for comparison (49) (Savà 2005: 103–7).

- (44) bašare `abba kaayu=nu paš-o
 Bašare father PRON.M.1SG.M.POSS=from field-M
 q`od-as-i
 plough-Caus1-3SG.M.UNM
 ‘Bašare ploughed the field to the benefit of my father.’
- (45) bog`ol-k-o=nu q`ol-e c`ox-ind`a
 king-SG-M=from cattle-P milk-PLUR.IMP.B
 ‘Milk the cattle on behalf of the king!’
- (46) laabl-e gaan-t-e=nu šeed`-i
 cloth-F woman-SG-F=from bring-1SG.UNM
 ‘I brought the cloth to the woman.’
- (47) korkor-o=nu gor-e `ergad`-e q`ets`-inki
 house.wall-M=from people-P assemble-3PL.UNM cut-3PL.CON.S.A
 ‘The people assembled and cut [wood] for [building] the wall of the house.’

- (48) žinka=nu kol-i
 Jinka=from return-1.SG.UNM
 ‘I returned from Jinka.’
- (49) baq’q’ala miša=nu q’arra ki d’al-ad’-i
 Baq’q’ala Miša=from before Sent.3 give.birth-MID-3SG.M.UNM
 ‘Baq’q’ala was born before Miša.’

Locatives are often expressed through a combination of locative nouns and adpositions or case clitics. In the following Konso example, the locational noun *xati* is followed by the clitic *pa* and again by a directional marker.

- (50) g’oyra tika kap-ee deh-e ma xati-pa-xa ca
 tree house near-3 grow-PF but down-DEST-downwards be:IPF
 ‘The tree grows near the house, but further down.’
 (Daudey and Hellenthal 2004: 87)

6.33 Clause chaining

There are several strategies to link clauses. One common strategy is to have a series of subordinate predicates to the final main verb. An example from a long stretch of such subordinate verb forms or converbs is the following string in Awngi.

- (51) ándeskí án aqí lángiswa beráwa keseramá
 and:from:that that man both(ACC) oxen(ACC) lost:and
 śntakíntakí zurúsi, ŋáji lángigi
 both:here:and:there while:he:was:in:the:state:of:turning, they both
 kecerŋúnuda bətída lángiso beráwa ɣaska
 in:that:they:fixed in:place both(ACC) oxen(ACC) they:took:and
 kaskamá aredkamá ɣwékamá widúnidés
 they:went:and they:slaughtered:and they:ate:and from:finishing
 fallengá, əndegena demeka “tayô dadeɣŋá
 after, again once:more ‘sheep(ACC) to:steal
 kanós!” təŋúnà
 let:us:go!’ they:said:to:each:other.
 ‘Then while the man, having lost both oxen, was turning here
 and there, they both [the thieves] went to the fixed place taking both
 oxen with them, and slaughtered and ate them; after they finished,
 they said again to each other: “Let us go to steal sheep!”’
 (Hetzron 1969: 11)

Another strategy is to concatenate clauses with a coordinating particle. This strategy is common in Konso stories. The clause-coordinating clitic *-ka* appears in the position after the subject in the second clause (see 52).

- (52) [isheeta i xa'a-t-i-] [ka d'akint-aad'd'-i yag'-at-i-] [ka
she 3 wake-F-PF and body-3SG.POSS-3 wash-MID:F-PF- and
hapurs-att-i] [ness-att-i] [tiká (kara) saha-t-i] [-ka
dress-MID:F-PF rest:MID:F-PF house (inside) clean-F-PF -and
sekkammaa-yyé sook-t-i]
here.after-SET leave-F-PF
'She got up, washed herself, got dressed, cleaned the house
and went out.'
(Mous 2006)

- (53) [arp-oo-se ana turaa xa'-ad-e] [ka aan-ee]
elephant-REF-DEM me front flee-MID-PF and go-PF
[takal-ee pi'-e] [ka g'eg'-g'ep-e] [ka xosaltaa paay-e] [ka
cliff-SET fall-PF and INT-break-PF and laughter start-PF and
oppaa-ee-w pag'-e] [ka twee]
on-SET-too burst-PF and die:PF
'That elephant fled from me and left and fell into the ravine and broke
into pieces. And he [bedbug] started to laugh and likewise burst on it
and [in doing so] died.'
(Mous 2006, example from Garra 2003)

Yet another common strategy is tail–head linking, which is common, for example, in Alagwa. In a story new entities are usually introduced in the post-verbal position, as is the case in the first sentence of (54); in the next sentence this previously introduced entity, 'troughs', now appears sentence-initially and with a referential demonstrative, while the new entity, 'milk', appears in the post-verbal position; in the next sentence this information is repeated and the sentence is marked as being background information. Such sequences and repetitions for cohesion are typical for narrative style (Mous 2001).

- (54) i-n háts-is mlambabee; mlambabee-wá-d i-yaa háts-ir
s3-PF full-CAUS:3M troughs; troughs-P-DEM s3-PST full-3PL
ilibaa. ilibaa k-i hats-ir-íí; ...
milk. milk DEP-S3 full-3PL-BGND
'He filled troughs. Milk filled those troughs. The troughs being filled
with milk, ...'

6.34 Negation

Negation is marked in several different ways. Negation may be marked in the selector, i.e., the pre-verbal inflectional complex. This is the case in Arbore, Dhaasanac, Somali, Boni (55), Dahalo, Iraqw, and Konso (56); and in Southern Cushitic specifically for prohibitive use (57). Negation may also be expressed by using a specific negative verbal conjugation, as is the case in most languages. The two options may both be present in the same language, as is the case for Konso and Iraqw. In Oromo, negative verbs are formed by prefixing a particle *hin* to the verb, which receives a high tone on the first syllable, and the dependent suffix is used for the imperfective (58) (Owens 1985a: 66–7). Dullay uses subjunctive paradigms for the negative; in Konso one of the negative paradigms has the subjunctive ending *o* but differs from the subjunctive tonally. Zaborski (2005b) provides an overview of such negative conjugations in Cushitic and discusses such negative paradigms for Beja, Afar, Rendille, and Arbore.

- (55) idohóodi húu-dęçttq hákǰǰ
 women:DEF NEG-go there
 ‘Women do not go there [while men are allowed to].’
 (Boni, Sasse 1981b: 280)

- (56) ‘án-íkkin-nean-có
 1SG:NEG-drink-NEG-am
 ‘I don’t drink.’
 (Konso, Bliese *et al.* 1986: 22)

- (57) mi-ti taah-aar
 PROH-us beat-NEG.IMP
 ‘Don’t beat us!’
 (Iraqw, Mous 1993: 165)

- (58) hin-déem-u
 NEG-go-DEP
 ‘He is not going.’
 (Oromo, Owens 1985a: 66)

Negative verb paradigms may develop out of a periphrastic construction involving negative auxiliary verbs such as *rib* ‘to refuse’ in Beja, *wee* ‘to lack’ and *hinna* ‘to not be’ in Afar (Zaborski 2005b: 697), *kaah* ‘to be absent’ in Iraqw, and *baʔ* ‘to be without’ in Alagwa and Burunge (Kießling 2002: 382–9).

6.35 Questions

There are several ways to form questions. Iraqw can be taken as an example of a language that has three different kinds of question formation. Questions are often formed by question intonation with or without additional segmental material. In Iraqw, only yes–no questions are formed by question intonation (rise in pitch followed by an incomplete fall) and the addition of a predicative suffix to the verb which is usually the final element of the clause (59). Content questions are often formed by the use of a question word. In Iraqw, these occur sentence-finally as complements of a cleft construction in which a general word, such as ‘man’ in (60), occurs in sentence-initial position as head of the relative clause. The complement can be omitted. Other such constructions correspond to ‘thing which . . . (is what)?’ or ‘place which . . . (is where)?’. Another manner of question formation is by prefixing *m* to the selector, the preverbal inflectional complex. This asks for an object of the verb or of the case clitic, for example (61) and (62) in Iraqw.

- (59) loosí ga dōoɫ-i
 beans O3:O.F cultivate:3M:INTER-3:PRED
 ‘Does he cultivate beans?’
 (Mous 1993: 287)
- (60) hée kúung u axwées (a heemá)
 man:CON you.M O.M talk:3M (COP who)
 ‘Who is talking to you?’
 (Mous 1993: 283)
- (61) laarí m-a ‘ay-áan
 today QUES-O.F eat-1PL
 ‘What are we eating today?’
 (Mous 1993: 287)
- (62) m-a-s ‘aa‘am-ín
 QUES-O.F-reason cry-DUR:2SG
 ‘Why are you crying?’
 (Mous 1993: 287)

K’abeena (Crass 2005: 284) and Oromo (Stroemer 1988) combine question intonation with a full realization of the final whispered vowel. K’abeena may have an additional question suffix *ndo* for a leading yes–no question (63) and the question word *in situ* for information questions, and no question intonation is needed (64). In the Agaw languages the questioned element is marked by the particle *ma* in yes–no questions; the interrogative pronoun in content questions is either sentence-initial or precedes the verb; in addition a particle is added sentence-finally (65) (Hetzron 1976a: 38–9).

- (63) samaanⁱ t'aafaa 'udulanu manc^a
 sky teff:ACC thresh:IMPFV:3M:REL man:NOM
 lallane-he-ndo?
 show:IMPFV:3M-2SG.OBJ-EMPH
 'Don't you see the man there in the sky who is threshing teff?'
 (K'abeena, Crass 2005: 284)
- (64) wombisanaanⁱ k'omboosana yu ma
 K'abeena:INSTR k'omboosana:ACC say:VN:NOM what:ACC
 yoh^a
 say:VN:ACC:COP.M
 'What is *k'omboosana* in K'abeena?'
 (K'abeena, Crass 2005: 285)
- (65) küt aûl gūayitir-aá:
 you where you:will:settle-QUES
 'Where will you settle?'
 (Khamtanga (Agaw), Hetzron 1976a: 39)

Question words are sentence-initial and marked as topics in Somali and Oromo (66) (Sasse 1977: 348–9).

- (66) eennú-tti arge namá-tti arge
 who-TOP see:PF:3M man-TOP see:PF:3M
 'Who saw it? It was the man who saw it.'
 (Borana Oromo, Sasse 1977: 348)

6.36 Topic and Focus

The syntax of Cushitic languages is primarily pragmatically organized. Focus constructions are common and often involve cleft constructions, as in (67) for Khamtanga. Appleyard (1989) points out that this is an areal phenomenon for Ethiopia, and shared with Amharic and Tigrinya.

- (67) wämbäriz digil g^wäyyärd an ŋäŋ
 chair:DEF:of TOP:DEF:on (SUB)REL:1SG:sit 1SG COP
 'It is I who am sitting on the chair.'
 (Khamtanga, Appleyard 1989: 301)

One of the possible functions of the pre-verbal inflectional complex, the selector (see section 6.26 above), is that of indicating the (type of) focus. In Somali, the selector, or

indicator particle, is attached to the focus marker. In the following examples the type of focus marker indicates the type of focus: subject focus (68), verb phrase focus (69) or complement focus (70).

- (68) naag baa libaax aragtay
 woman FM lion saw:she
 'A WOMAN has seen a lion.'
- (69) Cali moos w-uu cunay
 Ali banana DECL.FM-he ate:he
 'Ali HAS EATEN a banana.'
- (70) Cali wax-uu cunay moos
 Ali FM-he ate:he banana
 'Ali has eaten a BANANA.'

Languages with a separate inflectional complex preceding the verb have the option to utilize the position between the inflection complex and verb for backgrounding or out-of-focus expression. Iraqw is such a language; compare (71a) and (71b), where the coffee is backgrounded in (71a).

- (71a) a kahawú wáh
 s.1/2 coffee:CON drink:I.SG
 'I use coffee; I am a coffee drinker.'
- (71b) kahawa u wáh
 coffee:O.M drink:I.SG
 'I drink coffee'

This phenomenon comes close to object incorporation, although true object incorporation is still different in Iraqw, as it requires a bare noun object without the construct-case marking (as in 72). Sasse (1984b) shows the out-of-focus function of noun incorporation in Bayso, Burji, and Boni (see also Sasse 1981b). The examples in (73) show the different focus types in Boni where the non-focus position is immediately before the verb.

- (72) a-ga hee gáas
 s.1/2-PAST man kill
 'I committed manslaughter.'
- (73a) hác-idohoo biyóo=ta'aka
 SGLTV-woman water=drink:IMPFV:3F
 'The woman drinks water.'

- (73b) hác-idohoo biyóó-é ta'aka
 SGLTV-woman water-NOUN.FOCUS drink:IMPFV:3F
 'The woman drinks WATER.'
- (73c) hác-idohoo biyo á-ta'aka
 SGLTV-woman water verb.FOCUS-drink:IMPFV:3F
 'The woman DRINKS water.'
 (Boni, Sasse 1984b: 252–3)

Cushitic languages make ample use of focus clitics to indicate several types of focus/contrast on specific phrases. In Oromo, for example, the pre-verbal clitic *hin* indicates that both the subject and the predicate are focused (74), whereas a post-NP clitic *-tu* indicates contrast (75); the particle *d'a* is used for contrast on PPs (76) (see also Clamons *et al.* 1993).

- (74) Túlluu-n hin-d'uf-a
 T-NOM FOC-come-3M:IMPF
 'Tulluu will come.'
 (Yiman 1988: 368)
- (75) Tulluu-tu hoolaa bit-e
 T-CONTRAST sheep buy:3M-PF
 'It is Tulluu who bought a sheep.'
 (Yiman 1988: 372)
- (76) (Tulluu-n) eeboo-d'a-n leenča aǰjee-s-e
 T-NOM spear-FOC-with lion kill-CAUS-3M-PF.
 'It is with a spear that Tulluu killed a lion.'
 (Yiman 1988: 379)

There is a topic position preceding the sentence and followed by a pause in, for example, Iraqw and Somali. In the Iraqw example (77) the first noun phrase, 'the road' (that was magically cut in the lake) is the topic but it does not reappear as the subject (lake) or the object (them, the cannibal clan) in the remainder of the sentence.

- (77) balbal-dá', tlawi gi-na bara-dí harakí'
 road-DEM4 lake O3:O.P-PAST in-DEM4:DIR return:3SG.F
 'About that road, the lake returned them into it.'
 (Iraqw, Mous 1993: 274)

In Somali (78) a subject that is not in focus is realized as a left-hand (sentence-initial) external (extra-sentential) topic (Frascarelli and Puglielli 2007: 123):

- (78) Cali moos buu cunay
 Cali banana FM.SCL3SGM eat.PAST.3SGM
 'As for Cali, he ate a BANANA.'

Sentences may be marked to have no pragmatically motivated internal structure. Tosco (2001: 263–6) shows that such 'topicalized sentences' are characterized by the use of a subject pronoun (and not a focus subject pronoun) in Dhaasanac. Such sentences are characterized by the use of *waa* in Somali (see Ajello 1995).

6.37 Complex sentences

Several events are often combined into one sentence in which the final verb is the main verb and the preceding verbs are converbs, that is, they are less finite, reduced in person and/or tense marking, and possibly marked for subordination. For example, in Oromo pre-final perfect verb forms with the same subject tend to be marked either prosodically by a high tone (79) or by a suffix *-ti* plus lengthening of the preceding vowel; with different subjects a gerund/converb/perfective in *náan* is used (Banti 2006).

- (79a) inní as d'ufé makiináa bité gale
 he here come:3M:PF:H car buy:3M:PF:H return:3M:PF
 'He came here, bought a car and returned.'
 Owens (1985a: 215)

- (79b) heddúu ofnáan p'olis-ní ná d'aabe
 much drive:PER police-NOM me stopped
 'Because I was driving fast, the police stopped me.'
 Owens (1985a: 151)

The Dullay and Southern Cushitic languages use clauses with consecutive tenses following the main clause instead of such 'converb' constructions, as is clear from the first lines of a Burunge story (80):

- (80) waka'ilee kwa'i haa daw hingáa ɬa'aaɬa'iyay
 once hare and elephant 3:REFL:PRET like:FREQ:INT:3:IMPFV:3PL
 letu wak^a kwa'i higi kaahⁱ sa daw...
 day one:F hare 3:SEQUEN say:3PF for elephant
 'Long ago Hare and Elephant were good friends. One day Hare told Elephant...'
 (Burunge, Kießling 1994: 165)

Nominalized verbs retain the ability to have an object in Iraqw. In (81) the verbal noun is within the verbal complex in object position, but its logical object precedes the verbal complex and is referred to with an object pronoun, which is excluded if an object of non-verbal origin precedes the main verb.

- (81) aníng 'ayto'o a dooḷár ḷáa'
 1SG maize O.F cultivating:F:CON like
 'I would like to cultivate maize.'
 (Iraqw, Mous 1993)

Omotic

Azeb Amha

7.1 Introduction

The term ‘Omotic’ is used to refer to a group of languages and dialects, all of which are found within the Ethiopian territory, mainly in the south-central and western areas (see map 6.1). The largest concentration of Omotic languages is in a more or less contiguous area in the southwest, within the administration domain of the Southern Ethiopian Nations, Nationalities and Peoples’ Regional State (SNNPRS). Outside of this state there are Omotic-language enclaves among speakers of other languages. These enclaves include the Shinasha, who live in the midst of Amharic-speaking areas in Gojjam, just north of the Blue Nile. Within Omotic, the linguistically closest groups to the Shinasha (a Gonga language) are Kafa and Shakacho (‘Mocha’), which are spoken further south in the Kafa region. Other isolated Omotic-speaking people are the Anfillo/Mao and Hozo-Sezo in the western Oromiya and Benishangul-Gumuz regions. The Yem people, farther northeast in the Omotic area, are surrounded by speakers of Cushitic and Semitic (Gurage) languages. The Dizi form another Omotic ‘island’, surrounded fully by the Surmic languages Me’en, Baale, and Surma. Such scattered settlement of Omotic groups seems to indicate a former contiguous, and perhaps larger, distribution of Omotic languages (see Fleming 1984; Hayward 1995).

The people who speak Omotic languages are among the oldest cultivator groups in the highlands of south and western Ethiopia (see Haberland 1988). Most of the Omotic groups have expert knowledge of *enset* (*ensete ventricosum*) cultivation and use ‘probably one of the oldest useful plants in Africa’ (Rossel 1998: 2). As evidence for the antiquity of Omotic-speaking people, Haberland mentioned the old iron-smelting tradition and terrace agriculture of the Dime, Dizi, and Oyda people. He also noted, following the ethnologist A. Jensen, who spoke of *Altvölker* (‘ancient peoples’), that

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many groups in the Omotic-speaking area, for example Aari, Basketo, Bench, Dizi, Nayi, and Ch'ara, could be seen as a cultural unity that differs from other Ethiopian groups (Haberland 1984: 59, 1993: 119).

Haberland (1988) recognizes 'two large cultural blocks' in southern Ethiopia; his classification did not include Berta, Meban, Uduk, Me'en, and Surma communities in the area. The first block consists of the 'two uniformly moulded' Gonga and Ometo groups as well as Aari, Bench, Dime, Dizi, Nayi, Sheko, Yem, and Ch'ara. This block is characterized by hierarchical socio-political systems based chiefly on families and clan relations, and by agriculture-centred economic activity. The second block, which includes the Cushitic-speaking Boran-Oromo, Sidamo, Gedeo, and Konso, is characterized by 'the extraordinary emergence of the cattle complex in the place of crop cultivation' and by a more democratic sociopolitical structure based on genealogical and age organization (Haberland 1988: 36–7). There are, however, a number of communities on both sides in which linguistic and cultural classification do not overlap. The Gamo, for example, are linguistically part of the Ometo group; their livelihood heavily relies on agriculture, but their social organization is characterized by democratic election and public assembly (Freeman 2003), similar to the social system in the second block. Needless to say, more comparative (ethno)historical research on Omotic-speaking groups needs to be done to determine their cultural identification and the correlation of this to their linguistic identity.

There are about thirty languages (and dialects) within the Omotic family. The number of languages cited varies from publication to publication (cf. Unseth 1990; Bender 2000, 2003; Hudson 2005). This variation may be due to the problem of dialect–language status of some of the speech varieties. In some cases, place names or names used by a certain group to refer to their neighbours got into the list. This is the case with 'Geretse' and 'Dac'e', for example. Geretse is the name of a place where predominantly Gamo is spoken, while Dac'e is a name by which speakers of Gamo who live in Zargulla are identified. The following alphabetic list is made by combining information in the publications mentioned and other sources such as various censuses. Known dialects are separated with a hyphen; alternative names of languages are given in parentheses: Aari, Anfillo (Southern Mao, Mao of Didessa), (Bako)-Galila, Basketo-Dokko-Dolo, Bench-She-Mer (Gimira), Boro (Shinasha), Ch'ara, Dime, Dizi (Maji), Gamo-Dorze, Ganta, Gofa, Hamer-Banna, Haro (Gidicho), Hozo-Sezo, Kafa (Kefa), Kara, Koorete (Kore, Koyra, Amaro), Kullo (Dawro), Maale, Mäle-Ganta, Malo, Nayi (Nao), Oyda, Shakacho (Mocha), Sheko, Wolaitta (Welamo), Yemsa (Janjero, Yem), Zargulla, Zayse. Two extinct languages often mentioned are Naga and Ganza.

Omotic is the least-studied branch of Afroasiatic (see Hayward 2003). Monographs on general surveys and comparative studies on Omotic languages include Moreno (1940), Cerulli (1938), and Bender (1975, 2000, 2003). Descriptive grammars have

been published on the following languages: Wolaitta (Chiamo 1938; Padri Missionari 1969; Adams 1983; and Lamberti and Sottile 1997, and a recent online publication by Motomichi Wakasa: www.world-lang.osaka-u.ac.jp/user/liccosec/africa/AF_Wakasa_DrDissertation.pdf), Shinasha (Lamberti 1993a), Yemsa (Cerulli 1963 [1938]; Lamberti 1993b), Kafa (Cecchi 1886; Reinisch 1888; Cerulli 1951), Maale (Amha 2001a), Haro (Woldemariam 2003), Bench (Rapold 2006), Dime (Seyoum 2008), Koorete (Mendis 2008), and Sheko (Hellenthal 2010). Published dictionaries are limited, comprising Leslau (1959) on Mocha grammar and vocabulary, and the Wolaitta–Amharic/Amharic–Wolaitta dictionary compiled by members of the Ethiopian Languages Academy (1997). Extensive word lists are included in some of the descriptive grammars mentioned above. Marcos (1982) and Wedekind (1990b) are examples of works that provide a comparative wordlist for two or more languages. The bulk of important material on Omotic languages is to be found in articles published in collective volumes (e.g. in the two volumes edited by Bender *et al.* (1976 and Bender 1976), and in Hayward (1990)), in conference proceedings, and in journals including the *Journal of Ethiopian Studies*, *Afroasiatic Linguistics*, *Afrika und Übersee*, the *Journal of African Languages and Linguistics*, and *Studies in African Linguistics*. Some of these studies provide grammatical overviews of various languages; others treat specific topics in detail or are comparative studies on morpho-syntax. The present overview relies on these and on two unpublished studies on little-known languages: Beachy (2005), which contains a description of the phonology and morpho-syntax of Dizi, and Zaugg-Coretti (2009) on Yem. MA theses of students at Addis Ababa University have also been consulted. In the actual selection of examples, some choices had to be made; preference is given to published material. When published material is available for several languages and the linguistic facts are similar, care is taken to use these in such a way that representation of different sub-branches of Omotic is balanced.

Since the position of Omotic languages within Afroasiatic is still controversial, the classification history and the issues of contestation are discussed in detail in section 7.2. In the same section, motivations for the present author's support for the Omotic Hypothesis are stated. In section 7.3, some salient features from the phonology of Omotic languages are presented. A survey of the lexical and morphological categories of Omotic languages is made in section 7.4. Some aspects of the structure of phrases and (simple and complex) clauses are discussed in sections 7.5–7.9.

7.2 Genetic classification

The early documented discussion about the classification of some of the Omotic languages dates from the 1840s (see Fleming 1976). Major classification work was done later, in the 1940s, especially by Enrico Cerulli and Martino M. Moreno. However, the

family name ‘Omotic’ itself is a late development, proposed only in the early 1970s by Harold Fleming. So far, at least seven major classifications and re-classifications have been proposed. The latest one of these was proposed by Zaborski in 2004, showing that the issue is still debated. Throughout this period three related questions were raised, leading to various controversies not resolved to date. It seems that the evidence does not allow unequivocal conclusions.

The questions involved are:

- (1) The integrity of the family. From early on, some of the present-day members of Omotic were ‘suspect’; they appear to be different from their alleged Omotic relatives and they lack some Afroasiatic features.
- (2) If Omotic is accepted as a language family, how is it related to other language families in the area? Cushitic is the candidate that is considered to be the closest to Omotic. In fact, in the earlier classifications (still supported by some scholars), Omotic, excluding the Aroid group, is simply a branch of Cushitic (‘West Cushitic’). The claim that Omotic is part of Cushitic implied that Omotic languages were Afroasiatic. However, in various lexico-statistical and grammatical comparisons, Omotic scored too badly to be directly welcomed into the Afroasiatic super-family. Hence, the third question:
- (3) Is Omotic Afroasiatic?

Some scholars have expressed reservations about the Afroasiatic membership of Omotic, e.g. Newman (1980), Theil (*forthcoming*). More studies were carried out and an invaluable book entitled *Omotic Language Studies* was published exactly ten years after the remark by Newman. In the introductory chapter of the book, Richard Hayward, editor of the book and a scholar who has studied several Ethio-Eritrean languages from the Cushitic, Omotic, Semitic, and Nilo-Saharan families, writes: ‘I do believe in Afroasiatic, and that Omotic belongs to Afroasiatic’ (Hayward 1990a: ix). However, lately, the Afroasiatic identity of *some* members of the Omotic family has been questioned by scholars who formerly strongly argued for the view that Omotic is Cushitic and thus Afroasiatic. Andrzej Zaborski, a specialist in Afroasiatic linguistics, referring to the pronominal cognates between Aroid and Nilo-Saharan languages, concludes that Aroid is not Omotic and not Afroasiatic. He claims instead that these languages are Nilo-Saharan (Zaborski 2004). Lionel Bender, one of the first supporters of the Omotic Hypothesis (following Fleming), and a scholar who worked extensively both on Omotic and on Nilo-Saharan languages, had already hypothesized that the pronouns of Aroid could be borrowings from Nilo-Saharan (Bender 1987).

Lamberti (1993a: 62) rejects Bender’s idea of borrowing and concludes, ‘The morphology of Aari-Banna is nearly exclusively Cushitic and thus the Aari-Banna languages

are to be classified as a part of Cushitic; besides this they have preserved many Afro-Asiatic features until our days.' In a recent comparative study of Omotic languages in which he proposed family-internal reclassification, Bender himself concludes:

I can say from my experience with Nilo-Saharan and the findings of Bender 1989, 1991, and 1996, that Omotic isomorphs do not fit well with Nilo-Saharan . . . Pending further work on *Afrasian lexicon, I am forced to the conclusion that lexicon alone cannot serve to establish Omotic as Afrasian. Omotic has a very innovative and mixed lexicon with many areal intrusions from Afrasian languages, especially Cushitic, and also from Nilo-Saharan. Morphological retentions establish Omotic as an Afrasian family.

(Bender 2003: 314)

Thus, with the exception of some doubt about the position of Aroid, the Afroasiatic membership of Omotic is generally accepted by most scholars. Theil ([forthcoming](#)) criticizes the methods used in research on the historical investigation of Omotic languages. According to him the correspondences reported between Omotic and Cushitic/Afroasiatic do not account for more than mere chance-correspondences, e.g. between Omotic and (Proto)Indo European. He thus claims that Omotic is an independent language phylum. Theil correctly pointed out that systematic and rigorous historical comparative evidence solidly based on sound correspondences is essential for any claim on classification. However, such evidence to support his claim that Omotic is an isolate is (yet) to be presented.

Even when the Afroasiatic membership is accepted, the position of Omotic within this super-family was/is controversial. The main threads of the argument in this regard include the following:

- (1) Omotic is a direct descendant of Proto-Afroasiatic and a co-ordinate member with Chadic, Berber, Egyptian, Semitic, and Cushitic (Fleming 1969; Bender 1971; Diakonoff 1988).
- (2) Omotic represents one branch of the Cushitic family (Greenberg 1963, 1966; Lamberti 1991, 1993a; and Zaborski 1986a, 1989).
- (3) Cushitic and Omotic are co-ordinate members of an older Cushitic-Omotiic branch (Bender 1986).
- (4) Afroasiatic branches into two: one branch is represented by Omotic alone and the second branch contains the other five sub-families (Ehret 1979; Fleming 1984).
- (5) Bender (1997) proposed what he labelled 'upside-down Afroasiatic' classification, which emphasizes that Omotic and Chadic represent two of the earliest major splits of Afroasiatic, whereas Berber, Semitic, and Cushitic

are sub-families of the third, ‘youngest and most innovative branch of Afrasian’, which he labelled as ‘Central’ (Bender 1997: 28). With regard to the position of Omotic, this classification is similar to that stated under (d).

- (6) All of North Omotic (i.e. Gonga languages, the Ometo cluster, Bench, Yem, and Dizoid/Maji languages) forms a sub-branch of Cushitic. South Omotic (i.e. Aari, Banna, Hamar, Dime, and Karo) and Mao should be re-classified as part of Nilo-Saharan (Zaborski 2004).

Lamberti (1991) presents detailed discussion and interesting comparison of the various classifications. Based on his study, I present the classification history chronologically and, where possible, mention the main reason(s) for the (re)classifications. It should be noted that, despite differences in the group labels, and how these are related to higher nodes, the recurrent element in all of the classifications is that the languages that are now regarded as Omotic stick together, showing that these have a special relationship with each other (see the bolded language names in the classifications below).

7.2.1 Reinisch’s classification

Cushitic

Low Cushitic: Beja, Afar-Saho, Oromo, Somali

High Cushitic: **Bench, Gonga, Ometo, Yem**; Agaw, Burji, Kembata, Sidamo

Notable in this classification is that the present-day Aroid and Dizoid-branches of Omotic are not included.

7.2.2 Cerulli’s classification

Cushitic consists of four main branches. One of these four branches, i.e. Sidama, contained a number of present-day Omotic languages as well as those that are currently classified as Highland East Cushitic languages: Gedeo, Hadiyya, and Kambaata.

- | | |
|----------------------|--|
| (1) North Cushitic | Beja |
| (2) Central Cushitic | The Agaw languages |
| (3) Lowland Cushitic | Afar, Burji, Dhaasanac, Oromo, Somali |
| (4) Sidama | Gedeo, Hadiyya, Kambaata; Anfillo, Bench, Ch’ara, Gofa, Haro, Kafa, Koorete, Shinasha, Yem, Zayse |

7.2.3 Moreno’s classification

Cushitic has two main branches: the ‘*ani/ati* group’ and the ‘*ta/ne* group’, labelled after their characteristic subject pronouns *ani* ‘I’, *ati* ‘you’, and *ta* ‘I’ *ne* ‘you’. The reason for this re-classification was that there was more shared lexicon among the *ani/ati* languages than between those languages and the *ta/ne* languages; the personal and possessive pronouns of the two groups differ (hence the names *ani/ati* and *ta/ne*); there is divergence between the two groups in the form of some numerals; and the two groups had different verbal affixes for marking tense–aspect and mood, as well as the passive. It is to be noted that Moreno’s *ta/ne* group consists exclusively of Omotic languages, thereby differing from Cerulli’s classification, which combined Gedeo, Hadiyya, and Kambaata with many of the languages found in Moreno’s *ta/ne* group.

- (1) *ani/ati* languages are further subdivided as:

Northern	Beja
Central or Agaw	Bilin, Khamta, Kemant, Awngi
Eastern	Burji, Kambaata, Sidamo; Arbore, Dhaasanach, Konso; Oromo, Somali, Afar-Saho

- (2) the *ta/ne* branch or ‘West Cushitic’ is subdivided into four:

- **Gonga** (including **Anfillo, Kefa, Shinasha**)
- **Yem** (a single language)
- **Ometo** (including **Gofa, Gamo, Zayse, Wolaitta**, etc.)
- **Bench, Nao, Sheko, Dizi**

Tucker and Bryan (1956) made yet another classification of Cushitic languages. But they explicitly state that their classification is based on Moreno’s classification with ‘some modifications worked out in collaboration with him’ (1956: 118). For this reason, their re-classification is not included in the present section.

7.2.4 Greenberg’s classification (1966)

Greenberg (1966) revised his earlier (1963) classification of African languages, including that of the Cushitic family. His later classification is the first to represent Aari, Dime, and Hamer-Banna in the same branch as most of the languages in Cerulli’s Sidama group and Moreno’s *ta/ne* branch. He emphasized this unity by writing: ‘Bako [term used to refer to Aari] and the languages closely related were left unclassified in SALC [‘Studies in African Linguistic Classification’] because of lack of evidence. Material now available shows that these languages are without doubt Western Cushitic’ (Greenberg 1966: 65). Greenberg’s grouping of the other ‘Cushitic’ languages is very similar to that of

Moreno. Thus, his ‘West Cushitic’ consists entirely of Moreno’s *tal/ne*-group plus the newly added Aroid (Aari-Banna) languages.

7.2.5 Fleming’s (1969) and Bender’s (1971) classification

Fleming was the first to exclude West Cushitic from the Cushitic family and place it as a direct descendant of Afroasiatic, as a sister group to Berber, Chadic, Cushitic, Old Egyptian, and Semitic. He labelled the extracted family ‘Omotic’, after the river Omo, which crosses the areas occupied by speakers of many of the languages in the Omotic family. Fleming’s classification was supported by Bender (1971), although Bender’s classification has a slightly different grouping of the languages in the lower nodes. Also, Bender and Fleming used different labels in their different publications to refer to the higher nodes in their classification which led to some confusion and inconsistency. In their joint chapter entitled ‘Non-Semitic languages’, Fleming and Bender (1976) divided Proto-Omotic into two major groups: Western Omotic and Eastern Omotic. The Western group in this classification comprised all of the Omotic languages except Hamer-Banna, Karo, Aari and Dime, which are put under the Eastern branch. In contrast, Fleming (1976) labels Hamer-Banna, Karo, Aari and Dime as ‘South Omotic’ and grouped the remaining languages under ‘North Omotic’. Bender made several revisions to the internal classification of Omotic (for the latest of these, see section 7.2.7).

The family tree in figure 7.1 is based on Fleming (1976). This classification is used in the present chapter whenever reference to the relationship of Omotic languages is made. This classification better represents the relationships in the lower nodes, e.g., the situation within the Omoto family (Amha 1996). In figure 7.1, Fleming used the term ‘Maji’ (a name of an area) to refer both to a sub-branch of Omotic and to a specific language that belongs to that sub-branch, i.e. Dizi.

7.2.6 Lamberti’s classification (1993a)

Except for the inclusion of the Aari-Banna group (group (7) in the list below), which he placed in a different branch from the West Cushitic (i.e. our Omotic, group (3) in the list below), Lamberti’s (1993a) classification is very similar to that of Greenberg. Thus, according to Lamberti, Cushitic has the following branches:

- (1) Northern Cushitic (i.e. Beja)
- (2) Central Cushitic (i.e. Agaw)
- (3) West Cushitic (**Omoto, Gongga, Yemsa**, etc.)
- (4) Lowland Cushitic (Afar-Saho, Somali, Oromo, etc.)
- (5) Burji-Sidamo

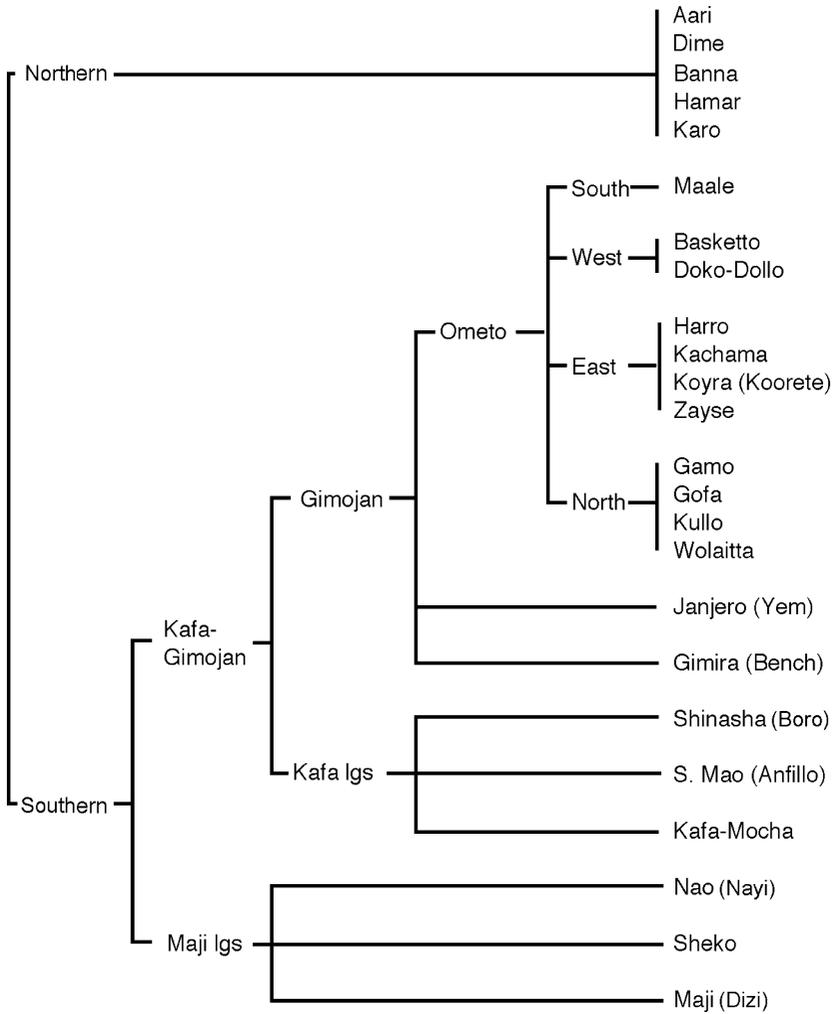


Figure 7.1. Classification of Omotic languages, based on Fleming 1976.

- (6) Southern Cushitic (Iraqw, etc.)
- (7) **Aari-Banna**

7.2.7 Bender’s classifications (2000, 2003)

Bender (2000 and 2003) presents a revised classification of Omotic based on morphological analysis and a study of vocabulary. The classifications in these two works are almost identical. Below is the classification in Bender (2000).

Omotic (numerals and abbreviations from Bender 2000):

1. Mao (O8)
2. TNDA
 - 2.1. TN
 - 2.1.1. Macro-Ometo (MO)
 - 2.1.1.1 Northwest Ometo (O1)
 - 2.1.1.2 Southeast Ometo (O2)
 - 2.1.1.3 Ch'ara (O3)
 - 2.1.2. Gimira/Bench (O4)
 - 2.1.3. Yem-Kefoid
 - 2.1.3.1 Yem (O5)
 - 2.1.3.2 Kefoid (O6)
 - 2.2. Dizoid-Aroid (DA)
 - 2.2.1. Dizoid (O7)
 - 2.2.2. Aroid (O9)

(TN represents the branch that contains languages that have independent pronouns *ta* and *ne*, respectively representing first and second person singular; DA represents Dizoid and Aroid groups. 'Gimira' is used for Benchnon; Kefoid includes Anfillo or 'Southern Mao', Kefa, Mocha, and Shinasha, which are also known as the Gonga languages; Dizoid includes Dizi, Sheko, and Nayi; Aroid includes Aari, Hamer, Banna, Karo, and Dime). Hayward (2009) expresses strong support for this classification, especially Bender's proposal that South Omotic (Aroid) and Dizoid languages form a unity (DA) as opposed to the TN group. To the evidence Bender provided, Hayward (2009) adds, among others, the innovation of third person pronoun formative *b-* which is found throughout the TN languages but not in Dizoid and Aroid.

7.2.8 Zaborski's classification (2004)

Zaborski (2004) did not offer a re-classification of the whole family. However, he states that Aroid (Lamberti's Aari-Banna) should be excluded from West Cushitic (i.e. Omotic) and that the remaining Omotic languages should be re-classified as West Cushitic. With the proposal of re-classifying Omotic languages as West Cushitic, Zaborski is in agreement with Lamberti. However, Lamberti classifies Aari-Banna as a special branch within Cushitic (distinct from West Cushitic, i.e. our Omotic), and thus as part of Afroasiatic, whereas Zaborski claims that Aari-Banna belongs to Nilo-Saharan.

The discussion among the scholars cited above, and the lack of resolution at this stage, proves the complexity of the problem. The works mentioned are vital. However, the

question of classification is far from settled. The latest proposal of Zaborski (2004) to exclude 'Aroid' (i.e., Aari-Dime-Hamer-Banna) from the rest of Omotic, which is based mainly on the pronoun system, still needs to be evaluated in light of emerging facts on other parts of the grammar of Omotic and Nilo-Saharan languages. Even with the exclusion of the contested three or four members from currently recognized Omotic languages, we will still be left with about two dozen languages. Whether these are sufficiently similar to other Cushitic languages to be re-classified as West Cushitic, as Zaborski (2004) suggested, can be definitively ascertained only with further research and detailed description of individual languages from both families. Earlier studies that focused on comparison of shared forms did not agree on the position of Omotic vis-à-vis Cushitic. Obviously, Cushitic languages have a number of grammatical characteristics that are simply not shared by Omotic languages. Witness, for example, the relatively widespread Cushitic features of complex number-and-gender-marking systems; the so-called 'block-pattern' of pronouns; and the notion of verbal-complex (or the function of 'selectors') and 'prefix conjugation' in imperfective verbs, which are reported in the chapter on Cushitic languages in this volume but which are absent in Omotic. It should be noted that 'selectors' and prefix-conjugation are absent in Highland East Cushitic (HEC) languages, which are geographically contiguous with Omotic languages. Moreover, number marking is less complex in HEC than in other Cushitic languages (Yvonne Treis p.c.). Omotic languages generally have a single derivational morpheme for passive, reciprocal, reflexive (middle), whereas most Cushitic languages are reported to have distinct morphemes for passive on the one hand and reflexive-middle on the other. While languages from different branches of Omotic share formally and/or functionally similar constructions, e.g. converb and switch-reference markers, 'reflexive' or 'logophoric' pronouns, Cushitic languages are reported to employ different forms or lack these constructions altogether. Pending further investigation, the present writer supports the 'Omotic Hypothesis' while acknowledging that the external and internal relations among the languages may be somewhat obscured by a long and complicated history and intermingling of the people of southwestern Ethiopia.

Unfortunately, for a long time, studies of the Omotic language family concentrated more on classification and historical-comparative studies, based largely on lexical material, than on in-depth study of individual languages. For now, some questions with regard to the internal classification of Omotic and its exact place within Afroasiatic remain open.

In sections 7.3–7.9, I discuss some of the phonological and grammatical features of Omotic languages, without much recourse to the discussion on linguistic history. As a typological survey, the work does not present comparable data on grammatical features for all the languages. Bender (2000 and 2003) provides much information on phonological and morphological characteristics from all branches of Omotic and

Table 7.1 *Proto-Omotoc consonants.*

		Bilabial	Alveolar	Palatal	Velar	Glottal
Stops	Voiceless	p	t		k	
	Voiced	b	d. ^a		-g-	
	Glottalized		tʔ-, dʔ		kʔ	
Fricatives	Voiceless		s	š		h-
Affricates	Voiceless		-ts-	-č-		
	Glottalized		tsʔ	čʔ		
	Ejective			čʔ		
Nasals		m	-n-			
Liquids			-l-, -r-			
Glides		w		y-		

^a Bender notes that consonants followed by a hyphen, e.g. *d-*, occur only in word-initial position; those preceded and followed by a hyphen, e.g. *-ts-*, occur only in word-medial position.

Adapted from Bender (2003: 310).

compares the forms for purposes of historical reconstruction. In our case, comparison of systems, but not forms, is essential. Within the system of pronouns, for example, data from one or two languages that best represent the case of the majority of languages known will be provided first. Subsequently, cases of languages that diverge from the general pattern but are of typological interest are discussed.

7.3 Phonology

7.3.1 Segments

Bender (2003: 310) proposed twenty-two consonant phonemes for Proto-Omotoc. These are represented in table 7.1, according to distinctions in terms of voicing (voiced or voiceless), and point and manner of articulation.¹

Bender (2003: 310) proposed five ‘cardinal’ vowel phonemes *i*, *e*, *a*, *u*, *o*, and a ‘possible sixth vowel’ for Proto-Omotoc. The latter is the high-central vowel, which is found only word-initially at the proto-stage. Of the five cardinal vowels, *e* and *u* are not attested in word-initial position. Bender mentions that the only long vowels attested at the proto-level are *aa* and *uu*, but the latter ‘is not found in the same series in Mao and TNDA’ (Bender 2003: 310). It may be for this reason that his chart on Proto-Omotoc vowel phonemes does not include *uu*.

Individual languages contain some consonant phonemes that are not among those that have been reconstructed. In the stop series, these include the labial implosive *ɓ*, labial ejective *pʔ*, and the glottal stop *ʔ*. For example, for Koorete both the labial implosive

b and the ejective *p'* are recorded, but the distribution of the implosive seems to be restricted, as it is attested only in three items, i.e. *wóoba* 'mosquito', *k'obba* 'sandal', and *ʔabba* 'father'. The first two of these appear to be loans. In Wolaitta, both *p'* and *b* exist (although some authors report only the ejective), and the labial implosive occurs in word-medial position only, e.g. *šobba* 'armpit', *t'abó* 'root'. The glottal stop is contrastive in word-medial position in all languages surveyed.

Seyoum (2008) reports that the consonants *ɲ*, *dʒ*, *x*, *ɣ*, *χ*, and the voiced uvular fricative are phonemic in Dime, but these are not among the Proto-Omotic phonemes proposed in Bender (2003: 310).

In the reconstructed set, both *ts'* and *t'* are present, but currently most languages have only one of these; e.g., Wolaitta has only *t'* while Gamo has only *ts'*. In Koorete, *t'* is used only in loanwords, and even then it can be replaced with *ts'*, as in *t'áje* or *ts'áji* 'mead' (a loan from Amharic), while the reverse change, of native words with *ts'* to *t'*, is not attested. Regarding the Gonga languages, there is controversy over the phonological status of the sibilants *s* and *š*; the voiceless labials *f*, *p*, and *ɸ*; and the liquids *r*, *l*; and how the latter two relate to *n*. Fleming (1976: 367) reports that *s* 'is rare and a variant of *š*' in Kafa, whereas Mocha has *s* but lacks *l*. Fleming also mentions that the Beke/Amuru variant of Shinasha exhibits a contrast among *l*, *r*, and *n* that is absent in the southern Gonga languages. According to Lamberti (1993b), Shinasha does not have *s* and *ž*, but it has *z* and *š* as well as *č*, *č'*, *j*, *ts* and *ts'*. Theil (2007) shows how contact with other languages affected the phonology of one of the Gonga languages, i.e. Kafa, and the intricacies involved in tracing the history of these languages. According to Theil (2007), *p*, *s*, *ss*, *l*, and *z* in Kafa are 'foreign consonants', introduced to the language through contact (especially with Amharic).

A phonemic voiced alveolar affricate, *dz*, is reported for Gamo and Koorete (Hayward 1982; but cf. Ford 1990). The voiced palatal fricative and affricate, *ž* and *j*, are attested in Bench, Maale, and Koorete. In Wolaitta, *ž* is attested only in ideophonic words such as *č'ozžu* 'rain or drip water continuously', whereas *j* occurs initially and medially (geminated or in a cluster with another consonant), as in *jaam-* 'be in haste', *gujj-* 'add into', and *ganjé* 'intestine'.

In Bench and in all of the Dizoid languages, including Dizi, Nayi, and Sheko, there is a set of four alveo-palatal retroflex consonants, *ʂ*, *z*, *ʈ*, and *ʈ'*. According to Breeze (1990), there are thirteen palatalized and five labialized phonemes in Bench. These are labial *p^y*, *b^y*, *m^y*, and *p^w*, *b^w*; alveolar: *t^y*, *d^y*, *t^y'*, *s^y*, *z^y*, *n^y*, and *s^w*; velar *k^y*, *g^y*, *k^y'*, *g^w*, and *g^w'* and glottal *ʔ^y*. There are gaps in the palatalized and labialized sets in Bench: *l*, *r*, and *p'* have no labialized or palatalized counterparts. Rapold (2006: 101–3) analyses palatalization in Bench as a phonetic phenomenon which only occurs before the vowel *a* and affects word-initial consonants. Excepting *p'*, *h*, and *y*, all word-initial consonants are palatalized when followed by *a*. Dizi is reported to have phonemic

palatalized consonants including seven stops: b^y , t^y , t'^y , g^y , k^y , k'^y , ʔ^y ; an affricate ts^y ; four fricatives z^y , s^y , ʃ^y , and h^y ; and two nasals m^y , n^y . Moreover, the following labialized consonants are reported for Dizi: b^w , g^w , z^w , s^w , and c^w . In Nayi and Sheko, too, there are palatalized and labialized consonants, but Yilma (2003) analyses these as a consonant plus an underlying e and o vowel respectively.

Phonemic contrast between single and geminate consonants is a common feature in Omoti languages, except in Bench and Dizi, which do not have contrastive gemination. Among the Dizoid languages, Nayi uses gemination contrastively (cf. Yilma 2003: 63). Of the thirty-three consonant phonemes of Dime, the following ones cannot be geminated: ts , $dʒ$, ʔ , d , x , χ (and its voiced counterpart γ), h , η , and r (see Seyoum, 2008).

The system of five basic vowels, plus phonemic length, is attested in the majority of Omoti languages. Bender reconstructed such a system for Proto-Omoti. Bench is exceptional in not having long vowels. Other divergences from Bender's generalization involve the presence of breathy vowels in Aari (Hayward 1990) and in Karo (Yigezu 2007), although the phonemic status of these is not fully determined for Karo. This feature is also attested in a group of Western Nilotic languages in the southern Sudan, namely in Dinka, Nuer, and Atout, which might suggest a historical link between South Omoti and Western Nilotic (Gerrit Dimmendaal p.c.). Moreover, a number of Omoti languages are reported to have an additional low-central (schwa) vowel. These languages are Dime, Hamar, Karo, Sheko, Nayi, Dizi, and Anfillo, and, in restricted words, Kafa. For example:

- (1) Anfillo: *gāšo* 'teeth'
gašo 't'ef, grain type with the scientific name:
eragrostis tef

(Goshu and Demeke 2005: 65)

Ferguson (1976) included centralized vowels as one of the phonological characteristics of the 'Ethiopian Language Area'. However, Bender (2003: 36) comments on the distribution of centralized vowels as follows: 'outside of Afar and Beja, [they are] found only in Ethio-Semitic'. But the reports on the Omoti languages mentioned above suggest wider distribution of the central vowel.

Syllabic n and m are reported for Bench. Nayi, Nao, Sheko, and Dizi have a syllabic alveolar nasal.

7.3.2 Prosody

There is great variation among Omoti languages in their prosodic systems. Some languages, such as Gamo and Wolaitta, have only two tones, a low and high tone. The

distribution of the latter is highly restricted, in that every simple word must occur with at least one high tone (tone-accent system). In such languages it is very rare to find independent disyllabic or multi-syllabic words carrying only low tone in all syllables. A number of other Omotic languages are reported to have tone systems, with the number of tone types ranging from two (e.g. in Maale), to three (Yem), and to six in Bench (five level tones plus a sixth rising tone from level 2 to 3) (Wedekind 1983; Breeze 1990; Rapold 2006).

The following are some examples of (near-)minimal lexical pairs to sextuplets in Bench (Rapold 2006: 118–20). The numbers to the left of the examples represent the tone levels.

- | | | | |
|------|-----|-------------|---|
| (2a) | 3 | <i>wot'</i> | 'to kill / to grind' |
| | 2 | <i>wot'</i> | 'to fall / to land' |
| (2b) | 5 | <i>dub</i> | 'worm/moth' |
| | 4 | <i>dub</i> | 'to dance' |
| | 3 | <i>dub</i> | 'to be useless' |
| (2c) | 5 | <i>šot</i> | 'edge / (sharp) point' |
| | 4 | <i>šot</i> | 'crutch' |
| | 3 | <i>šot</i> | 'to slip off' |
| | 1 | <i>šot</i> | 'seedling' |
| (2d) | 5 | <i>dab</i> | 'many' |
| | 3 | <i>dab</i> | 'to follow' |
| | 23 | <i>dab</i> | 'to work together (in communal work)' |
| | 2 | <i>dab</i> | 'a type of basket, made from leaves, hung over a fireplace' |
| | 1 | <i>dab</i> | 'to support a sick person in walking' |
| (2e) | 5 | <i>kar</i> | 'clear' |
| | 4 | <i>kari</i> | 'enset or banana leaf' |
| | 3 | <i>kar</i> | 'to circle' |
| | 2-3 | <i>kar</i> | 'a game with stones' |
| | 2 | <i>kar</i> | 'wasp' |
| | 1 | <i>kar</i> | 'loincloth' |

Besides marking lexical distinctions, tone in most of these languages signals grammatical information. For example, in Dizi, possession can be marked by tone, although an alternative possessive prefix *k-* exists. In Yem, gender distinction in third-person singular pronouns is signalled by tone difference, as in *bar*¹ 'he' vs *bar*³ 'she'. Similarly in Shinasha we find *bí* 'he', *bì* 'she'. In Bench, passive derivation of some verbs is marked by tone, e.g. *k'áyts* 'Work! Do it!' and *k'àyts* 'Be done!' In some Omoto varieties, e.g.

Maale, a nominative and accusative distinction in masculine and plural nouns is marked by high and low tones respectively.

Next to Bench, other highly tonal languages include Dizi, Sheko (four levels); and Nayi, Yem, Shinasha, and Kefa (all making three tone-level distinctions). For most other languages the role of tone (accent) has not yet been determined. The cause of such great variation within the same family remains to be investigated. It is probable that contact phenomena played a role, since the variation in tone marking *partly* coincides with geographical distribution. Thus, most of the reportedly tone-accent languages (e.g. Aari, Gamo, Koorete, Wolaitta, Zayse) are found in the southern and eastern parts of the Omotic area, while the highly tonal languages (e.g. Bench, Kafa, Mocha, Nayi Sheko (all geographically contiguous)), as well as Dizi (an Omotic language surrounded by Nilo-Saharan languages), are located further west and northwest of the Omotic area, where contact with Nilo-Saharan is strongest. It seems that the currently tone/pitch-accent and tone languages have developed from a common-register tone system, with some languages becoming even more tonal and others (due to contact with Cushitic) developing into a tone-accent system. The variation in tonal patterns poses problems in comparative historical studies, as Wedekind (1990b) points out. Even among languages that are highly tonal, there are a number of potential cognate forms that are segmentally comparable but that have to be discarded because of tonal differences. This is the case in Bench and Yem, as shown in Wedekind (1990b).

7.3.3 Syllable structure

Both open and closed syllables are commonly attested, although Bench, a highly tonal language, prefers a closed CVC pattern, with VC and CV restricted to certain suffixes (see Wedekind 1985). In most Omotic languages the syllable nucleus is exclusively represented by vowels. However, in Bench, Dizi, Sheko, and Nayi, syllabic nasals *n* and/or *m* are used. In the numerous languages in which vowel length is contrastive, and where diphthongs are attested, heavy syllables in the form CVVC are common. In Bench, however, heavy syllables include CVCC and CyVC; the latter requires the vowel *a* as nucleus. Variation between Bench and most other languages further involves the number of segments at the onset and coda positions of syllables. That is, while in many Omotic languages onset and coda are non-branching, in Bench, the onset position can be filled by a maximum of two consonants and the coda position by a maximum of three. Sheko and Dizi also allow branching codas but have single onsets. In the less tonal languages, consonant clusters are allowed, to a maximum of two in word-medial position (geminate consonants also tend to occur word-medially), which are then split so that the first member of the cluster becomes the coda of the first syllable, while the second member is syllabified as onset of the following syllable. Moreover,

the highly tonal languages have a large inventory of independent monosyllabic words, whereas in the less tonal or tone-accent languages, such as Wolaitta, monosyllabic words are rare.

7.3.4 Morpheme-structure condition: sibilant-harmony

In several Omotic languages, an interesting word-structure restriction is observed. This is a well-formedness condition in noun and verb roots, and it is characterized as follows: if two or more sibilant consonants occur in a word, these must agree in palatalization (i.e., either all of them are [+palatal] or [-palatal]). Hayward (1988b) coined the expression ‘sibilant harmony’ to refer to this aspect of Omotic phonology. The following examples are from Hayward (1988b: 267):

- (3) Aari: *susa* ‘relative’, *zaazmi* ‘cold/wet’; *žoč’* - ‘close’, *ts’oots’i* ‘full’
 Basketo: *žungurša* ‘backbone’
 Bench: *sets’* - ‘winnow’, *zos* ‘neighbour’; *žaču* ‘maize flower’,
č’ onč’ - ‘fill’
 Dime: *č’ až’ i* ‘full’, *sis’ e* ‘day’, *k’ ašnašiš* ‘eight’ (from *kistin*
 ‘one’ + *-ašiš*)
 Dizi: *čeč’* - ‘be safe’, *čecištey* ‘guard / make feel safe’ (causative
 suffix is *-s*)
 Mocha: *šaač’ č’* - ‘bite’
 Zayse: *suuts* ‘blood’, *ts’ unts’* - ‘absorb’; *č’ unč’ ale* ‘red ant’,
žičče ‘ring’

In some languages the harmony extends across morpheme boundaries to affect stem extension affixes, such as the causative. The following are examples from Bench (data from Hayward 1988b).

- (4a)

<u>Root</u>		<u>Root + Causative -s</u>
<i>sʷap-</i>	‘become wet’	<i>sʷaps-</i> ‘make wet’
<i>č’ ob-t-</i>	‘become light’	<i>č’ obš-</i> ‘make light’
<i>šup-</i>	‘become soft’	<i>šupš-</i> ‘make soft’
- (4b)

<u>Root</u>		<u>Root + Causative -sis</u>
<i>naš-</i>	‘love’	<i>naššiš-</i> ‘cause to love’
<i>mer-</i>	‘forbid’	<i>mersis-</i> ‘cause to forbid’

Other examples demonstrate that the harmony may affect inflectional affixes as well. Thus in Aari, the perfective aspect marker *-s* undergoes a similar adjustment according to the palatalization value of any other sibilant segment within the verb:

- | | | | |
|-----|----------------|-------------|---------------------------------------|
| (5) | <u>Root</u> | | <u>Root + Perfective -s + 1SG -it</u> |
| | <i>šed-er-</i> | ‘be seen’ | <i>šederšit</i> ‘I was seen’ |
| | <i>žaq-er-</i> | ‘be thrown’ | <i>žaqeršit</i> ‘I was thrown’ |
| | <i>giʔ-er-</i> | ‘be hit’ | <i>giʔersit</i> ‘I was hit’ |

Within roots, it is difficult to determine the direction of the harmony. In extended stems, it has been observed that segments within the root trigger harmony, which would suggest unidirectionality. However, adjustment of loanwords suggests that the process could be bidirectional. For example, the Amharic loan *t'iloš* ‘bride price’ is adapted as *č'iloša* in Zayse, a language that has no alveolar ejective *t'* (cf. Hayward 1988b).

Because of the wide distribution of sibilant harmony, in both the North and South Omotic languages, Hayward (1988b, 2003) proposed that it must have been operational at the Proto-Omotic stage. Hayward observes that the only violation of sibilant harmony is attested in Mocha, e.g. *č'ooss-* ‘vomit’, *šeess-* ‘urinate’. However, he explains that this comes as a result of Kafa-internal sound change which involved the merger of *s*, *š*, and *ž* into *š*; and *ts'* and *č'* into *č'*. (See also section 7.3.1 on the status of sibilant and liquid consonants among the Gongga languages.)

7.4 The status of lexical categories

Among the major lexical categories, nouns and verbs are readily distinguishable. Adjectives share morpho-syntactic properties with both nouns and verbs. The status of postpositions as a separate class is controversial. In sections 7.4.1–7.4.8, the categorizations ‘nouns’, ‘verbs’, ‘pronouns’, etc., are based on morphological differences.

Affixation of morphological categories in most Omotic languages involves suffixes. In Dizi and Sheko, however, there are some prefixes. In Dizi, related morphological categories are represented by different types of affixes. For example, possessive pronominal morphemes and the definiteness marker *a-* are prefixes, whereas bound demonstratives are suffixes (Dizi also has independent demonstratives which occur before the noun they modify). Similarly, verbal person, number, and gender markers are prefixes, whereas the feminine gender marker in nouns, *-(e)n(i)*, is a suffix, as illustrated in the following example from Beachy (2005):

- (6) *esi kej-eni so čon-t i-je-n*
 and sun-F up middle-LOC 3FSG-come-DS
 ‘... and the sun came up to the middle [of the sky] ...’

7.4.1 Nouns

7.4.1.1 *Basic form*

In many Omotic languages, nouns end in a vowel which is known as the ‘terminal vowel’ (TV) or ‘word-final vowel’ (see Hayward 1987). These vowels cannot be treated as part of the nominal root, because some terminal vowels get deleted when the basic noun is affixed with any morpheme (unstable TVs), while others are retained (stable TVs). They cannot be treated as suffixes, either, because in most languages, there is no function associated with their presence synchronically. However, in Dizi, Haro, and Mao some final vowels indicate gender distinction. The distribution of terminal vowels in a language is lexically determined, and alternation between forms is observed only in restricted cases. Thus, in some languages there can be alternative forms of the same noun, e.g. in Koorete, one can use *šúčče* or *šúčči* ‘stone’. In contrast, in Wolaitta, the noun has the terminal vowel *a*: *šúčča* ‘stone’, and this vowel cannot be replaced by either of the other two terminal vowels in the language, *e* or *o*, as the resulting *šúčče* or *šúččo* are not acceptable forms. In Maale the word for ‘stone’ is *šúčči*. Similarly *ʔóta* in Zayse and *ʔóto* in Wolaitta designate ‘pot’; the Maale term for ‘bird’ is *kapi*, whereas the word in Wolaitta is *kapó*. Because of such differences across languages, it is difficult to identify the underlying terminal vowel of a noun even among closely related languages. Hayward (1987) shows that some of these variations relate to historical processes whereby some languages merged some of their cognate terminal vowels. Because of the merger, the number and type of terminal vowels varies from language to language (see Hayward 1987). For example, Dizi has a five-vowel system, and all five of the vowels are used as terminal vowels of nouns (this language also has some words that end in a consonant): *nibu* ‘sorghum’, *kasi* ‘game’, *kasa* ‘sand’, *gune* ‘castrated goat’, *kilo* ‘kilogram’. Maale uses four of its five vowels as terminal vowels: *šóóši* ‘snake’, *k’ase* ‘elbow’, *baló* ‘kidney’, and *yérge* ‘axe’; the fifth vowel, *u*, is not used as a terminal vowel. Wolaitta, on the other hand, uses only three of its five vowels for the same purpose, e.g. *zaré* ‘lizard’, *dábbo* ‘relative’, and *kaná* ‘dog’. It has been shown that the ‘a-class’ of Wolaitta expanded when the use of the terminal vowel(s) *i* and/or *u* ceased (see Hayward 1987). In most of the languages, there are also a restricted number of nouns that end in a consonant (often a sibilant consonant).

7.4.1.2 *Definiteness and specificity*

Generally, indefinite nouns are not morphologically marked; definite ones are overtly marked in many Omotic languages, including Aari, Anfillo, Basketo, Gamo, Gofa, Haro, Dime, and Dizi.

In most languages, definiteness-marking and gender interact. In Haro, for example, the definiteness marker is *-z-* when the noun is masculine and *-(a)t-* when it is feminine. In the following examples, the morphemes *-a* and *-o* which occur after the definite markers *-z-* and *-(a)t-* indicate accusative case (data from Woldemariam (2003: 40–2)):

- (7a) *garma* ‘a lion’
 garma-z-a ‘the lion’
 garma-t-o ‘the lioness’
- (7b) *ʔáde* ‘a husband’
 ʔadé-z-a ‘the husband’
- (7c) *míšo* ‘a sister’
 míš-at-o ‘the sister’

According to Goshu and Demeke (2005), Anfillo indicates definiteness through the use of a demonstrative, e.g. *hani* ‘this’ or third-person pronoun *bo* ‘he/she’:

- (8) *ašo* ‘man/person’
 aši-bo ‘the man’
 (*hani ašo* ‘this man / the man’)
- miččo* ‘tree’
 mičči-bo ‘the tree’
 (*hani miččo* ‘this tree / the tree’)
- ašem* ‘woman’
 ašem-bo ‘the woman’

Even in languages that do not overtly mark definiteness, this category plays an important role in the noun morphology because a positive value for definiteness determines the realization of other morphological categories such as case, number, and gender. In Wolaitta, for example, definiteness is not marked by an independent morphological form (unlike the related Gamo language which uses *-z-* for masculine definite). However, case and number marking in Wolaitta have different realizations when a noun refers to an already-established participant in discourse as opposed to when it designates an unknown and/or newly introduced participant. For example, Wolaitta uses the nominative case marker *-í*, or just high tone-accent associated with the final vowel of the noun, when the noun is indefinite, non-specific (masculine or feminine). But when it is already established in discourse, masculine and feminine nouns are marked for nominative case by two different morphemes: *-í* and *-á* respectively (see section 7.4.1.5). Moreover, the possessive form of indefinite nouns makes only a two-way distinction: feminine possessor marked by *-í* and masculine possessor not morphologically marked. In contrast,

in definite or specific nouns there are three distinct possessive markers: feminine *-ée*, masculine *-a*, and plural *-ú* (see section 7.4.1.6 for details).

An extreme case of dependency on definiteness is attested in Aari, in which ‘unless a noun is marked as definite, none of the other categories are ever marked’ (Hayward 1990: 442). Aari marks definiteness by *-na* ~ *-ne* or *-ina* ~ *-ine*, depending on the vowel or consonant ending of the indefinite form.

7.4.1.3 Gender

In almost all Omotic languages a two-way (masculine and feminine) gender distinction is made. The gender distinction is basically semantic, i.e. animate nouns referring to female beings are differently marked from those that refer to male ones. Inanimate nouns belong to one of the two genders, i.e. they are categorically treated as either masculine or feminine depending on the language (see end of the present section for further discussion and for examples).

The morphological realization and the locus of gender marking differs from language to language. In most Omotic languages, gender is marked directly on the noun by specific gender-marking morphemes or through gender-sensitive case or definiteness markers. In a few languages, including Aari, Dime, and Sheko, gender is marked only on associated words, such as adjectival and numeral modifiers.

Anfillo, Basketo, Bench, Dawro, Gamo, Gofa, Hamer, and Wolaitta belong to the group of languages in which the semantic-based gender is morphologically marked on nouns. These languages generally make no formal modification of adjectives, numerals, or other quantifiers when the latter modify a masculine- or feminine-gender noun. The only exception to this may be noun phrases consisting of a demonstrative and a noun, in which case the base form of the demonstrative may optionally be marked with gender-, definiteness-, and case-marking morphemes.

In their description of Anfillo, Goshu and Demeke (2005) show that this language has a special morpheme indicating only gender. Most nouns referring to male beings end in the vowel *-o*. The feminine counterparts of such nouns are formed by replacing *-o* with *-em*, as illustrated in (9).

Anfillo

(9)	MASCULINE		FEMININE
	<i>ašo</i>	‘a man’	<i>ašem</i> ‘a woman’
	<i>kano</i>	‘a he-dog’	<i>kanem</i> ‘a she-dog’
	<i>dahiro</i>	‘a lion’	<i>dahirem</i> ‘a lioness’
	<i>bakko</i>	‘a cock’	<i>bakkem</i> ‘a hen’

(Goshu and Demeke 2005: 69)

However, some nouns in Anfillo end in *i*, and these designate either masculine or feminine referent. These include *igicci*, which may refer to a ‘she-goat’ or a ‘he-goat’, and *minji* ‘cow’ or ‘ox’. To specify the natural gender, the lexical modifiers *indem* ‘mother, female’ and *wuro* ‘male’ are used (see examples in 10). It is interesting that the lexical modifiers themselves have the endings *-em* and *-o*, which are associated with feminine and masculine genders, respectively.

(10a) *igicci indem igicci wuro*
 goat mother goat male
 ‘she-goat’ ‘he-goat’

(10b) *minji indem minji wuro*
 cow mother cow male
 ‘cow’ ‘ox’

Adjectives exhibit a similar two-way distinction in Anfillo:

(11) *bargeččo* ‘good (M)’ *bargeččem* ‘good (F)’
šuddino ‘stout/fat (M)’ *šuddinem* ‘fat/stout (F)’
 (Goshu and Demeke 2005: 72)

In Wolaitta, like in Maale, Malo, and Oyda, there is no special gender-marking nominal affix. Rather, in this language, there are pairs of distinct nominative, accusative, and genitive case-marking morphemes whose distribution is determined by definiteness and gender. Thus the nominative case marker is *-i/y* when the agent/subject noun is animate masculine singular, inanimate, or plural. When the agent or subject noun is feminine, the nominative case marker is *-(íy)a*. In contrast, the accusative is marked by *-a* when the object noun is animate masculine singular, inanimate, or plural, and by *-(íy)o* when it is feminine. The feminine form may be affixed to inanimate nouns if a diminutive is expressed. Compare the (a) and (b) examples in (12–15):

(12a) *naʔá-y y-íisi*
 child-M:NOM come-3MSG:PF
 ‘The boy came.’

(12b) *míttá-y kúnd-íisi*
 tree-M:NOM fall-3MSG:PF
 ‘The tree fell.’

(13a) *naʔ-íya y-aásu*
 child-F:NOM come-3FSG:PF
 ‘The girl came.’

(13b) *mítt-íya kúnd-aásu*
 tree-F:NOM fall-3FSG:PF
 ‘The little tree fell.’

- (14a) *naʔá-a beʔ-íisi*
 child-M:ACC see-3MSG:PF
 ‘He saw the boy.’
- (14b) *míttá-a ʔong-íisi*
 tree-M:ACC make.fall-3MSG:PF
 ‘He felled/cut the tree.’
- (15a) *naʔ-íyo beʔ-íisi*
 child-F:ACC see-3MSG:PF
 ‘He saw the girl.’
- (15b) *mítt-íyo ʔong-íisi*
 tree-F:ACC make.fall-3FSG:PF
 ‘He felled the little tree.’

Members of the East Omoto sub-group have a single nominative form, *-i*, which is gender-neutral, as it marks both feminine and masculine nouns. This is a cognate of the North Omoto and Bench masculine nominative marker *-í* (see Woldemariam (2005) for a discussion on this). However, the East Omoto languages use distinct masculine and feminine accusative case markers, e.g. *-á* and *-ó* in Zargulla respectively.

Other domains of gender distinction in Omotic languages include pronouns, demonstratives, some nominalizer morphemes, and, in most languages, verbal agreement. The distinctions in these domains are illustrated for Wolaitta in example (16). Other languages with similar distinctions include Bench, Gamo, Gofa, Dawro, and Yem.

Domains of gender marking in Wolaitta (cf. highlighted parts of words)

(16)	MASCULINE	FEMININE
Case: Nominative	<i>-í/y</i>	<i>-á</i>
Accusative	<i>-á</i>	<i>-ó</i>
Indef. genitive	<i>-Ø</i>	<i>-í</i>
Def. genitive	<i>-á</i>	<i>-éé</i>
Third-person singular pronouns:	<i>ʔí</i> ‘he’	<i>ʔá</i> ‘she’
Demonstratives:	<i>hagé</i> ‘this (M)’	<i>hanná</i> ‘this (F)’
Verb agreement (with <i>y-</i> ‘come’):	<i>y-íisi</i> ‘he/it came’	<i>y-aásu</i> ‘she came’
Some nominalizing morphemes:	<i>y-íidá-ge</i>	<i>y-íidá-ra</i>
	come-PF:REL-	come-PF:REL-
	M:NMZ	F:NMZ
	‘the one (M)	‘the one (F)
	who came’	who came’

As mentioned earlier, Aari, Dime, and Sheko distinguish gender syntactically, through agreement on modifying categories such as adjectives and quantifiers (a covert gender system). However, these languages do not indicate gender distinction on verbs; they have no lexical demonstratives that are distinct for gender, and no gender-sensitive nominal affixes, such as case and definiteness markers. For example, the proper name *maikro* in Dime is gender-neutral. However, the gender of its referent can be seen from a modifying adjective:

- (17a) *maikró giččó-b níts*
 maikro big-M child
 ‘Maikro is a big boy.’
- (17b) *maikró giččó-nd níts*
 maikro big-F child
 ‘Maikro is a big girl.’
- (17c) *úf-ís múlmúl-ind*
 moon-DEF round-F
 ‘The moon is round.’
 (Dime, Seyoum, 2008: 44)

All inanimate nouns are treated as either masculine or feminine, depending on the language. For example, in Bench, Dime, Dizi, and Wolaitta, inanimate nouns are by default marked with the same nominal or verbal inflectional morphemes as animate masculine nouns. If inanimate nouns are marked with feminine agreement morphemes, either there is a corresponding semantic change, i.e. the noun so marked is interpreted as diminutive, or the structure is ungrammatical. In Zayse and Zargulla on the other hand, inanimate nouns inflect in the same way as animate feminine nouns, as can be observed in the inflection of the verb in the examples in (18).

- (18a) *?ats-í gel-á-tte-s-inne*
 man-NOM enter-INT-FOC-3MSG-PAST
 ‘A man entered.’
- (18b) *biššo-y gel-á-tte-š-inne*
 woman-NOM enter-INT-FOC-3FSG-PAST
 ‘A woman entered.’
- (18c) *nas’ála-y bóot-ó-tte-š-inne*
 garment-NOM be.white-INT-FOC-3FSG-PAST
 ‘The garment became white/clean.’

Maale is somewhat similar to Zayse and Zargulla since inanimate nouns in this language also pattern with animate feminine nouns in case-marking. Specifically, inanimate nouns and feminine animate nouns take the same Nominative and Accusative case-marking suffixes whereas masculine nouns take a different set of suffixes for these two cases. Zayse and Zargulla reflect gender distinction and animacy correlation in subject-agreement on the verb, whereas in Maale the correlation is observed in the nominal morphology. Maale does not mark verbal subject agreement at all.

Depending on their treatment of inanimate nouns, Omotic languages are said to have a masculine or feminine default gender (cf. Hayward 1989). Thus, in Bench and Wolaitta, masculine is the default gender, whereas in Zayse and Zargulla, the default gender is feminine. Accordingly, inanimate (abstract) subject nouns, verbal nominals, clausal complements, and weather verbs in Wolaitta control masculine subject agreement on the verb (19). The corresponding feminine forms cannot be used in the context of the examples in (19).

- (19a) *kawótétta laam-éta-y met-úwáa ?eh-iísi*
 government change-INF-M:NOM problem-M:ACC bring-3MSG:PF
 ‘Change of the government brought (us a) problem.’
- (19b) *míttáa k’ant’-íyo-ge lo??-énna*
 tree-M:ACC cut-IMPF:REL-M:NMZ be.good-3MSG:IPF:NEG
 ‘Cutting trees is not good.’ (fem. **lo??úáku* ‘is not good’)
- (19c) *?íra-y bukk-iísi*
 rain-M:NOM hit-3MSG:IPF
 ‘It rained.’ (fem. **?ír-íya bukk-aásu*)

In Zargulla, unlike Wolaitta, general greetings, weather expressions, and inanimate subjects of passive constructions trigger feminine gender agreement on the verb. As Hayward (1990) shows, the same holds for Zayse. The examples in (20) are from Zargulla.

- (20a) *wooddó-y wai-š-ine*
 time/situation-NOM how-3FSG-PRES
 ‘How are things?’
- (20b) *?írró-y wai-š-ine*
 rain-DEF-NOM how-3FSG-PRES
 ‘How is the rain?’
- (20c) *?appó-y geéžž-ó-tt-iš-ínne*
 day-NOM be_clean-INT-FOC-3FSG-PAST
 ‘It has become daylight.’

- (20d) *saáne-y šog-útt-ó-tt-iš-ínne*
 plate-NOM wash-PASS-INT-FOC-3FSG-PAST
 ‘The plate is washed’ [‘The plate is clean.’]

In languages that lack verbal agreement, it is not easy to determine the default gender. Even when it can be identified through a combination of morpho-syntactic behaviours, speakers may be flexible and alternate the gender of inanimate nouns in different contexts (see the case of Maale, for example, in Amha (2006)). Often feminine and masculine are used to express diminutive or augmentative meanings, respectively (see Rapold (2006) on Bench; Amha (2001a) on Maale). However, this cannot be generalized to all languages. As Lydall (1988: 78) states, in Hamar, ‘feminine gender is used to indicate large and major things rather than small and unimportant ones, while masculine gender is used to indicate small and minor things’.

7.4.1.4 *Number*

With the exception of Dizi, which marks singular, plural, and dual distinctions in its pronoun system, Omotic languages make only a singular and plural distinction in nouns. Generally, singular is unmarked, whereas plural is morphologically marked (Aari is an exception in marking the singulative; see below). In stark contrast to the case of several Cushitic languages (see chapter 6 on Cushitic in this volume), most Omotic languages have just one plural marker for all nouns (e.g. *-t-* in Wolaitta). Some, including Koorete, Haro, Maale, Zayse, and Zargulla, have two plural markers, one used exclusively with kinship terms and the second one used with all other nouns. In Zayse, for example, the general plural is marked by the morpheme *-ir* and kinship terms are marked by *-áats’*.

Zayse Plural markers *-ir* and *-áats’*

- (21) *ǵárša* ‘bed’ *barš* ‘younger kinsman’
ǵárš-ir ‘beds’ *barš-áats’* ‘younger kinsmen’
 (Hayward 1990: 247)

In Zargulla, the general plural is marked by *-ede* (the final vowel of the suffix has high tone when all vowels of the base form of the noun bear low tone) and plural nouns referring to female kin are marked by *-aás’*, e.g. *mais* ‘grandfather’ and *maissede* ‘grandfathers’, but *ǵápo* ‘grandmother’ and *ǵápaás’* ‘grandmothers’. However, *-aás’* may also be used in the expression ‘so-and-so and others’, where the referents may be female, male, or both. One such case is *kebbed-aás’í* in the sentence *kebbed-aás’í yeéttaátteinne* ‘Kebbede and others who belong to his group came’. For a number of Omotic languages, a similar ‘plural’ form referring to a group of people is reported. In a number of languages, including Maale and Zargulla, gemination of the final consonant of the singular noun is an additional indicator of plurality in some nouns. Note, for example,

the Zargulla examples just mentioned: *mais* ‘grandfather’ and *maissedé* ‘grandfathers’, but *miis* ‘cow’ and *miisedé* ‘cows’.

Dizi has two plural markers, *-(a)ke* and *-k’ aŋkaz*, which may be used interchangeably, as in (22a and b). However, Beachy (2005: 60) mentions that these morphemes are optional, as illustrated in example (22c), where the plurality of the subject *jaab* ‘person’ is indicated on the verb but not on the noun itself. (Zaborski (2003: 63) mentions the limited use of nominal plural as one of the features of the ‘Ethiopian macro-area’.) Examples of Dizi plural are given in (22) (data from Beachy 2005: 60, 62). The *v* in the glossing line in (22c) represents an epenthetic vowel.

(22a) *jaab-a-ake*
 person-PROX-PL
 ‘these people’

(22b) *jaab-a-k’ aŋkaz*
 person-PROX-PL
 ‘these people’

(22c) *in-kŋ i:-pm jaab iakiz jɛnjim-i-nišo*
 we-GEN₁ house.LOC person very be.worried-v-3P
 ‘In our house people were very worried.’

Hayward (1990) reports that in Aari, plural is not the morphologically marked category of nouns. Rather, this language has a marked singulative or individuated form for +count nouns, which contrasts with the unmarked generic form. The singulative in Aari is marked by *-s-*, which always occurs preceding the definite marker. The generic form may thus refer to singular or plural. If a generic noun functions as a subject and its referent is plural, it triggers plural agreement in the verb (see 23b):

(23a) *tiilé doqá*
 water.pot be.present
 ‘There is a water pot.’

(23b) *tiile-ná doqá-k*
 water.pot-DEF be.present-PL
 ‘There are water pots.’
 (Hayward 1990: 444)

In Anfillo, it is reported, plurality is indicated by a lexical modifier *?ori* (from *?oro* ‘much/many’):

(24) *ašo* ‘man’ *?ori ašo* ‘men [many man]’
gätto ‘ox’ *?ori gätto* ‘oxen [many ox]’
 (Goshu and Demeke 2005: 69)

Adjectives may be marked for plurality through reduplication in Anfillo and Dime, as illustrated in examples (25) and (26) respectively.

Anfillo

- (25) *ʔogo* ‘big’ vs *ʔogogo* ‘big ones’

Dime

- (26a) *ʔéhé č'ek'-ub*
house small-M
‘a small house’
- (26b) *ʔéh-af č'eč'ek'-ub*
house-PL RDP:small-M
‘small houses’

7.4.1.5 *Nominative and accusative case*

Case marking is the main participant-identifying device in many Omotic languages (see Zaborski (1990) and Bender (2000)). Some languages have the additional means of identifying the subject through pronominal marking on the verb. No Omotic language marks the object on the verb. All languages in this family have a nominative–accusative system. However, within this system, two sub-types are attested: all of the South Omotic languages (Aari, Dime, Hamar), Yem, the Maji or Dizoid languages, and some of the Gongga languages of the North Omotic branch have a morphologically marked accusative and an unmarked nominative case. The remaining languages of the North Omotic branch, namely the Ometo languages (e.g. Wolaitta, Maale, and Gamo) and Bench, have a marked nominative and a morphologically and/or distributionally unmarked accusative case (see König (2008) on marked nominative systems in Africa; see also Tosco (1994a)). In some of the latter languages, morphological marking is partly determined by definiteness. For example, in Aari, Gamo, Haro, Maale, and Wolaitta, definite nouns are morphologically marked for both the nominative and accusative cases (cf. example 27 from Gamo), whereas indefinite nouns are not morphologically marked for the accusative. Moreover, the accusative is distributionally unmarked. That is, in addition to functioning as the direct object of a transitive verb, a noun with morphologically marked or covert (zero-marked) accusative case occurs in a number of other syntactic positions. These include the following: the accusative form of a noun is used as a citation form, sometimes called ‘listing form’, of the noun; it is used as the nominal predicate in non-verbal clauses; and in most languages, ‘semantic roles’ such as the dative and locative are formed by suffixing their respective morphemes to a noun already marked for the accusative case. However, in some languages, such as Wolaitta, the base form for such semantic role marking can be the genitive (see below). Some authors use

the term ‘absolutive’ to refer to both the morphologically marked and unmarked cases of the direct object; others use ‘accusative’. In the present chapter, ‘accusative’ is used as a label for the morphologically marked and unmarked object case.

The following examples from Gamo demonstrate that both subject and object nouns, when definite, are morphologically marked for case. An indefinite object noun, such as *dangarsa* ‘elephant’ in (27a), occurs without a morphological case marker:

- (27a) *šankanča-z-ii dangarsa wodídes*
 hunter-M:DEF-NOM elephant:ACC killed:3MSG:PF
 ‘The hunter killed an elephant.’
- (27b) *šankanča-z-ii dangarsa-z-aa wodídes*
 hunter-M:DEF-NOM elephant-M:DEF-ACC killed:3MSG:PF
 ‘The hunter killed the elephant.’
- (27c) *dangarsa-z-ii šankanča-z-aa wodídes*
 elephant-DEF-NOM hunter-DEF-ACC killed:3MSG:PF
 ‘The elephant killed the hunter.’
 (Hompo 1990: 364)

The unmarked nominative and marked accusative system is illustrated by the examples in (28) from Dime and Shinasha. More discussion on case assignment is found in section 7.6.

- (28a) *kéné ʔéft-im deis-i-n*
 dog bird-ACC kill-PF-2/3
 ‘A dog killed a bird.’
 (Dime, Seyoum 2008: 47)
- (28b) *ta: bí:-n bekre*
 1SG 3MSG-ACC see
 ‘I saw him.’
 (Shinasha, Rottland 1990: 197)
- (28c) *bí: ta:-n bekre*
 3MSG 1SG-ACC see
 ‘He saw me.’
 (Shinasha, Rottland 1990: 197)

7.4.1.6 *The genitive*

In some languages, neither the possessor nor the possessed noun is morphologically marked for case; instead, the semantic role of the two nouns is identified by their

syntactic position. That is, the order possessor–possessed reflects the relation between the two nouns, as is the case in Basketo and Zayse, for example. Bench, Maale, and Dime have a morpheme indicating the possessor ($-a^3ga^2$, $-ko$, and $-ko$ respectively), but the use of the possessive morpheme is optional, e.g. in Dime, both *kó-ko ʔáne* and *kóʔán* express ‘her hand’. Thus, even in the morphologically marking languages, the possessor–possessed word order is important to determine the possessive relation.

In Wolaitta, indefinite feminine possessor nouns may be marked by $-í$ if the speaker wishes to be specific about gender. Otherwise, the indefinite possessor occurs in the lexical entry form and may be interpreted as masculine or non-specific about gender. For example, the lexical entry forms *naʔá* ‘child’ and *so(o)* ‘house, home’ are used to form the following possessive noun phrases: *naʔá so* ‘a child’s/son’s house’ and *naʔ-í so* ‘a daughter’s house’. Note that the word *so(o)* ‘house, home’ has a short vowel in the possessive construction, but the vowel is long when the same noun is used as a complement of a verb, e.g. *soo ʔefá* ‘take it home’. For definite nouns, there are three genitive case-marking morphemes, the distribution of which depends on the gender or number of the possessor noun: $-a$ (used when the possessor is masculine; this morpheme is formally identical to the masculine accusative case marker $-a$; see also section 7.4.1.7), $-ée$ (used when possessor is feminine), and $-ú$ (used when possessor is plural). The morpheme $-ú$ is added to numeral modifiers, too, as in *ʔoidd-ú naata* ‘four children’ (cf. *ʔoiddá* ‘four’).

- (29a) *naʔá-a mat' aáfa bašš-aási*
 child-M:GEN book:ACC lose-1SG:PF
 ‘I lost the boy’s book.’
- (29b) *naʔ-ée mat' aáfa bašš-aási*
 child-F:GEN book:ACC lose-1SG:PF
 ‘I lost the girl’s book.’
- (29c) *naa-t-ú mat' aáfa bašš-aási*
 child-PL-PL:GEN book:ACC lose-1SG:PF
 ‘I lost the children’s book.’

Both the indefinite feminine genitive case marker $-í$ and the three definite genitive markers in Wolaitta (and in related North Omoto languages) are used as bases for marking semantic case roles such as the dative and locative, as will be discussed in section 7.4.1.7.

As in the case of Wolaitta above, in those languages that mark the genitive with morphemes agreeing in number and gender, the agreement corresponds to the gender and number of the possessor noun and it is morphologically marked only on this

noun. The case of Shinasha, as reported by Rottland (1990: 195), is different. Shinasha has three possibilities for expressing a possessive relation: (a) without morphological marking, by simple juxtaposition of the basic form of the nouns, in the order possessor–possessed, e.g. *maasú mâ* ‘the woman’s house’; (b) possessor–possessed order, with the possessed noun morphologically marked by one of the following morphemes: *-ní* (used when possessed noun is masculine, e.g. *maasú moo-ní* ‘the woman’s house’) or *-’ni* where the high tone always occurs on the syllable preceding the suffix – the latter form is used when the possessed noun is feminine; (c) possessed–possessor order, with the possessor morphologically marked by *-ka*, if the possessed noun is masculine, or by *-kí*, if the possessed noun is feminine. Examples are: *bollú maasú-kí* ‘the woman’s mule (F)’; *bollú maasú-ka* ‘the woman’s mule (M)’. In these two examples, the gender of *bollú* ‘mule’ is marked on *maasú* ‘woman’. Rottland (1990: 195) explicitly states that ‘gender agreement in both (b) and (c) is with the possessed’ noun. The position of the possessive suffix can be explained as phrasal marking; i.e. regardless of its role in the phrase, the rightmost noun gets morphological marking.

The type (b) possessive construction in Shinasha is type (a) + demonstrative, since the morphemes *-ní* and *-’ni* are identical to the masculine and feminine proximal demonstratives, respectively. However, Rottland (1990: 195) reports: ‘the informant insisted that a demonstrative function was not normally implied here’. Moreover, the vowel pair *ali* in the Shinasha possessive morphemes *-ka* (masculine) and *-ki* (feminine) are identical to the copula morphemes *-a* (masculine) and *-i* (feminine), which occur in nominal predicative clauses. Thus it could be that type (c) is (historically) derived from a nominal predicative construction. Alternatively, it could have originated from a sequence of a noun and an apposed, nominalized modifier of the type: ‘mule, that of the woman’ ~ ‘mule, the woman’s’.

7.4.1.7 *Adpositions/postpositions or peripheral cases*

Some authors label nominal affixes which denote roles such as goal, recipient, location, and instrument as case markers. Others label them as postpositions. Hayward (2002) addresses the problem this inconsistency causes in comparative studies (see also chapter 6 on Cushitic in this volume for discussion). In Gamo, Haro, Maale, Wolaitta, and to a certain extent in Dime and Dizi (see below), these roles are added to a noun already marked for accusative or genitive case. For example, in Wolaitta, in feminine and plural nouns the genitive case precedes morphemes that mark the dative, instrumental, ablative, or locative roles, which occur as final elements in the noun phrase. In masculine singular nouns in Wolaitta, the genitive and accusative are not morphologically distinguished. Thus, following the analogy of the feminine and plural forms, one can say that the genitive is the base form. Comparison of the examples in (29) in section (7.4.1.6) with those in (30) reveals this:

- (30a) *naʔá-a-ssi mat' aáfa ʔimm-aási*
 child-M:ACC-DAT book:ACC give-1SG:PF
 'I gave a book to the boy.'
- (30b) *naʔ-ée-ppe mat' aáfa ʔekk-aási*
 child-F:GEN-ABL book:ACC take-1SG:PF
 'I took a book from the girl.'
- (30c) *naa-t-uú-ra mat' aáfa šamm-aási*
 child-PL-PL:GEN-COMT book:ACC buy-1SG:PF
 'I bought a book together with / in company with the children.'

The case of Dizi and Dime is different from this, in that, while some cases or semantic roles are built upon the accusative case, others are directly added to the base form of the noun. Allan (1976b) and Beachy (2005) show that in Dizi the accusative case is marked by *-n* on the base form of personal and interrogative pronouns and proper names, and by *-s* or *-sín* in other definite nouns (indefinite nouns are not marked for accusative case in Dizi; nominative case is always unmarked). Like the accusative, the inessive is also directly attached to the nominal base. On the other hand, the dative may be attached to the base form independently (31a) or it may occur following the inessive (31c) or the accusative case (31b). No general semantic or structural motivation has been identified to explain why such case combinations occur in Omotic languages. However, Beachy (2005: 70) states that in Dizi the inessive-dative sequence 'is narrower semantically than dative is alone, since it always has the sense of being a location which the subject goes to and enters'. This is a topic that needs further investigation.

- (31a) *jaab-is šojt utn-k' aṅk ta-de-ki*
 person-DAT all love-INST give-IPF-PF:REL
 '... the one who has been giving to all people with love ...'
- (31b) *tɛmari-a astɛmari-a-s-is t' aḡŋ wɛrk'at wɛs-o*
 student-PROX teacher-PROX-ACC-DAT two paper send-3MSG
 'The student sent two papers to the teacher.'
- (31c) *gab-g-is giam tiɛ-nno*
 market-IN-DAT yesterday go-1PL
 'We went to the market yesterday.'

A parallel combination of case morphemes is observed in the Highland East Cushitic language Kambaata. The locative is based on the accusative, whereas dative, ablative, and instrumental are based on the genitive (see Treis 2006).

7.4.1.8 *The vocative*

Most Omotic languages have vocative markers that have different forms depending on the gender and number of the noun to which the vocative is added (see Rapold (2006) on Bench, Woldemariam (2003) on Haro, and Seyoum (2008) on Dime). In Maale, the vocative suffixes are *-é* for feminine and *-(y)ó* for masculine, but in some lexical forms such as the words for ‘brother’ and ‘sister’, which have distinct masculine and feminine lexical forms, the feminine vocative marker can be used for both feminine and masculine addressees. In contrast, nominal bases such as *nayi* ‘child/offspring’ and *ʔank* ‘young person’, which can refer to either a male or female referent, are marked by the vocative suffix corresponding to the gender of the addressee, e.g. *ʔánk’-ó* ‘young boy!’ and *ʔánk’-é* ‘young girl!’. The lexical vocative pronouns or forms of address in Maale are *ʔéézay* (addressing a male adult), *ʔenaáre* (addressing a female adult), and *ʔéézzántó* (addressing a group of adults).

According to Hellenthal (2010), in Sheko the vocative pronouns *nna* and *nya* are respectively used to address male and female participants. Alternatively, the suffixes *-oo* (for masculine) or *-aa* (for feminine) may be added after the (proper) name of the addressee.

In Dizi the vocative is further differentiated by the introduction of different levels of respect or formality meanings. Beachy (2005: 81) states that up to five affixes can be attached to the (proper) name of the person being addressed. Thus some vocative forms are expressed by vocative prefixes *a-* (M) and *i-* (F) and the suffix *-ej*, which may be preceded by other suffixes depending on the level of respect or formality. This results in what looks like a discontinuous vocative marking. However, the prefixes are formally similar to the vocative pronouns, suggesting procliticization. The following examples illustrate the three sets of vocative markers and the gender and politeness distinction in Dizi:

- (32a) *a-p’et’ros* ‘O Petros!’ (Least formal, M)
i-mary ‘O Mary!’ (Least formal, F)
- (32b) *a-p’et’ros-ej* ‘O Petros!’ (More formal, M)
i-kiaz-ej ‘O Kiaz!’ (More formal, F)
- (32c) *a-saag-a-s-ej* ‘O God!’ (Most formal)
 M:VOC-god-PROX-ACC-VOC
- (32d) *ʔm²-burdz-a-s-ej* ‘O my lord!’ (Most formal)
 1SG:GEN-lord-PROX-ACC-VOC
 (Beachy 2005: 81)

Example (32d) shows that the prefix indicating the gender of the addressee can be replaced by a possessive pronominal prefix referring to the speaker. Moreover, in this

form the proximal morpheme *-a-* and the accusative case marker *-s-* precede the vocative. In co-occurring with the accusative case, the Dizi ‘most-formal’ vocative construction is comparable to the dative in Dizi (discussed in section 7.4.1.7).

In Wolaitta, the masculine singular vocative marker (*-u/w*) consistently occurs following the genitive/accusative case marker. In this respect, the vocative is structurally parallel to peripheral cases such as the locative and dative (see the bolded morphemes in 33a and b). In contrast, the feminine and plural vocative marking suffixes (*-éé* and *-óó* respectively) are directly affixed to the noun (33c and d); note that the feminine genitive and vocative are marked by the same morpheme *-éé* in Wolaitta. In this language, respect for, or rather friendliness to, the addressee can optionally be expressed by the use of periphrastic expressions such as *néná g-aísi* ‘I say (to) you’, as in example (33a), and by adding the first-person singular possessive pronoun *ta* ‘my’ before the vocative noun, even when addressing complete strangers.

- (33a) (*néná g-aísi*) . . . *ta* *ʔišáa-w* . . . *háa*
 2SG:OBJ say-1SG:IPF 1SG:POS brother:ACC-M:VOC here

y-á

come-2SG:IMP

‘(I address you!) . . . my brother! . . . come here!’

- (33b) *bitán-íya-w* . . . *hagé* *nee-g-éé*
 man-M:ACC-M:VOC this:M:NOM 2SG:GEN-M:NMZ-M:PRED:Q
 ‘You/Man! . . . Is this (M) yours?’

- (33c) *mišir-éé* . . . *hanná* *nee-r-ít*
 woman-F:VOC this:F:NOM 2SG:GEN-F:NMZ-F:PRED:Q
 ‘You/Woman! . . . Is this (F) yours?’

- (33d) (*ta*) *naá-t-óó* *hagáa* *gédé*
 1SG:POS child-PL-PL:VOC this:M:ACC there

ʔef-érketi

take.away-2PL:POL:IMP

‘My children! Please take this away!’

7.4.2 Verbs

The commonly attested pattern in Omotic is an invariable verb root to which various derivational and/or inflectional affixes are added to form an extended verb stem (e.g. causative or passive) or an inflected independent verb. Generally, such affixation involves only suffixes. However, in some verbal paradigms of the Aroid and Dizoid

languages – namely, Sheko, Nayi, and Dizi – both prefixes and suffixes are used. In Aari, for example, the negative imperative is marked by the prefix *ay-*, as in *itska* ‘eat!’ vs *ay-itska* ‘do not eat!’ (Bender 1991: 97).

Root-internal variation in verbs is not widely attested in Omotic languages. A possible exception to this may be the restricted cases of tense-conditioned consonant and vowel alternations reported for Shinasha, for some East Omoto languages – such as Koorete, Zayse, and Zargulla – and for Bench. The root variation in Bench, Koorete, Zayse, and Zargulla involves a limited number of verbs that have two to four different verb roots corresponding to different tense–aspects and mood inflection. Where such variation exists in Zargulla, the present, past, and future tense forms are represented by the same verb root, whereas (the non-tensed) optative and imperative paradigms take a different verb root (the infinitive patterns with the optative and imperative forms). For some verbs, the progressive patterns with the tensed paradigms, while with others, the progressive takes the same roots as those used in the infinitive, imperative, and optative verbs. The following examples from Zargulla illustrate the three forms for the verb ‘to come’: *yeétt-*, *yew-/yéw-*, and *yééd-*.

(34) Future:	<i>yeétt-áttišéne</i>	‘she will come’
Past:	<i>yeétt-áttišinne</i>	‘she came’
Optative	<i>yew-íšša</i>	‘let her come’
Imperative, 2 (SG).	<i>yéw-a</i>	‘come!’
Infinitive	<i>yéw-o</i>	‘to come’
Short Perfect / Converb	<i>yééd-í</i>	‘he/she, etc., has come / having come’

As Hayward (1982: 235) shows, most Koorete verbs have just one root, while some have two to four distinct verb roots. For example, for ‘to see’ there are four distinct forms: *bet-* (infinitive), *bed-* (perfective), *ben-* (imperfective), and *be-(ww)-* (imperative). Some verbs make three distinctions: *tup-* (infinitive), *tutt-* (perfective), and *tuk-* (imperfective and imperative) ‘tie’. Others have two distinctions, e.g. *gett-* (perfective) vs *geh-* (infinitive, imperfective, and imperative) ‘sleep’. Hayward states that stem alternation in Koorete can mainly be explained in phonological terms involving, e.g. assimilation of root-final consonants and petrified aspectual markers. If the final consonant of the infinitive stem (i.e. the base form) is known, the shapes of the perfective and imperfective stems can be predicted. However, Hayward also shows that there are a number of verb roots that cannot be accounted for by the phonological rules, and consequently it is necessary to recognize that some alternants are entered in the lexicon (see Hayward 1982: 241–2). Comparable verb-root alternations are reported for Bench (cf. Rapold 2006: 265–84).

7.4.2.1 *Verb stem extension or verb derivation*

Morphologically productive verbal extension processes, including causative, passive/reciprocal, intensive or pluractional, and inchoative, are widely attested in Omotic languages. Nothing intervenes between these derivational affixes and the verb root (see Hayward (1990) on Aari and Zayse, Hirut Woldemariam (2003) on Haro, among others). The following examples are from Wolaitta:

- (35a) *mítta-a k'ant'-íisi*
 wood-M:ACC cut-3MSG:PF
 'He cut wood.'
- (35b) *mítta-a k'ant'-iss-íisi* (causative)
 wood-M:ACC cut-CAUS-3MSG:PF
 'He made someone cut wood.'
- (35c) *mítta-y k'ant'-étt-íisi* (passive)
 wood-M:NOM cut-PASS-3MSG:PF
 'The wood is cut.'
- (35d) *mítta-a k'ant'-erett-íisi* (intensive/pluractional)
 wood-M:ACC cut-INT-3MSG:PF
 'He cut many trees [or he cut one tree into several pieces].'

A recurrent characteristic in many Omotic languages is that the same morpheme is used to derive passive, reciprocal, and reflexive or medial verb stems. This is the case, for example, in Maale, Wolaitta, and Haro. Thus, in Haro, corresponding to the passive construction in (36a), we find the utterance in (36b) with a reciprocal interpretation. In both, the verb is marked by *-utt-*; the difference between the two is that the reciprocal expression includes *wóla* 'together' before the verb.

- (36a) *ʔašó-z-i námʔu lók'a*
 meat-DEF:M-NOM two place:ACC
ʔé-kes-utt-ín-e
 3MSG-divide-PASS-AFF:DCL
 'The meat has been divided into two pieces.'
- (36b) *kan-idé-z-i wóla*
 dog-PL-M:DEF-NOM together
ʔú-sa-sas'-utt-ín-e
 3PL-FREQ-bite-PASS-PAST-AFF:DCL
 'The dogs bit each other.'
 (Woldemariam 2003)

Similarly, in Aari, the passive verb stem is derived by suffixing *-(s)er* to the verb root, as in *diib* ‘steal’ and *diiber* ‘be stolen’ (cf. Hayward 1990: 467). However, Hayward also states: ‘a passive ES [extended stem] verb is employed in the case of a number of important verbs having a subjective or reflexive meaning’. Examples of these are *ʔes-er-* ‘hear’ (cf. *ʔes-* ‘know’), *qob-er* ‘get dressed’, *saam-er* ‘become thirsty’.

Up to two derivational morphemes may co-occur in a verb stem. In all cases observed, the rightmost morpheme in the sequence is that which marks the causative. Thus, the causative can be derived from simple verb roots or from derived verbs, whereas other derived verbs are formed by attaching the relevant morphemes to simple verb roots only. The combination of passive, reciprocal, or reflexive verb stem (these three are often not formally differentiated) plus causative is illustrated in (37a–b) using data from Haro:

- (37a) *ʔés-í bē-ʔadda*
 he-NOM 3REF-father:ABS
ʔé-gal-utt-us-ín-e
 3MSG-thank-PASS-CAUS-PAST-AFF:DEC
 ‘He made his father be thanked.’
- (37b) *ʔés-í šaatá-t-o*
 he-NOM child-F:DEF-F:ABS
ʔé-boʔ-unt-us-ín-e
 3MSG-kneel.down-PASS:REFL-CAUS-PAST-AFF:DEC
 ‘He made the child kneel down.’
 (Woldemariam 2003: 126)

Similarly, in Wolaitta, the causative may be added to frequentative/intensive (38a) and inchoative (38b) verb stems:

- (38a) *ʔaš-úwa k’ant’-erett-iss-ídí ʔasa-t-ú-ssi*
 meat-M:ACC cut-FREQ-CAUS-CNV person-PL-GEN-DAT
ʔimm-ídosona
 give-PL:PF
 ‘They got the meat cut into several pieces and gave it to the people.’
- (38b) *tááni néná kawo-t-iss-áda wott-aná*
 1SG:NOM 2SG:OBJ king-INCHO-CAUS-CNV put.down-FUT
 ‘I will provide for you very well (making you comfortable like a king)’
 (lit. ‘Having made you a king, I will keep you’).

7.4.2.2 *Tense–aspect distinction in declarative, affirmative clauses*

There is no general consensus on whether tense and aspect are distinct categories in Omotic languages. The use of terminology is highly varied, making generalizations and comparison of tense or aspect values difficult. Sometimes two different systems are reported for the same language, depending on the author's approach. In the following paragraphs some sample systems are reported, using the terminology in the original publications.

Maale makes two major aspect distinctions: perfective and imperfective, marked respectively by *-é-* and *-á-* as in (39a and b). The imperfective makes a further distinction between present and future forms, as (39b) and (39c) illustrate. The bolded affixes in (39b and c) show that the present and future tense forms are partly formally similar, i.e., in both we find the morpheme *-á*. The exact parallel of this is observed in the negative (40), where the morpheme *-uwá-* is attested in both the present and future negative forms, whereas the past tense marked *-ibá-* is clearly different. Amha (2001a) uses this partial formal resemblance to justify the analysis of the system as exhibiting a perfective–imperfective distinction rather than a three-way (past, present, and future) tense system.

- (39a) *mukk-é-ne* 'I, you, he/she, etc., came'
 (39b) *mukk-á-ne* 'I, you, he/she, etc., comes, is coming'
 (39c) *mukk-**ánd-á**-ne* 'I, you, he/she, etc., will come'
 (40a) *mukk-ibá-se* 'I, you, he/she, etc., did not come'
 (40b) *mukk-uwá-se* 'I, you, he/she, etc., does not come'
 (40c) *mukk-índ-uwá-se* 'I, you, he/she, etc., will not come'

Breeze (1990) distinguishes three 'simple tenses' (see examples in 41) and their corresponding 'compound tenses' (42) in Benchnon. The latter are formed by the combination of a main verb represented by the 'past participle' (a form that corresponds to the anterior converb in related languages) and one of the auxiliary verbs: *yist*³ (imperative or basic form of the verb 'to be'), *yist*⁴ (future tense form) or *yisk*⁴ (present tense form). The compound tenses express progressive action in the present, future, or past. These are illustrated in (41) and (42), with examples from Breeze:

- (41) *ham*³ 'go' (basic, imperative form)
*han*³*k'u*²*e*³ 'he went' (simple past)
*ham*⁴*m*³*su*²*e*³ 'he will go' (future tense)
*han*³*k'n*⁴*su*²*e*³ 'he has gone' (present perfect)
 (Breeze 1990: 29–32)

- (42) *han³k'i⁵ yis⁴ku²e³* 'he is going' (present continuous)
han³k'i⁵ yis⁴tn³su²e³ 'he will be going' (future continuous)
han³k'a⁴ yis³ten²e³ '(she) was going' (past continuous)

According to Breeze, Benchnon marks other aspectual distinctions, such as the 'pluperfect' and 'compound present perfect', by combining the above-mentioned three auxiliary verbs with the 'present perfect participle':

- (43) *han³k'n⁴sa⁴ yis³tu²e³* 'I had gone'
(pluperfect)
u¹t'n⁴sa⁴ yis⁴ku²e³ 'I have taken hold of'
(compound present perfect)

Similarly, Rapold (2006: 260) recognizes a three-way tense–aspect distinction in Benchnon indicative verbs, but with different labels: Perfective (morphologically unmarked), perfect (marked by *-ńs-* or *-ánk'-*), and future (*-ns-*, mid-tone), and 'periphrastic or compound imperfective tenses' which are made up of a medial verb form (i.e. Breeze's 'participial', sometimes referred to as 'converb') plus a form of the existential–locational verb *yist*. In Rapold's analysis, 'the cover term of all such paradigms is "Tense", irrespective of whether the semantics of a Tense in question is more tense- (i.e. related to time), mood-, or aspect-like'.

Zargulla makes tense distinctions including present/habitual, progressive, future, and past declarative affirmative forms. While tense distinctions are partly signalled by alternating vowel and consonant length and/or tone on the verb root, the rightmost affixes on the verb are the main elements that distinguish tense in Zargulla: *-inne* (past), *-ine* (present or habitual), *-éne* (future and progressive; the latter function is possible only in combination with *-aa-*, which occurs immediately after the root). All Zargulla tense markers end in *-ne*. It is possible that, at some stage, this morpheme had a morphological function of marking modality in the language. Another Omoto language, Maale, uses a cognate form *-ne* as a sentence-type marker which distinguishes affirmative declarative clauses from negative declarative clauses and from interrogative clauses. In Zargulla, however, *-ne* is attested in both declarative and (polar) interrogative questions. Because of this, the morphemes *-inne*, *-ine*, and *-éne* in Zargulla are not further analysed in this chapter. The following examples illustrate tense marking in Zargulla:

- (44) *yéwo* 'to come' Infinitive
yeétt-átte-š-inne 'she came' Past
yeétt-átte-š-ine 'she comes' Present/habitual
yeétt-átte-š-éne 'she will come' Future
yew-áá-tte-š-éne 'she is coming' Progressive

In Zargulla, tense–aspect markers and subject-agreement markers are kept distinct. That is, *-ǝ-* in all of the above examples represents the third-person feminine singular subject. In contrast, person, number, and gender of the subject and tense–aspect are expressed by a single (portmanteau) morpheme in Wolaitta. Verbal agreement is discussed in the following section.

7.4.2.3 *Subject-agreement marking on the verb*

None of the Omotic languages marks the object on the verb. Subject-agreement marking is attested in many of the different sub-branches. There is, however, great variation in the extent and possibility of subject-marking on the verb. Some languages use different sets of morphemes to indicate person, number, and gender of the subject in different tense–aspect, mood, and polarity values. In contrast to these, some Omotic languages have highly reduced verbal morphology, indicating only tense–aspect and mood distinctions but no subject agreement. Moreover, the latter often use invariable particles for tense–aspect distinctions which may be used in different moods. Among the relatively highly inflecting languages, we find Bench, Gamo, Gofa, Koyra, Wolaitta, Zayse, and Zargulla. Simpler verbal forms are attested in Haro, Maale, and Malo, which mark pronominal information only on the imperative verb to distinguish second-person singular and plural. In between these two extremes, we find languages which have a reduced subject co-indexation. For example, Basketo distinguishes number and gender on the verb, but not person. The suffix *-i-* is used for all plural subjects and for the third-person masculine singular, while the suffix *-a-* is used for all other singular subjects, including third-person feminine:

- (45) 1SG *tani* *lukk-a-de* ‘I went’
 2SG *neni* *lukk-a-de* ‘you went’
 3FSG *iza* *lukk-a-de* ‘she went’
 3MSG *ii* *lukk-i-de* ‘he went’
 1PL *nuni* *lukk-i-de* ‘we went’
 2PL *yinti* *lukk-i-de* ‘you went’
 3PL *inti* *lukk-i-de* ‘they went’
 (Amha 1995: 5)

Dime makes only a two-way distinction of person, namely first person against second and third persons, marked by *-t* and *-n* respectively. This language does not mark a gender or number distinction on the verb:

- (46) *ʔaté* *ʔád-i-t* ‘I came’
wótú *ʔád-i-t* ‘we came’
nú *ʔád-i-n* ‘he came’
ná *ʔád-i-n* ‘she came’
yaye *ʔád-i-n* ‘you (SG) came’
yesé *ʔád-i-n* ‘you (PL) came’
kété *ʔád-i-n* ‘they came’
(Seyoum 2008: 128)

Both Basketo and Dime have two subject-agreement affixes, but while Basketo makes use of these to indicate differences in two grammatical features (number and gender), Dime uses the two morphemes to mark differences within one morphological category (i.e. person). The first-person singular and plural independent subject pronouns and the singular forms of the third-person pronouns in Dime contain the same segmental elements as their respective subject-agreement markers in verbs: *-t* and *-n*. Hayward (1990 and 1999) has shown a similar formal correspondence between verbal subject-agreement markers and pronouns in the East Omoto language Zayse and suggested a historical link between the two. Similarly, the Zargulla subject pronouns in parentheses in (47) correspond to the verbal agreement markers. The relevant consonant segments in the pronouns and in the verb paradigms are in bold type:

- (47) (*tání***t** *ái*) *yeétt-á-tte-**t**-ínne* ‘I came’
(*néní*/**n***éí*) *yeétt-á-tte-**n**-ínne* ‘you (SG) came’
(*ʔés* *í*) *yeétt-á-tte-**s**-ínne* ‘he came’
(*ʔís* *í*) *yeétt-á-tt-**iṣ**-ínne* ‘she came’
(*nín* *í*) *yeétt-á-tt-**in**-ínne* ‘we (EXCL) came’
(*nún* *í*/*núí*) *yeétt-á-tt-**un**-ínne* ‘we (INCL) came’
(*wút* *úni*) *yeétt-á-tt-**i** **t**-ínne* ‘you (PL) came’
(*ʔús* *úni*) *yeétt-á-tt-**us**-ínne* ‘they came’

The correspondence between subject-agreement markers and pronouns in some of the Omotic languages seems to be related to the (historical) use of (shortened) subject pronouns before an auxiliary or other secondary verb in compound verbs or complex predicates (Azeb Amha (2007a) analyses Zargulla declarative verb paradigms as complex/compound forms for other structural reasons as well). One of the indications for this is a widespread use of (short) subject pronouns in pre-verbal position. For example, Woldemariam (2003) shows that Haro does not use subject-agreement suffixes. Rather, this language uses phonologically reduced personal pronouns as pre-verbal subject-agreement particles (Hirut Woldemariam analyses these as proclitics):

(48)	PREVERBAL SUBJECT-AGREEMENT	SUBJECT PERSONAL
	MARKERS	PRONOUNS
	1SG <i>tá-</i>	<i>tání</i>
	2SG <i>né-</i>	<i>néní</i>
	3MSG <i>?é-</i>	<i>?ésí</i>
	3FSG <i>?í-</i>	<i>?ísí</i>
	1PL <i>nú-</i>	<i>núní</i>
	2PL <i>?íní-</i>	<i>?íníní</i>
	3PL <i>?ú-</i>	<i>?úsíní</i>
	(Woldemariam 2003)	

These pre-verbal pronominal elements normally occur in a sentence in combination with their corresponding full subjects:

- (49) *tání* *tolkó-kko* *tá-wod-ín-e*
 1SG:NOM hyena-FOC 1SG-kill-PAST-AFF:DEC
 ‘I killed a hyena.’

Similar copy pre-verbal subject pronouns are used in Koorete and Shinasha as well (see Hayward 1982, Mendisu 2008, and Rottland 1990 respectively). Rapold (2006: 357) shows that, besides verbal subject-agreement suffixes, Bench also has a set of ‘short weak subject pronouns’ which ‘occur in close proximity of the verb, but if that is in a compound tense, they can also occur before the second verb of the compound form’ (Rapold 2006: 357). (See table 7.2 in section 7.4.3 for the list of Bench pronominal forms.)

The subject-agreement system in the North Omoto languages such as Dawro, Gamo, Gofa, and Wolaitta significantly differs from the above-mentioned cases. The latter languages have various verbal inflectional suffixes. Wolaitta, for example, distinguishes affirmative, negative, and interrogative sentences, each of which has two to three distinct sets of morphemes indicating subject agreement and modality. The affirmative declarative paradigms for the verb *?od-* ‘tell’ in Wolaitta are shown in (50a). The future tense form does not inflect, while the present and past tense forms distinguish person, number, and gender of the subject:

(50a)	PRESENT		PAST	
	<i>?od-aási</i>	‘I tell’	<i>?od-aási</i>	‘I told’
	<i>?od-aása</i>	‘you tell’	<i>?od-ádasá</i>	‘you told’
	<i>?od-eési</i>	‘he tells’	<i>?od-íisi</i>	‘he told’
	<i>?od-aúsu</i>	‘she tells’	<i>?od-aásu</i>	‘she told’
	<i>?od-oósi</i>	‘we tell’	<i>?od-ída</i>	‘we told’
	<i>?od-eéta</i>	‘you (PL) tell’	<i>?od-ídeta</i>	‘you (PL) told’
	<i>?od-oósona</i>	‘they tell’	<i>?od-ídosona</i>	‘they told’

The declarative future tense form is the invariable *ʔod-aná* ‘I, you, etc., will tell’, which can be used with any subject. In the affirmative interrogative paradigm, however, we observe partial inflection in the future tense. That is, second-person singular and plural are differently marked (with *-úíte* and *-úíteti* respectively) from first and third person singular and plural. For the latter, an invariable *-anéé* is used. This is illustrated with the verb *ʔod-* ‘tell’ in (50b):

(50b)	PRESENT	PAST
	<i>ʔod-aíná</i> ‘Do I tell?’	<i>ʔod-ádína</i> ‘Did I tell?’
	<i>ʔod-áy</i> ‘Do you tell?’	<i>ʔod-ádí</i> ‘Did you tell?’
	<i>ʔod-íí</i> ‘Does he tell?’	<i>ʔod-ídé</i> ‘Did he tell?’
	<i>ʔod-áy</i> ‘Does she tell?’	<i>ʔod-ádé</i> ‘Did she tell?’
	<i>ʔod-íyó</i> ‘Do we tell?’	<i>ʔod-ídó</i> ‘Did we tell?’
	<i>ʔod-eéetí</i> ‘Do you (PL) tell?’	<i>ʔod-ídéetí</i> ‘Did you (PL) tell?’
	<i>ʔod-íyóná</i> ‘Do they tell?’	<i>ʔod-ídóna</i> ‘Did they tell?’
	FUTURE	
	<i>ʔod-anéé</i> ‘Will I tell?’	
	<i>ʔod-uíte</i> ‘Will you tell?’	
	<i>ʔod-anéé</i> ‘Will he tell?’	
	<i>ʔod-anéé</i> ‘Will she tell?’	
	<i>ʔod-anéé</i> ‘Will we tell?’	
	<i>ʔod-uíteti</i> ‘Will you (PL) tell?’	
	<i>ʔod-anéé</i> ‘Will they tell?’	

The negative declarative in Wolaitta merges the present and future tenses. Thus, in the negative the distinction is between past and non-past, as shown in (50c) for the same verb *ʔod-* ‘tell’:

(50c)	PRESENT/FUTURE	PAST
	<i>ʔod-íkke</i> ‘I don’t/won’t tell’	<i>ʔod-ábeíkke</i> ‘I did not tell’
	<i>ʔod-ákká</i> ‘you don’t/won’t tell’	<i>ʔod-ábaákká</i> ‘you did not tell’
	<i>ʔod-énná</i> ‘he doesn’t/won’t tell’	<i>ʔod-íbeénná</i> ‘he did not tell’
	<i>ʔod-úkkú</i> ‘she doesn’t/won’t tell’	<i>ʔod-ábeíkkú</i> ‘she did not tell’
	<i>ʔod-ókkó</i> ‘we don’t/won’t tell’	<i>ʔod-íboókkó</i> ‘we did not tell’
	<i>ʔod-ékkéetá</i> ‘you (PL) don’t/won’t tell’	<i>ʔod-íbeékkéetá</i> ‘you (PL) did not tell’
	<i>ʔod-ókkóna</i> ‘they don’t/won’t tell’	<i>ʔod-íboókkóna</i> ‘they did not tell’

In the negative-interrogative of Wolaitta verbs, the same past and non-past distinction is made as in the negative-declarative:

(50d)	PRESENT/FUTURE		PAST	
	<i>ʔod-ikkíná</i>	‘Don’t/won’t I tell?’	<i>ʔod-ábeíkkína</i>	‘Didn’t I tell?’
	<i>ʔod-ikkí</i>	‘Don’t/won’t you tell?’	<i>ʔod-ábeíkkí</i>	‘Didn’t you tell?’
	<i>ʔod-énné</i>	‘Doesn’t/won’t he tell?’	<i>ʔod-íbeénné</i>	‘Didn’t he tell?’
	<i>ʔod-ékké</i>	‘Doesn’t/won’t she tell?’	<i>ʔod-ábeékké</i>	‘Didn’t she tell?’
	<i>ʔod-ókkó</i>	‘Don’t/won’t we tell?’	<i>ʔod-íboókkó</i>	‘Didn’t we tell?’
	<i>ʔod-ékkéti</i>	‘Don’t/won’t you (PL) tell?’	<i>ʔod-íbeékkéti</i>	‘Didn’t you (PL) tell?’
	<i>ʔod-ókkóná</i>	‘Don’t/won’t they tell?’	<i>ʔod-íboókkóná</i>	‘Didn’t they tell?’

In addition to the North Omoto languages mentioned above, a similar inflectional system is attested in Bench (see Breeze 1990; Rapold 2006). A system of distinguishing various sentence types through inflectional means, as demonstrated for declarative and interrogative sentences in Wolaitta above, is typologically rare among the world’s languages (see Hayward 1995, 1998a).

7.4.2.4 ‘Displaced’ subject-agreement markers

In a few Omotic languages it has been observed that verbal subject-agreement suffixes may be attached to a non-verbal category in a sentence. The phenomenon is observed in some languages from different branches of Omotic that are not geographically contiguous: Zayse and Zargulla from Omoto, Sheko from the Maji/Dizoid group of North Omotic, and Aari from South Omotic. In the East Omoto languages Zayse and Zargulla, for example, verbal pronominal elements move out of the verb and are affixed to a focused constituent in the clause (see Hayward 1990; Amha 2007a and b). For the inflectional paradigm of affirmative declarative clauses in Zargulla, see example (47) in section 7.4.2.3. In example (51), the subject-agreement markers are part of the verb, as this category is in focus. In contrast, in (52) and in (53–4), the same verbal subject-agreement suffixes are attached to focused nominal and adverbial categories.

(51) *ʔésí gúta gákk-o-tte-s-éne*
 3MSG:NOM tomorrow arrive-INT-FOC-3MSG-FUT
 ‘He will **arrive** tomorrow.’

(52) *ʔésí gúta-tte-s gákk-o-ne*
 3MSG:NOM tomorrow-FOC-3MSG arrive-INT-FUT
 ‘Will he arrive **tomorrow**?’

(53a) *ʔáánde-n yeénne*
 when-2SG come:PAST
 ‘**When** did you (SG) come?’

- (53b) *ʔáánde-it yeénne*
 when-2PL come-PAST
 ‘**When** did you (PL) come?’
- (54a) *ʔas’ o-y ʔánna-s yene*
 man-NOM where-3MSG exist:PRES
 ‘**Where** is the man?’
- (54b) *bíššáttó-y ʔánna-iš yene*
 woman-NOM where-3FSG exist:PRES
 ‘**Where** is the woman?’

In examples (55a) and (55b) the object content question words: *ʔánnesa* ‘which (M:OBJ)’ and *ʔánniša* ‘which (F:OBJ)’ respectively are additionally marked by the morphemes *-n* and *-us*, respectively coindexing the second person singular and third person plural subjects of (55a) and (55b). The independent pronouns in parentheses are optional:

- (55a) (*néní*) *ʔánn-es-a-n s’ eél-ínne*
 (2SG:NOM) which-3MSG-ACC-2SG see-PAST
 ‘Which one (M) did you (SG) see?’
- (55b) (*ʔúsúní*) *ʔánn-iš-a-us s’ eél-ínne*
 (3PL:NOM) which-3FSG-ACC-3PL:SBJ see-PAST
 ‘Which one (F) did they see?’

Tully (as quoted in Bender 1991) reports ‘conjugated adverbs’ for Aari, where time adverbs such as *seni* ‘tomorrow’ and *biri* ‘later’ inflect for the subject in the interrogative. In the examples in (56a), *seni* ‘tomorrow’ is marked for person and number of the subject; the verb *its(i)* ‘eat’ is affixed with the imperfective aspect marker *-d-* and the interrogative marker *-o*. Parallel to this, in the ‘imperfect continuous interrogative’ in (56b) we find similar subject-agreement markers (in bold type) between the two reduplicants of the verb *its(i)* ‘eat’. The grammatical or pragmatic motivation for the shift of subject-agreement markers in Aari is not stated; it is probable that focus plays a role here, too. The data are from Bender (1991: 99–100):

- (56a) 1SG *ita sen-i itsi-d-o* ‘Will I eat tomorrow?’
 2SG *ana sen-aa itsi-d-o* ‘Will you eat tomorrow?’
 3SG *na/no sen-uk itsi-d-o* ‘Will s/he eat tomorrow?’
 1PL *weta sen-o itsi-d-o* ‘Will we eat tomorrow?’
 2PL *yeta sen-e itsi-d-o* ‘Will you (PL) eat tomorrow?’
 3PL *keta sen-ak itsi-d-o* ‘Will they eat tomorrow?’

- (56b) 1SG *its-i-itsi-d-o* ‘Am I eating?’
 2SG *its-a-itsi-d-o* ‘Are you eating?’
 3SG *its-uk-itsi-d-o* ‘Is s/he eating?’
 1PL *its-o-itsi-d-o* ‘Are we eating?’
 2PL *its-e-itsi-d-o* ‘Are you (PL) eating?’
 3PL *its-ek-itsi-d-o* ‘Are they eating?’

In the Dizoid language Sheko, verbal subject-agreement markers are displaced and affixed to a focused constituent (Hellenthal 2010). A comparable displacement of verbal subject-agreement markers has been observed in Konso, a Cushitic language spoken in southwest Ethiopia (Maarten Mous p.c.), and in Sandawe, a Khoisan language spoken in Tanzania (Sander Steeman p.c.).

7.4.2.5 Negation

In many Omotic languages, negation in declarative/indicative clauses is expressed by a suffix attached to the verb. Bench, Hamar, Shinasha, and Dime use phonologically or morphologically conditioned allomorphs of the same negation marker in clauses with different tense–aspect or mood values. The Bench negative markers *-arg^f* and *-ar^f* are distributed according to phonological conditioning: *-arg^f* is used when the morpheme that immediately follows the negative marker starts with a vowel, whereas *-ar^f* is used when it starts with a consonant (see examples in 59). The same morphemes are also differentiated through a morphological restriction: in second-person plural polar interrogatives and suggestive imperatives, only the form *-ar^f* occurs, irrespective of the phonological shape of the following morpheme (see Rapold 2006). Hamar also has two phonologically conditioned negative markers, *-mä-* and *-ma* (cf. Lydall 1976). These are selected depending on the advanced tongue root (ATR) value of the vowel(s) in the stem. Dime also uses phonologically conditioned negative allomorphs: *-kay*, *-k’ay*, or *-ka* (see Fleming 1990; Seyoum 2008). The morpheme *-kay* is the base form and is attached to the verb root directly; *-k’ay* is a variant used with verb roots ending in ejective consonants or in the velar nasal η ; and *-ka* is used when the negative marker is followed by another morpheme. Each of the forms is illustrated in (57); these examples also show that negative verbal predicate clauses in Dime do not distinguish tense–aspect and person/number or gender of the subject, whereas in negative nominal-clauses the predicative ‘be verb’ is marked for tense–aspect, as in (57b). See also sections 7.4.2.2 and 7.4.2.3 on tense–aspect marking and subject agreement in Dime.

- (57a) *?ád-kay* ‘(I/you/she, etc.) does / did / will not come’
tíŋ-k’ay ‘(I/you/she, etc.) does / did / will not go’
- (57b) *kení yi-ká-déé*
 dog BE-NEG-PF
 ‘It was not a dog.’

Some languages have different negative markers for the perfective and imperfective aspects (or for past and non-past forms). For example, Aari marks the perfective negative by *-k-* and imperfective negative by *-y-*, as in *its-k-ite* ‘I did not eat’ vs *itsa-y-ite* ‘I am not eating’ (see Bender 1991: 97). Several members of the North Omoto branch, such as Wolaitta (cf. Adams 1983; Lamberti and Sottile 1997) and Gamo (Hompo 1990), the East Omoto language Koorete (Hayward 1982; Mendisu 2008), and Yem(sa) (Lamberti 1993c) have special negative verb paradigms that express tense–aspect and negation as well as subject-agreement values cumulatively, using a single (portmanteau) morpheme. See section 7.4.2.3 on subject inflection and for examples of negative declarative and negative interrogative verb paradigms in Wolaitta.

Negative imperative and negative optative are marked by a special negative morpheme in many Omotic languages. This is the case in Aari, Dime, Dizi, Haro, Maale, Koorete, Wolaitta, Zayse, and Zargulla. For example, Dizi generally uses a verbal negative proclitic *nan-* and the suffix *-tí* simultaneously (see the morphemes in bold in example 58a). In the negative imperative and optative, however, only the suffix *-is* is added to the verb (58b; examples from Beachy 2005: 105).

- (58a) *č' abt-bab-a nan-a³(-)'k' ut-ki-ti*
 illness-POS:M-PROX NEG-3MSG-get.well-PF-NEG
 ‘The sick man has not got well.’

- (58b) *?ŋ³-wuŋg-is*
 1PL-steal-NEG:IMP/OPT
 ‘Let’s not steal!’

In Hamar, negative imperatives can only be formed by using the verb *gärä* ‘leave, stop’ after the negated lexical verb, as in *kumä* ‘eat!’ vs *kuman gärä* ‘don’t eat!’; the bound negative morphemes *-mä* and *-ma* cannot be used for this purpose (Lydall 1976: 427). Similarly, Bench uses one of the converb forms of a lexical verb and a positively inflected form of the verb *šíd* ‘remain’ to express negative imperative, whereas the bound negative *-arg⁴* or *-ar⁴* is used in almost all other contexts (see Breeze 1990; Rapold 2006).

- (59a) *hám-ár-tàn-u-é*
 go:NFS-NEG-1SG:STR-M-MED:DCL
 ‘I did not go.’

- (59b) *hám-ár-g-ìnt-ù-ē*
 go:NFS-NEG-2PL.STR_v-M-MED:DCL
 ‘I did not go.’

- (59c) *hám-ār-ā*
 go:NFS-NEG-F
 ‘Go, please!’
 Bench, (Rapold 2006: 259)
- (59d) *ha⁴m-a³ šī³d-o³*
 go-CNV:2SG remain-2SG
 ‘Don’t go (2SG)!’
 Bench, (Breeze 1990: 37)

Another widely attested characteristic is that a special negative marker is used for marking a dependent negative verb, often translated as ‘without doing X’ (see Hayward (1982) on Koorete, Adams (1983) and Lamberti and Sottile (1997) on Wolaitta, Rottland (1990) on Shinasha, Lamberti (1993b) on Yem(sa), Amha (2001a) on Maale, and Woldemariam (2003) on Haro). Moreover, in many languages, negative non-verbal clauses are also marked by negative markers distinct from those used in verbal clauses (see section 7.8, on non-verbal clauses).

7.4.3 Personal pronouns

The most commonly attested basic pronoun system among the Omotic languages is one comprising eight pronoun forms – which indicate three person distinctions (first, second, and third), singular–plural distinction for each of the three persons, masculine–feminine distinction for the third-person singular – and a widely attested special third-person ‘logophoric’ or ‘reflexive’ pronoun. The third person is the only pronoun form where a gender distinction is made. In all of the languages surveyed, distinct possessive, nominative/subject and accusative/object pronoun paradigms are reported. Of these, the possessive is morphologically the simplest form (disregarding alternative short subject pronouns). The following examples are from Wolaitta.

(60)	POSSESSIVE	SUBJECT	OBJECT
1SG	<i>ta</i>	<i>táání/tá</i>	<i>tána</i>
2SG	<i>ne</i>	<i>néení/né</i>	<i>néná</i>
3MSG	<i>ʔa</i>	<i>ʔí</i>	<i>ʔá</i>
3FSG	<i>ʔi</i>	<i>ʔá</i>	<i>ʔó</i>
1PL	<i>nu</i>	<i>núúní/nú</i>	<i>núná</i>
2PL	<i>ʔinte</i>	<i>ʔínté</i>	<i>ʔínténá</i>
3PL	<i>ʔeta</i>	<i>ʔetí</i>	<i>ʔetá</i>
3LOG	<i>ba</i>	–	<i>bána</i>

The short and long forms of the first- and second-person subject pronouns (column 3, in example 60) may be used alternatively in the same context, apparently without any

semantic difference. Very similar pronoun paradigms, also involving short and long first- and second-person subject pronouns, are found in several Omoto languages, including Basketo, Gamo, Gofa, and Dawro, as well as in Bench. So far, no (text-based) analysis of actual use of the short and long pronouns has been made. However, the fact that these two forms exist side by side (recorded in 1938 by Cerulli for Gamo and Gofa), and that cognate short and long pronouns are used in pragmatically different contexts in Bench, suggests the possibility that these represent a (at least a formerly) salient pragmatic distinction (see discussion on the use of Bench short pronouns in the present section). In Shinasha only short subject pronouns are attested; see example (63).

Many Omotic languages have a special third-person pronoun form which is used side by side with the regular third-person (singular and plural) subject, object, and possessive pronouns. The pronoun has a basic CV structure, where C represents one of the labials *b* or *p* and V represents either *a* or *e*. Thus we find *be* in Zayse and Haro (see Hayward 1990 and Woldemariam 2003); *ba* in Wolaitta, Gamo, and Dawro (Lamberti and Sottile 1997, Hompó 1990, Allan 1976a, respectively); *bá* (with morphologically conditioned allomorphs: *-bā*, *-bà*, and *-bàn*) in Bench (see Rapold 2006); and *pe* in Maale and Basketo (Amha 2001a, 1995). With the exception of Bench, in which it has a full paradigm, in the other languages this pronoun is defective, in that it does not have a subject pronoun form and, unlike the other third-person pronouns, it does not distinguish gender and number. Its number and gender interpretation depends on the gender and number of the obligatory antecedent noun within the same clause with which it is coreferential. Amha (2001a) analyses *pe* in Maale as a logophoric pronoun. See also Dimmendaal (2001) which compares this pronoun and related forms in various Omotic languages with logophoric pronouns in Chadic and other African languages. Examples in (61) illustrate the use of this pronoun in Wolaitta. In (61a) the antecedent noun is *naʔáy* ‘the boy’ (Agent of the clause); the referent of this noun is also the possessor in the possessive noun phrase *ba maayuwa* ‘his cloth’ in the same clause. In the latter (possessor) function, the referent is designated by the third-person pronoun *ba*. If the Agent and possessor noun are not coreferential, *ba* cannot be used. This can be seen from (61b), in which a (non-coreferential) third-person masculine singular pronoun replaces *ba*. Similarly, the object form of *ba* (i.e. *báná*) is used only when the subject of the sentence and the object noun are coreferential (61c vs 61d).

(61a) *naʔá-y ba maay-úwa meeč' c'-eési*
 child-M:NOM 3LOG:POS cloth-M:ACC wash-3MSG:IPF
 ‘The boy_j washes his_j clothes.’

(61b) *naʔá-y ʔa maay-uwa meeč' c'-eési*
 child-M:NOM 3MSG:POS cloth-M:ACC wash-3MSG:IPF
 ‘The boy_j washes his_s clothes [somebody else’s clothes].’

Table 7.2 *Bench personal pronouns.*

	Subject Pronouns					
	Object Absolutive	Long strong	Long weak	Short strong	Short weak	Verbal-agreement suffixes
1sg	<i>tá</i>	<i>tàn</i>	<i>tan</i>	<i>tà</i>	<i>ta</i>	<i>-tàn</i>
2sg	<i>ní</i>	<i>nèn</i>	<i>nen</i>	<i>nè</i>	<i>ne</i>	<i>-nèn</i>
3msg	<i>yi''</i>	<i>yīs</i>	<i>yis</i>	<i>yī</i>	<i>yi</i>	<i>-īs</i>
3fsg	<i>wū</i>	<i>wūs</i>	<i>wus</i>	<i>wū</i>	<i>wu</i>	<i>-ūs</i>
3refl	<i>bá</i>	<i>bàn</i>	<i>ban</i>	<i>bà</i>	<i>ba</i>	<i>-bàn</i>
1+3	<i>nú</i>	<i>nòn</i>	<i>non</i>	<i>bō</i>	<i>no</i>	<i>-nòn</i>
1+2	<i>ni''</i>	<i>nìn</i>	<i>nin</i>	<i>nī</i>	<i>ni</i>	<i>-nìn</i>
2pl	<i>yint.äyk'n</i>	–	–			<i>-ñnt</i>
3pl	<i>i''ts.äyk'n</i>	–	–			<i>-i''ts</i>

Source: Rapold (2006: 342).

(61c) *ʔá báná k'áng-ausu*
 3FSG:NOM 3LOG:OBJ curse-3FSG:IPF
 'She curses herself.'

(61d) *ʔá ʔó k'áng-ausu*
 3FSG:NOM 3FSG:OBJ curse-3FSG:IPF
 'She_x curses her_x.'

Because of its anaphoric use in object position (as in 61c), the pronoun *bá* (*pa*, *pe*) is often labelled as a 'reflexive pronoun'. However, in Bench, a direct cognate of *balbáná* in Wolaitta (and in the other languages) is also used in embedded clauses as a logophoric subject pronoun when the latter is coreferential with the subject of the matrix clause. The Bench 'logophoric' subject pronoun (analysed as 'reflexive' in Rapold (2006)) has the same short/long, weak/strong, etc., variations as all the other subject pronouns of Bench (see table 7.2). The reported speech in (62) is an example of the use of the pronoun *bā* in Bench.

(62) *wūs-ā [bā k'áyts'-ù-ē] màk-èn-ē*
 3FSG.STR-F.NOM REFL.NOM work-M-DCL say-F-MED:DCL
 'She_x said that she_x worked.' ['She_x said that she_x did it.']
 (Rapold 2006)

According to Rottland (1990: 196–8), Shinasha has only short subject pronouns. The possessive and (copy) pre-verbal subject clitics differ slightly from subject pronouns in tone and vowel quantity and quality (compare first and second columns in example 63).

Object pronouns are derived from the subject forms by adding the suffix *-n*. Except for second person plural, independent possessive pronouns are formed by adding *-ká* to the dependent possessive pronouns; these are shown in the last column in (63). The first person plural independent possessive pronoun is missing in the list provided by Rotlland (1990: 197). However, the pattern in the other persons suggests *noká*, which is given in this source as the form for second person plural. Lamberti (1993b: 83) provides a similar list but with a geminate *-kká* for all forms other than the second person plural. In his list, first and second person plural independent possessive pronouns are *no-kká* and *ít- ká* (given in parentheses in ex. 63).

(63)		POSSESSIVE,		
	SUBJECT	PRE-VERBAL	OBJECT	INDEP. POSSESSIVE
	1SG	<i>taa</i>	<i>tu/ti</i>	<i>taa-n tika</i>
	2SG	<i>nee</i>	<i>nu/ni</i>	<i>nee-n níká</i>
	3MSG	<i>bú</i>	<i>bú/bí</i>	<i>bú-n bíkā</i>
	3FSG	<i>bii</i>	<i>bu/bi</i>	<i>bii-n biká</i>
	1PL	<i>noo</i>	<i>no</i>	<i>noo-n – (nokká)</i>
	2PL	<i>ít</i>	<i>ítít</i>	<i>íti-n noká (itká)</i>
	3PL	<i>boo</i>	<i>bo</i>	<i>boo-n boká</i>

In addition to the seven basic pronouns, Dizi makes a further distinction in the category of number: singular, plural, and dual distinctions are made for first-, second-, and third-person pronouns. All the dual forms function as subjects; there are no corresponding dual object pronoun forms. The following Dizi subject pronouns are from Beachy (2005: 86).

(64)	PERSON/GENDER	SINGULAR	PLURAL	DUAL
	1	<i>ji¹ nu²</i>	<i>i³ nu³</i>	<i>i³ na² / i³ nu²</i>
	2	<i>e¹ tu² / je¹ tu² / e¹ tu²</i>	<i>i³ ti²</i>	<i>i³ ta²</i>
	3MSG	<i>i² zu² / i² za²</i>	<i>i³ ši²</i>	<i>i³ ša²</i>
	3FSG	<i>iž² / i² za²</i>		

The second-person dual form is used also in the vocative without any formal change – *i³ ta²* ‘you D:VOC’ – whereas the second-person singular has distinct masculine and feminine vocative forms: *a³ reʃ³²* ‘you 2MS:VOC’ and *i³ reʃ³²* ‘you 2FS:VOC’. (See section 7.4.1.8 on the vocative.)

Perhaps the most extended pronoun system in Omotic is attested in Bench (see Breeze 1986, 1990 and Rapold 2006). Bench has six different paradigms of personal pronouns; five of these function as subject pronouns, whereas one of the paradigms represents object pronouns. The base form of the pronouns in the different paradigms is similar (and it also partly corresponds to base forms attested in Omoto languages).

The distribution of the subject pronouns depends on the discourse-pragmatic function. In a detailed description of the functions of various pronouns of Bench, Rapold (2006) reports that the long strong pronouns are ‘typically used to code new or resumed topics’ (2006: 346) and that these are the only pronouns which occur as nominal predicates in verbless sentences and in subject-focus constructions; short strong pronouns also code subject focus. Short weak pronouns on the other hand are ‘the most continuous (overt) subject pronouns’ (2006: 356); they rarely occur in sentence-initial position. Long weak pronouns ‘signal higher topic continuity than long strong or short strong pronouns, but are slightly more discontinuous than the short weak pronouns’ (2006: 362).

Bench also makes an inclusive–exclusive distinction in first-person plural. Moreover, Bench has distinct forms for second- and third-person honorific, whereas most Omotic languages use second-person plural pronouns for this purpose. Table 7.2 is based on Rapold and it shows subject and object pronouns in Bench.

Both Breeze (1990, 1986) and Rapold (2006) report that the inclusive in Bench refers to the speaker plus one or more persons on whose behalf he/she is speaking, and to one or more addressees (1 + 2). In contrast to this, the first-person plural exclusive pronoun in Bench is used to refer to the speaker plus one or more persons on whose behalf he/she is speaking (1 + 3), but always excluding the addressee(s).

Zayse makes the same inclusive–exclusive distinction in first-person plural forms. Comparing the Zayse forms with Bench (‘Gimira’, in the following quotation), Hayward (1990: 267) writes:

We observe that Zayse has an inclusive: exclusive distinction for the first person plural. In view of the fact that this distinction and obvious cognates of the two forms are reported for Gimira [i.e. Bench], it has to be regarded as an archaism. It should be noted, however, that there appears to have been a switch between form and category in the two languages. As far as I could ascertain (though my informants were not altogether consistent on the matter), the exclusive pronoun refers to speaker(s) and addressee(s) only.

My fieldwork on Zargulla, an East Omotic language very closely related to Zayse, reveals an inclusive–exclusive distinction in first-person plural pronouns. The Zargulla first-person plural inclusive pronoun (*níní*) refers to the speaker, the addressee, and optionally to other participants who may or may not be present in the speech situation and on whose behalf the speaker makes the utterance (1 + 2 + (3)). In contrast, the first-person exclusive form is used only to refer to the speaker and others who might be present or absent in the speech situation on whose behalf the speaker makes the utterance (1 + 3), to the exclusion of the addressee(s). For example, when a meeting attended by a large number of people is suspended for a lunch break, one of the

participants can address one person or a group of people and make the utterance in example (65). Even if there are other people close by who might hear the utterance, it is understood that this person is inviting/suggesting that he, and perhaps others closely associated with him, and the person or group of people he directly addressed go out together for lunch. In this context the addressee must be included among the referents of *níní*.

- (65) *níní almááz so hang-í m-iínno*
 1PL:INCL:NOM Almaz place go-CNV eat-1PL:OPT
 ‘Let’s go and eat at Almaz’s place.’

In the same context, if the whole group were to go to the same place for lunch, and the speaker wanted to announce this to someone who cannot or does not want to join the group, he/she would use the (global) first-person plural pronoun *níní* ‘we’. In this use, the addressee is not included among the referents of *níní* ‘we’. The following sentences illustrate the use of the first-person exclusive form in Zargulla. These are extracted from a story about a baboon whose crops failed because he did not know how to farm. First the baboon tries to avoid taking his (human) wife to the fields. She insists that they go to their farm and collect the harvest (66a–b); the baboon takes her to the well-cultivated farm of the king, telling her that that is their field. Once in the field, the baboon urges her to collect or eat as much grain as possible and leave the farm quickly. She gets suspicious and reacts by making the utterances in (66c). In the examples in (66), the reference of the first-person plural pronoun singles out the speaker and addressee, to the exclusion of others.

- (66a) *haíc gérí bé kátsa ʔééd-í miy-e*
 INTJ people:NOM 3:LOG grain/food:ACC bring-CNV eat:INF
máng-éssa ní-kka ní-maaddó ʔééd-í
 start-PAST:REL 1PL:EXCL-TOO 1PL:INCL:GEN-lunch bring-CNV
míy-ikkínna
 eat-NEG:Q
 ‘(Look) here! People started bringing in and eating (their harvest).
 Don’t we (you and I too), bring ours and eat?’
- (66b) *níná bídó-y ʔalts-áa yése-sa*
 1PL:INCL:OBJ hunger-NOM finish-PROG exist-TEMP
 ‘while hunger is killing us off . . . ’
- (66c) *nii goodd-és-i yésá-wa*
 1PL:INCL:OBJ chase.away-NMZ-NOM exist-COP:Q
 ‘Is there someone chasing us away [i.e., from our own farm]?’

Table 7.3 *Inflection of Dime personal pronouns.*

Person	Subject	Object	Dative	Genitive	ABL	INST
1sg	ʔáte	ʔís-ím	ʔís-in	ʔís-kó	ʔís-kó-dé	ʔís-ká
2sg	yáye	yí-n-im	yí-n	yín-kó	yín-kó-dé	yín-ká
3msg	nú	kí-n-im	kí-n	kí-kó	kí-kó-dé	kí-ká
3fsg	ná	kó-n-im	kó-n	kó-kó	kó-kó-dé	kó-ká
1pl	wétu	wó-n-im	wó-n	wó-kó	wó-kó-dé	wó-ká
2pl	yési	yé-n-im	yé-n	yé-kó	yé-kó-dé	yé-ká
3pl	kéte	ké-n-im	ké-n	ké-kó	ké-kó-dé	ké-ká

Source: Seyoum (2008).

The following are the Zayse and Zargulla first-person inclusive and exclusive pronouns.

(67)	Zayse (Hayward 1990: 267)	Zargulla (Amha fieldnotes)			
	SUBJECT	OBJECT	SUBJECT	OBJECT	POSSESSIVE
	1pl.excl. nú	nína	1pl.excl. núní	núná	nu
	1pl.incl. nú[j]	núna	1pl.incl. núní/núí	núná/nii	ni

With respect to comparative material from other Omotic languages, the pronoun system of Dime is uncommon. In this language we find unrelated forms for third-person singular subject and object pronouns (see table 7.3). The third-person masculine singular subject pronoun is *nú*, but the base form for its corresponding object pronoun is *kí-*. Similarly, the third-person feminine subject pronoun is *ná*, whereas the corresponding third-person feminine object pronoun is formed by adding the accusative case marker *-im* to *kó*; the accusative marker *-im* is also used with nouns. The same mismatch between subject and object pronouns is attested in the Cushitic language Qafar, e.g. *úruk* ‘he’ vs *káa* ‘him’, *oson* ‘they’ vs *ke(e)n* ‘them’, as well as in the second person: *atu* ‘you, SBJ’ vs *koo* ‘you, OBJ’ (see Hayward 1998b: 630). Kambaata also has unrelated subject and object pronouns in the first- and second-person singular and plural, e.g., *at* ‘you, SBJ’ but *kees* ‘you, OBJ’ (Treis p.c.)

7.4.4 Adjectives

A large inventory of adjectives, based on semantic functions such as expression of property concepts – e.g. size, age – has been reported for many Omotic languages. Grammatically, however, the formal distinction between nouns and adjectives is not straightforward, as these two categories share a number of grammatical features. The commonalities between nouns and adjectives include the fact that both nouns and adjectives take lexically determined word-final vowels. Moreover, the inchoative verbal

extension, used to express ‘entering into a state, social position’ or ‘acquiring a certain property’, can be morphologically derived both from nouns and from most adjectives using the same affix, as in the Wolaitta inchoative marked by *-t-*: *kawó* ‘king’ and *kawo-t-iísi* ‘he became a king’; *gitá* ‘big’ and *gita-t-iísi* ‘he/it became big’, *dúre* ‘rich’ and *dure-t-iísi* ‘he became rich’. Like nouns, adjectives can be used referentially, taking number, gender, or case markers, which are normally attached to nouns (see 68b). However, nouns and adjectives are often differentiated in syntactic terms. In many Omotic languages, an adjective as modifier of a noun phrase must occur in its lexical entry form, without any marking, preceding the head noun. For example, in Wolaitta, *woggá* ‘big’ cannot be marked for any nominal category when it is used as a modifier of the noun *mítta* ‘tree’ as in (68a). But in the absence of the head noun as in (68b), the adjective is affixed with the gender, number, and definiteness marker (*-i/y*) and it is used referentially (68b):

(68a) *woggá mítta-y kúnd-iísi*
 big tree-M:NOM fall-3MSG:PF
 ‘The big tree fell.’

(68b) *woggá-y kúnd-iísi*
 big-M:NOM fall-3MSG:PF
 ‘The big one fell’.

Most Omotic languages have modifier–head word order. In some languages, e.g. in Basketo, Maale, and Oyda, changing modifier–head word order is possible, with no difference in meaning; in Malo, head–modifier order is most frequent. In these languages, the adjective must be marked with the gender, number, and/or case morphemes when it is phrase-final; otherwise, these nominal inflectional categories are affixed to nouns and not to modifying adjectives. The following examples are from Basketo:

(69a) *mints gabar-ants-i*
 strong farmer-PL-NOM
 ‘strong farmers’

(69b) *gabara mints-ants-i*
 farmer strong-PL-NOM
 ‘strong farmers’
 (Amha 1995: 3)

As shown in section 7.4.1.3 on gender, some languages such as Aari, Dime, and Sheko have special gender agreement markers which are attached to modifying adjectives. Moreover, in some languages, plurality of adjectives is marked through reduplication, whereas plurality of nouns is marked through suffixation. This has been observed in

Aari (see Bender 1991: 90) and in Dime (Seyoum 2008). The following examples are from Dime:

- (70a) *ʔéhé c' ək' k' -ub*
house small-M
'a small house'
- (70b) *ʔéh-af c' ə-c' ək' k' -ub*
house-PL RDP:small-M
'small houses'
(Seyoum 2008: 83)

7.4.5 Demonstratives

A two-way distinction between proximal and distal (bound) demonstrative forms is common in Omotic languages. By adding gender-, number- and case-marking morphemes to these basic forms, a number of independent demonstrative pronouns are derived. Such languages include Dawro, Dizi, Haro, Sheko, and Wolaitta. In Sheko, for example, the basic distinction is between *á* 'here' and *é* 'there'. Morphemes indicating gender-number are added to these base forms to derive the following independent forms:

- (71) *ás* 'this, these (M)' *ékis* 'that (M)'
áni 'this, these (F)' *ékini* 'that (F)'
ékiz 'those (M/F)'

The Sheko forms show that the distant demonstrative makes a further distinction of number, whereas the proximal demonstratives distinguish only gender.

In Gamo the directional and locative adverbs have the same base form *h(a/e)* as the demonstrative pronouns. The data in (72) are from Hirut Woldemariam (2007).

- (72a) PROXIMAL DEMONSTRATIVE
- | | |
|-----------------------------|----------------|
| <i>ha-yss-i</i> | 'this (M:SBJ)' |
| <i>ha-yss-a</i> | 'this (M:OBJ)' |
| <i>ha-nn-a</i> | 'this (F:SBJ)' |
| <i>ha-nn-o</i> | 'this (F:OBJ)' |
| <i>ha-yssa-t-i/ha-y-t-i</i> | 'these (SBJ)' |
| <i>ha-yssa-t-a/ha-y-t-a</i> | 'these (OBJ)' |
- (72b) DISTAL DEMONSTRATIVE
- | | |
|----------------------|----------------|
| <i>he-ss-i</i> | 'that (M:SBJ)' |
| <i>he-ss-a</i> | 'that (M:OBJ)' |
| <i>he-nn-a/henna</i> | 'that (F:SBJ)' |
| <i>he-nn-o</i> | 'that (F:OBJ)' |
| <i>he-yt-i</i> | 'those (SBJ)' |
| <i>he-yt-a</i> | 'those (OBJ)' |

Hompó (1990) shows that directional adverbs in Gamo are formed by lengthening the final vowel of the base form of the demonstrative, and locative adverbs are the demonstrative base form affixed with the locative case marker *-n* (73).

(73)		DIRECTIONAL ADVERB	LOCATIVE ADVERB
	Proximal:	<i>haa</i> ‘here (DIR)’	<i>ha-n</i> ‘here’
	Distal:	<i>hee</i> ‘there (DIR)’	<i>he-n</i> ‘there’

Dime demonstratives are interesting in that they are formed by combining the ‘proximal’ and ‘distal’ forms *sī-* and *sá-* with the third-person subject pronouns *nú* ‘he’, *ná* ‘she’, *kété* ‘they’, resulting in *sinú* ‘this (M)’, *siná* ‘this (F)’, *siket* ‘these’, and *sánú* ‘that (M)’, *sáná* ‘that (F)’, *sáket* ‘those’ (Seyoum 2008). More distant places are expressed in Dime through reduplication of some of the demonstratives just mentioned.

Some languages have deictic forms that give information about the altitude of the location that is being pointed out, relative to where the speaker is found (see Wolde-mariam (2001a and 2007) on Dawuro and Haro, and Seyoum (2008) on Dime, among others). The Maale examples in (74) illustrate this:

(74a) *yéy sékkéí ?oydíša-ke*
 that:NOM there:M:NOM ?oydhisha-BE:A:DCL
 ‘That over there is Oydhisha [on ground level with or to the side of the speaker].’

(74b) *yéy lékkéí ?oydíša-ke*
 that:NOM up.there:M:NOM ?oydhisha-BE:A:DCL
 ‘That up there is Oydhisha.’

(74c) *yéy líkkéí ?oydíša-ke*
 that:NOM down.there:M:NOM ?oydhisha-BE:A:DCL
 ‘That down there is Oydhisha.’

Ado (2004: 16–18) reports a similar phenomenon in Yem (75). In these examples, the noun modified by the demonstrative is *fizo* ‘goat’:

- (75) *han fizo* ‘this goat’
yes fizo ‘that goat (visible)’
es fizo ‘that goat (invisible)’
den fizo ‘that goat (up there)’
yyet fizo ‘that goat (down there)’

The location of speaker and addressee is important in Koorete demonstratives, too: *ha* ‘this (nearer speaker)’, *ye* ‘this (nearer 2nd/3rd person)’, *se* ‘that (far)’ (see Hayward 1982: 231–2).

7.4.6 Content-question words

Descriptions of interrogatives in different Omotic languages indicate the following recurrent characteristics. There are a limited number of base forms for content-question words. These are affixed with various gender-, number-, and case-marking morphemes to form a relatively larger number of content-question words. Some content-question words are marked for case by the same morphemes that mark case in nouns. In interrogative clauses, subject, object, and other content-question words do not move to sentence-initial positions. Both in polar-interrogative clauses and in interrogative clauses with content-question words, the verb is marked with an interrogative morpheme.

Hompó (1990: 373) states a common **a-* or **aw-* root can be traced back in question words of Gamo, except *ooni* ‘who.SBJ’ and *wosti* ‘how’. (The Gamo examples in (76a–e) are from Hompó (1990: 373–4). Some of her glosses, e.g. S = subject; X = complex marker on verb, etc., are adapted to the glossing convention used in this chapter. And where Hompó did not indicate morpheme boundaries, I did, following the other examples in her paper.

- (76a) *oon-i y-i-d-ee*
 who-S come-PM-T-INTX
 ‘Who came?’
- (76b) *oona dor-a-i*
 whom choose-PM-T.INTX
 ‘Whom do you choose?’
- (76c) *ai k'opp-a-d-ii*
 what:S think-PM-T-INTX
 ‘What do you think?’
- (76d) *appun saʔate*
 how.many hours
 ‘What is the time?’
- (76e) *Simm-i-d-i awa-n gagg-o-nii*
 return-PM-T-X when-LOC meet-PM-INTX
 ‘When do we meet again?’

Similarly, in Aari, with the exception of *méym* ‘how many?’, all content-question words seem to have the same base form with the breathy vowel *a*: *áy* ‘who?’, *amná* ~ *amné* ‘which one?’, *aré* ‘what?’, *aynet* ‘when?’, *abir* ‘where?’, and *asní* ‘how?’.

In Koorete the constant form is *ʔo* or *ʔa* in all the content-question words: *ʔoonena* ~ *ʔoona* ‘who?’, *ʔamuna* ~ *ʔam* ‘what?’, *ʔayna* ~ *ʔay* ‘where?’, *ʔaydena* ‘when?’,

ʔans'una ~ *ʔans'ina* 'how much?', *ʔaʔesana* 'which one?', and *ʔabbasuna* 'what thing?' (see Hayward 1982: 230).

7.4.7 Numerals

Zaborski (1983: 383) makes a historical and typological comparison of basic numerals (one to ten) in Omotic and concludes, 'numerals are quite important for the internal classification of the Omotic languages while they contribute less to the elucidation of the problem of the external genetic relationship of Omotic, though in light of them a genetic link with Cushitic is much stronger than a suspected link with Nilo-Saharan.' Typologically, he identifies three systems:

- (1) the numerals for 'eight' and 'nine' in Hamar, Karo, Aari, Ch'ara, Zayse, Doko, and Yem suggest that these have a system going back to 'two subtracted from ten' and 'one subtracted from ten';
- (2) Koorete and Central North Omoto (including Gamo, Gofa, Wolaitta) have a system based on addition to 'five', i.e., 'six' goes back to 'one (plus) five', 'seven' to 'two (plus) five', etc;
- (3) Zayse, Yem, and She use both systems: 'six' and 'seven' are formed through additions to the base for 'five', while 'eight' and 'nine' are formed through subtraction from 'ten'.

Woldemariam (2005) presents a detailed account of Omoto numeral systems. She also establishes that these languages originally had a quinary system but that currently this system is obsolete, as the forms have undergone drastic phonological changes. Moreover, the important component part in the system, i.e. the word for 'five/many', is replaced by another lexical form, which is very similar in many languages: *iššin* (Basketo), *išiči* (Haro), *išič* (Zayse), *ičičiče* (Koyra), *iččača* (Dawro), and *ʔiččáša* (Wolaitta). Accordingly, the numerals *ʔusúppuna* 'six', *laáppuna* 'seven', *hóspuna* 'eight', and *ʔuddúppuna* 'nine' in Wolaitta consist, respectively, of *ʔissó* 'one', *naaʔʔá* (cf. *lama* in Dawro, *namʔa* in Gamo) 'two', *heeza* 'three', *ʔoidda* 'four', and (-)ppuna 'many/five'. Woldemariam (2005) states that current speakers of Wolaitta do not recognize that the numerals in question consist of more than one component.

In many languages numerals precede the noun they modify and they do not inflect for any nominal category. However, modifying numerals often take a 'linking' vowel. See section 7.5 below for details.

7.4.8 Ideophones

Ideophones are documented for Bench (Rapold 2006), Dizi (Beachy 2005), Hamar (Lydall 2000), Maale (Amha 2001a), and Wolaitta (Amha 2001b). Ideophones are highly restricted morphologically, since they are not freely marked for nominal and

verbal categories such as number, gender, or tense and modality in their basic form (but see the case of derived ideophonic verbs below). Generally, ideophonic adjectives and ideophonic verbs are distinguished. For example, the Wolaitta ideophones *gašášša* ‘weak, slow, and unhealthy’ and *k’ap’k’apa* ‘greedy’ are attributive modifiers in the phrases *gašášša ʔasa* ‘a weak person’ and *k’ap’k’apa ʔasa* ‘a greedy person’.

Ideophonic verbs are used in combination with one of the two ‘co-predicators’, i.e. equivalents of the verbs ‘say’ and ‘do’ in English. The choice of one of these copredicative verbs depends on transitivity. The verb ‘say’ is selected if the ideophonic verb is used intransitively, whereas a ‘do’ verb is used when the ideophone-plus-verb construction is transitive. For example, in Wolaitta, we have *páški gá* ‘be happy’ (*páški* = ideophonic verb + *g-* ‘say’ + *-á* = 2SG:IMP) vs *páški ʔootá* ‘make happy!’ (ideophonic verb + *ʔoot* ‘do’ + *-á* 2SG:IMP).

Generally, ideophonic verbs do not inflect. Rather, the co-predicators carry tense–aspect, negation, or other verbal morphological markers which cannot be attached directly to the ideophone. However, ideophones can be verbalized, in which case they can occur without their co-predicates and be marked with various verbal affixes. Maale, for example, has a productive transitivity derivational affix *-idd-* for this purpose: from the intransitive ideophone *poddúpóddu geʔ-* ‘tear unexpectedly’, the transitive *poddídd-* ‘tear something unexpectedly’ can be derived. This form can be directly marked for aspect and modality as illustrated in (77):

- (77) *kan-z-í taa-kó maaʔ-ó podd-ídd-é-ne*
 dog-DEF-NOM 1SG:GEN-GEN cloth-ABS IDEO-VBZ-PF-A:DCL
 ‘The dog bit off my cloth’
 (Amha 2001a: 256)

Other than with ideophones, the morpheme *-idd-* is only used to convert the content-question word *wo-* and the demonstrative *ha-* (both of which are bound forms) to manner verbs: *wóddí* ‘how? [doing what/how]’ and *híddí* ‘having done like that’.

In Hamar most ideophonic verbs consist only of one syllable, e.g. *lah* ‘stand up’, *pěʔ* ‘be empty/finished’, and *däts* ‘sit down’. A similar situation can be observed in Bench, where monosyllabic ideophones are common: *dap* ‘slowly’, *t’ip* (sound of heavy object falling), *píst’* ‘very thin’. In contrast, in Wolaitta there are no monosyllabic ideophones. The following are examples of disyllabic verbal ideophones in Wolaitta: *páški* ‘be happy’, *póggü* ‘shine’. Ideophonic adjectives in Wolaitta, in particular, tend to involve reduplication and often consist of three or more syllables, e.g. *t’orsóssa* ‘very slow’, *bunduruúk’a* ‘dirty, messy’.

The segmental make-up of ideophones slightly differs from other lexical items in the languages. For example, in Hamar ideophones tend to end in a fricative (*h* or *x*) or glottal stop (*ʔ*), and in most cases the vowels used in ideophones are minus-ATR (non-advanced tongue root) vowels (cf. Lydall 2000: 887). In Wolaitta the consonant *ž* is

used only in ideophonic words. In Bench almost all ideophones modifying an adjective have tone level 5.

The choice of certain segments may be motivated by sound symbolism. In Wolaitta, for example, ideophones with high vowels in the first syllable are associated with smallness/lightness, and those with mid-vowels symbolize bigness/heaviness: *k'úlč' ú g-* (IDEO + 'say') 'to fall, of something small in water' vs *dólč' ú g-* 'to fall, of something big in water'; *túlkú g-* 'to break easily, suddenly, of something small' vs *tólkú g-* 'to break easily, suddenly, of something big'. Most ideophonic verbs simultaneously express a state of affairs as well as the particular manner, direction, speed, etc., involved in the realization of the state of affairs expressed. For example, in Zargulla, beside the regular verb *ʔúmb-* 'fall', there are at least four ideophonic verbs that express 'falling suddenly [and with different parts of the body affected]': *tíngíl* 'fall sideways', *gípp* 'fall with front part of body touching ground', *dós's'* 'fall with the lower back of the body touching ground [said especially of a stout person]', and *bángall* 'fall backwards with the back part of body touching ground', described by speakers as 'the most embarrassing of all manners of falling'. Ideophones may be used to express imitation of various sounds, but not all ideophones are onomatopoeic.

In Bench and Wolaitta there are a group of ideophones that are mainly used in combination with a semantically corresponding simple adjective, as in example (78). Occasionally the ideophone is used just on its own, without the adjective. In the adjective-plus-ideophone combination, the ideophone augments or intensifies the property or quality expressed by the adjective. In both languages, the ideophone obligatorily occurs after the adjective whereas the canonical position of modifying ideophones and adjectives is preceding the head. In Bench there is morphological evidence indicating that the adjective is the syntactic head of the adjective-plus-ideophone construction; the atypical head-modifier word order is attributed to the ideophone being in appositive relation to its head (cf. Rapold 2006: 443). In Wolaitta there is no such morphological indication of a hierarchy between the two semantically related forms. For this reason the construction is analysed as a compound. The combined ideophone-plus-adjective form in Wolaitta is used as a modifier of nouns. This is illustrated in (78b) in which *karétta dúmʔa* 'very black' is an attributive modifier of *boora* 'ox'.

- (78a) *nás-í mël-à pʔst'-ē*
 man-NOM.M thin-REL very-thin-MEDDECL
 'The man is very thin.'
 (Bench, Rapold 2006: 443)

- (78b) *ʔi [ʔissi karétta dúmʔa boora] šamm-iisi*
 3MSG:SBJ one black very.black ox:ACC buy-3MSG:PAST:DCL
 'He bought a very black ox.'
 (Wolaitta, Amha 2001b: 58)

7.5 Structure of the noun phrase

The noun phrase may comprise a single head noun or a head noun and one or more modifiers. The reported modifiers include demonstratives, adjectives, numerals, various quantifiers, and, in possessive constructions, nouns, pronouns, and the question word equivalent to ‘who’ in English.

In most languages, structural cases such as the nominative and accusative are analysed as phrasal cases because these are marked on the right-most constituent of the noun phrase, be this the head noun or the modifier. For example in Malo, numerals may either precede or follow the head noun, although noun–numeral order is more frequent. When numerals follow the head, they are marked for gender/number and case as is illustrated for the numeral *taḅo* ‘ten’ in the following example:

- (79) *naʔa taḅ-ita-y yeʔ-e-z*
 child ten-PL-NOM come-PF-DCL
 ‘The ten children came.’
 (Mahider, Tesfu 2003)

Depending on the language, modifier and head in possessive constructions may be distinguished either only by word order or by word order plus morphological marking on the possessor or possessed noun. Thus, in the North Omoto languages Wolaitta, Gamo, Gofa, etc., the word order is strictly possessor–possessed, and in addition the possessor noun is obligatorily marked with gender and number suffixes specific to this construction. These suffixes reflect the gender and number of the possessor, not of the head (see section 7.4.1.6 for gender–number inflection in possessive constructions in Wolaitta). In Shinasha, on the other hand, gender agreement refers to the possessed noun and it may be realized either on the possessor noun or on the possessed noun, but the noun so marked must occur as the final (right-hand side) constituent of the noun phrase. Shinasha also allows a third, unmarked, juxtaposed possessive construction as well; in this case the possessor must precede the possessed noun. Examples are:

- (80) *maasú mâ* ‘the woman’s house’
 [unmarked, possessor–possessed order]
maasú moo-ní ‘the woman’s house’
 [possessed marked, possessor–possessed order]
bollú maasú-kí ‘the woman’s mule (F)’
 [possessor marked, possessed–possessor order]
bollú maasú-ka ‘the woman’s mule (M)’
 [possessor marked, possessed–possessor order]

In Maale, possessor and possessed (head–modifier) are mainly distinguished by word order. However, in this language the possessor noun may be marked by an additional genitive case morpheme *-ko*, but in this case there is emphasis on the head noun (81b).

(81a) *gudúri tókí k'amítsi-ke*
 hyena:ABS foot:NOM short-BE:A:DCL
 'A hyena's leg is short'

(81b) *gudúri-ko tókí k'amítsi-ke*
 hyena-GEN foot:NOM short-BE:A:DCL
 'A hyena's leg is short' [i.e. not any of its other body parts]
 (Amha 2001a: 63)

A similar phenomenon is reported for Sheko, in which the genitive case morpheme may be affixed to the possessor noun for discourse-functional reasons; otherwise possessor–possessed relation can be identified by word order (see Hellenthal 2010).

The form of numerals may be altered when used as modifiers/quantifiers in a noun phrase. In this case numerals drop their final vowel or replace it with a linking vowel. This depends on the numerals involved. In Wolaitta, the final vowel of the numeral *ʔissó* 'one' (which has a counting form: *ʔistá*) is replaced by *í* as in: *ʔissí keetta* 'one house' and *ʔissí boora* 'one/an ox'. The final vowel of the numerals two to five is replaced by *-u* or *-ú*. For example, *naaʔʔá* 'two' is changed to *naaʔʔú* when modifying the noun *keettatá* 'houses', as in *naaʔʔú keettata* 'two houses'; similarly, *heezzá* 'three' but *heezzú keettata* 'three houses'. In contrast, the numerals six to nine lose their final vowel as modifiers: *laáppuna* 'seven' but *laáppun keettata* 'seven houses'; *hóspuna* 'eight' vs *hóspun keettata* 'eight houses'. Numerals above nine are similar to the lower numerals in taking *-ulú* or *-i* as linker with the head noun: *támma* 'ten' but *támmu keettata* 'ten houses'; *támmanne ʔisiíno* 'eleven' but *támmanne ʔisiíni keettata* 'eleven houses'. The quantified noun may occur as singular or plural, e.g., *támmu keettata šammiísi* or *támmu keetta šammiísi* 'He bought ten houses'. Similarly, in Koorete, the final vowel of a modifying numeral is replaced by *í*, and tone-accent of the numeral may be altered. Thus we have *bízso* 'one' and *bizzí ʔátse* 'one man', *ʔóyde* 'four' and *ʔoydí tsúnke* 'four fingers'.

Typically the head of the noun phrase is the noun but case-marked demonstratives, adjectives, numerals, and relative clauses with or without nominalizers are also frequently used as heads of the noun phrase. The following are examples from three different languages:

(82a) *ùç-ī sóy*
 that.M-NOM.M good
 'That is OK.'
 (Benchnon, Rapold 2006: 549)

- (82b) *ʔadussá-y y-íisi*
 tall-M.NOM come-3MSG.AFF.DCL
 ‘The tall one came’
 (Wolaitta)
- (82c) *mam-s-í-n-d-e-s* *hel ʔm-o*
 be_prepared-CAUS-V-PASS-REL-DS-ACC1 all eat-3MSG
 ‘... he ate all that was prepared.’
 (Dizin, Beachy 2005: 126)

Although clausal structure in Omotic languages generally follows the SOV constituent order, word order in noun phrases is not strictly head-final in all languages. In some languages different word order restrictions apply to different kinds of modifiers. For example, in Benchnon, basic demonstratives only occur after the head whereas possessive nouns and pronouns only precede the head noun. Relative clauses, adjectives, and numerals/quantifiers, on the other hand, can occur either preceding or following the noun they modify (see Rapold 2006). For Sheko, Hellenthal (2010) reports that possessives and adjectives have a fixed position relative to the head noun: possessors always precede the head while adjectives must follow the noun they modify. Numerals and relative clauses, however, may precede or follow the head noun. The preferred place for demonstratives in Sheko is following the head noun but they may also occur preceding it.

As Bender (1991) and Seyoum (2008) show, Aari and Dime allow both head–modifier and modifier–head orders, as in the Aari phrases *edin lak’ama* ‘good people’ and *lak’ama noqa* ‘good water’. In Aari, the modifier–head order is preferred in expanded noun phrases, such as *k’asten lak’ama čelmi waki* ‘two good black cows’, in which the head noun is *waki* ‘cow’ (cf. Bender 1991: 89). In Aari and Dime, relative clauses may occur before or after the head noun. When the head noun is dropped, the verb of the relative clause is marked by morphemes which indicate the gender or number of the missing noun (Bender 1991: 92): *its-axaba* ‘the (M) one who ate’, *its-idinda* ‘the (F) one who ate’ and *its-idiēna* or *its-axiēna* ‘the ones (PL) who ate’. In Omotic languages such as Basketto, Haro, Maale, and Wolaitta the modifier–head order is most frequent. If this order is altered, a corresponding change in the marking of case, number, and gender takes place – that is, the latter morphemes are attached to the modifier, i.e. the right-most constituent. For this reason some nominal categories, such as case and definiteness, are said to be phrasal (see also section 7.4.4).

In many Omotic languages a two-way gender (masculine, feminine) and number (singular, plural) distinction is made in third-person pronouns and in verbal paradigms. However, modifier–head agreement within the noun phrase to the values of these categories is not that common. Moreover, in the languages that do mark agreement

within the noun phrase, this may be restricted only to some modifiers. In the North Omoto languages, Wolaitta, Gofa, Gamo, etc., modifying adjectives, quantifiers, and relative clauses are not marked for gender or number agreement with the head noun. Demonstratives also occur in their base form when modifying a noun; however, occasionally, (nominalized) demonstratives may be marked for gender and number value paralleling that of the head noun. There seem to be some discourse-functional motivations in the choice between the two forms, which need to be confirmed by further study. In the following examples from Wolaitta, *-g(e)* following the basic proximal demonstrative *ha* ‘this’ in the second column is a masculine nominalizer which is also used for nominalizing pronouns and relative clauses e.g. *ta keettáy* ‘my house (NOM)’ but *taagé* ‘mine’. Similarly, *-nn-* in the feminine form can be analysed as a feminine nominalizer, but this morpheme is not used as nominalizer with other categories.

- (83) SIMPLE FORM: SECONDARILY POSSIBLE:
ha naʔáy *hagé naʔáy* ‘this boy’
ha naʔiya *hanná naʔiya* ‘this girl’
ha naatí *hagetí naatí* ‘these children’

In Benchnon, basic demonstratives, relative clauses, and modifying nouns agree in gender with the the head noun, whereas modifying adjectives, numerals, and quantifiers do not take agreement markers. In Yemsa, on the other hand, an attributive adjective and the head noun agree in gender. In Dime, agreement with the head noun is obligatory. This language has three gender- and number-marking morphemes that are affixed only to modifiers of nouns including adjectives, numerals, and relative clauses. These are the masculine gender marker *-(u)b*, feminine gender marker *-(i)nd* and the plural morpheme *-id*. There is a second plural marker, *-af*, which is only marked on nouns; the two plural markers may co-occur in the same noun phrase as illustrated in (84c). The following three examples are from Seyoum (2008: 108, 109, and 111, respectively):

- (84a) *gúdúm-ub goštú ʔád-déé-n*
tall-M man come-IPF-3
‘A tall man will come.’
- (84b) *ʔámzi s’an-ind-is laxt’-éé-n*
woman black-F-DEF die-IPF-3
‘The black woman will die.’
- (84c) *məkkim-id ʔámz-af ʔád-i-n*
three-PL woman-PL come-PF-3
‘Three women came.’

7.6 Simple declarative sentences

Simple declarative clauses have SOV word order. This order can be altered for pragmatic purposes (e.g., in Maale and Wolaitta, the order must be OSV in order to focus on the subject; in some experiential clauses, OSV is the preferred order and depends on the degree of ‘control’ by the object; see examples below). Omotic languages have the nominative–accusative system of case marking. In terms of the identification of grammatical relations, the nominative case marks the agent of a transitive clause as well as the subject of an intransitive clause. The accusative case is mainly used to mark the object noun in transitive clauses (but see below for some exceptions).

Deviating from what is considered to be a general morphological characteristic of nominative–accusative languages, several Omotic languages morphologically mark the nominative case and leave the accusative case unmarked, especially when the noun is indefinite (see below). Such languages include almost all the Ometo languages (about sixteen) and Ch’ara. In Bench, neither indefinite nor definite nouns are marked for accusative case. In contrast, languages such as Aari, Dime, Dizi, Kafa, Sheko, Shinasha, and Yem mark the accusative case and leave the nominative unmarked (see section 7.4.1.5 on case marking).

In what follows I discuss some of the issues related to participant identification in clauses, by selecting one language from the accusative-marking group and one from the nominative-marking group. The former group is represented by Dime, using data from Seyoum (2008). The nominative-marking languages are represented by Wolaitta (see also Amha 2009).

According to Seyoum (2008), in Dime, one-place (intransitive) verbs may take an optional locative modifier (*ʔéhó* in 85a). In two-place verbs such as *deys-* ‘kill’, the order of elements is S (unmarked), P (marked by the accusative case morpheme *-im*) and the verb, as in (85b).

(85a) *kéné (ʔéh-ó) yíz-i-n*
 dog (house-LOC) run-PF-3
 ‘A dog ran (into a house).’

(85b) *kéné ʔéft-im deys-í-n*
 dog bird-ACC kill-PF-3
 ‘A dog killed a bird.’

In three-place verbs such as *ʔexs-* ‘show’, *ʔad-* ‘bring (for)’, the recipient/beneficiary or indirect object is marked by the morpheme *-in* and the patient or direct object is marked by *-im*, just like the single direct object or patient noun in two-place verbs.

The general order of constituents in such cases is Subject – Dative complement (IO) – Patient (DO) – Verb (86).

(86a) *nú yif-id-in yeχnam-im ʔexs-i-n*
 3MSG guest-PL-DAT farm-ACC show-PF-3
 ‘He showed the farm to the guests.’

(86b) *nú yǝrí-n ʔay-im baʔa ʔád-i-n*
 3MSG donkey-DAT grass-ACC bring come-PF-3
 ‘He brought grass for a donkey.’

One-place verbs such as *tiiŋ* ‘go’ may take complement nouns, which indicate the goal of the motion, as well as a noun referring to an instrument or accompanying noun (87a). Similarly, *ʔad-* ‘come’ can take a noun referring to the source of the motion. Typically, such a source complement-noun is marked by two cases in Dime: the locative and the ablative (87b):

(87a) *nú kǐ-ko mic’-ká ʔéh-ó tíŋ-i-n*
 3MSG.SBJ 3MSG.OBJ-GEN sister-COMT home-LOC go-PF-3
 ‘He went home with his sister.’

(87b) *nú ʔed-is-se-de ʔád-i-n*
 3MSG.SBJ mountain-DEF-LOC-ABL come-PF-3
 ‘He came from the mountain.’

Wolaitta is a marked-nominative language, with Differential Subject- and Object-Marking. Definiteness determines the morphological realization of core cases such as the nominative and accusative. Indefinite nouns are not morphologically marked for accusative case, but they are marked for the nominative (88a). In contrast, in transitive clauses, in which the A and P nouns are definite, these are morphologically marked for the nominative and the accusative case respectively. The formal realization of nominative and accusative case-marked nouns can be affected by the quality of the lexically determined ‘terminal vowel’ of the noun. For example, indefinite nouns that have the terminal vowel *-e* in Wolaitta do not replace this terminal vowel with the (indefinite) nominative marker *-i*. Rather, these nouns keep this vowel – e.g. *haré* in (88c) – and, depending on the underlying tone-accent of the noun, they add a high-tone accent on the terminal vowel. That is, if the citation form of the noun does not already have high tone-accent on the final vowel *e*, high tone-accent will be added to it, e.g., *šódǝe* ‘frog’ will be *šódǝé* in the nominative; whereas *haré* ‘donkey’ remains the same (example 88c). On the other hand, terminal vowels *o* and *a* are replaced by the nominative morpheme *-i* (as in the case of *kaná* ‘dog’ and *bóllo* ‘in-law’ in (88a) and (88b)).

- (88a) (citation forms: *kaná* ‘dog’, *naʔá* ‘child’)
kan-í naʔá dagant-íisi
 dog:NOM child:ACC scare-3MSG:PF
 ‘A dog scared a child.’
- (88b) (citation form: *bóllo* ‘in-law’, *boré* ‘critic’)
bóll-í boré dos-énná
 in-law-M:NOM critic:ACC like-3MSG:NEG:IPF
 ‘An in-law / in-laws do not like to be criticized.’
- (88c) (citation form: *haré* ‘donkey’, *toohó* ‘load’)
haré toohó dos-éési
 donkey:NOM load:ACC like-3MSG:IPF
 ‘A donkey likes carrying / Donkeys like carrying.’

Case marking in definite nouns is gender/number-sensitive in Wolaitta. Gender is not overtly marked, but the form of case-marking morphemes varies depending on whether the noun refers to a definite female participant or a definite male participant (see section 7.4.1.3). Accordingly, the nominative case is marked by *-í* on masculine singular nouns and by *-á* on feminine singular ones. The accusative case is marked by *-á* on masculine singular nouns and by *-ó* on feminine singular ones. Plural nouns take similar case suffixes to the masculine singular nouns: nominative *-í* and accusative *-á*. All plural nouns are formally marked like definite nouns but these are not necessarily functionally/pragmatically definite. So definiteness and case are conveyed cumulatively. The following examples featuring the nouns *haré* ‘donkey’, *bangá* ‘barley’, *bólló* ‘in-law’, *naʔá* ‘child’, and *ʔaawá* ‘father’ illustrate case marking in definite nouns in Wolaitta.

- (89a) *hare-í bangá-a m-eési*
 donkey-M:NOM barley-M:ACC eat-3MSG:IPF
 ‘The donkey eats the barley.’
 [*hare +í*; F:NOM: *har-íya*; PL:NOM: *hareti*]
- (89b) *nu bólló-í boré dos-énná*
 1PL:GEN in-law:M:NOM criticism:ACC like-3MSG:NEG:IPF
 ‘Our in-law (M) does not like criticism.’
 [F:NOM *nu bóllótiya*; PL:NOM *bóllóti*]
- (89c) *naʔá-y ʔaawá-a laat-íisi*
 child-M:NOM father:DEF:ACC inherit-3MSG:PF
 ‘The boy inherited the father.’
 [F:NOM: *naʔiya*; PL:NOM: *naati*]

Table 7.4 Core case marking in definite and indefinite nouns in Wolaitta.

	Definite singular feminine			Definite singular masculine			Indefinite (no gender or number distinction)	Plural (always definite, no gender distinction)
	Cit.form	Cit.form	Cit.form	Cit.form	Cit.form	Cit.form		
	<i>mórke</i>	<i>šooró</i>	<i>kaná</i>	<i>mórke</i>	<i>šooró</i>	<i>kaná</i>		
NOM	<i>mórkíya</i>	<i>šooríya</i>	<i>kaníya</i>	<i>mórkeé</i> <i>mórkéy</i> <i>mórkeí</i>	<i>šooróy</i>	<i>kanáy</i>	<i>mórké</i> <i>šoorí</i> <i>kaní</i>	<i>mórketí</i> <i>šoorotí</i> <i>kanatí</i>
ACC	<i>mórkíyo</i>	<i>šooríyo</i>	<i>kaníyo</i>	<i>mórkíya</i>	<i>šoorúwa</i>	<i>kanáa</i>	<i>mórke</i> <i>šooró</i> <i>kaná</i>	<i>mórkétá</i> <i>šoorotá</i> <i>kanatá</i>

Source: Amha (2007c).

In table 7.4, I summarize nominative and accusative case inflection using the nouns *mórke* ‘enemy’, *šooró* ‘neighbour’, and *kaná* ‘child’, each representing one of the three terminal-vowel noun classes.

Generally speaking, the SOV order of constituents and the assignment of the nominative and accusative cases in a clause follow the (sub-categorization) principles mentioned above for Dime and also generally for Omotic (see also section 7.4.1.5 on case). The nominative case marks the subject of intransitive clauses and the agent in transitive clauses. The accusative case marks the patient in transitive clauses, and it also marks the predicative-nominal in non-verbal clauses. In most languages, peripheral cases such as the dative, instrumental, and locative are marked on a noun that is already affixed with the accusative or genitive case markers, as in example (90c) from Wolaitta.

- (90a) *naʔá-y gupp-eési*
child-M:NOM jump-3MSG:IPF
‘The boy jumps.’
- (90b) *ta naʔá-y he naʔ-íyo dos-eési*
1SG:GEN child-M:NOM that child-F:ACC like-3MSG:IPF
‘My son likes that girl.’
- (90c) *táání he bitán-íya-ssi ʔafíla šamm-aási*
1SG:NOM that man-M:ACC-DAT cloth:ACC buy-1SG:PF
‘I bought cloth for that man.’

However, there are some exceptions to the case assignment pattern discussed above. For example, some one-place verbs may take both subject and patient, in which

case they often express special activities (91a), states (91b), or idiomatic meanings (91c).

- (91a) *naʔá-y heell-úwa gupp-eési*
 child-M:NOM kind.of.jumping-M:ACC jump-3MSG:IPF
 ‘The boy performs a special jumping act in funerals.’
- (91b) *bitáneé sukkaár-íya harg-éési*
 man.M:NOM sugar-M:ACC be_sick-3MSG:IPF
 ‘The man is diabetic.’
- (91c) *mac’c’aas-íya suútta-a yeekk-aúsu*
 woman-F:NOM blood:M:ACC cry-3FSG:IPF
 ‘The woman cries bitterly [she regrets the loss of someone or something very badly].’

In many Omotic languages the dative marks the indirect object in three-place verbs. However, the dative also marks one of the two arguments of existential verbs. In such constructions the dative-marked noun denotes the participant that possesses or lacks a certain quality or entity (i.e., the one identified by the second argument of the existential verb). The following examples from Wolaitta illustrate the existential and possessive uses of the verbs *deʔ-* ‘be present / live’ and its negative counter-part *ba(wa)* ‘not be present / lack (in) something’:

- (92a) *naa-t-í deʔ-oósona*
 child-PL-M:NOM exist-3PL:IPF
 ‘There are children / The children are present.’
- (92b) *ʔá-ssi naa-t-í deʔ-oósona*
 3MSG-DAT child-PL-M:NOM exist-3PL:IPF
 ‘He has children.’
- (92c) *naa-t-í baá(wa)*
 child-PL-M:NOM exist:NEG
 ‘There are no children / The children are not present.’
- (92d) *ʔá-ssi naa-t-í baá(wa)*
 3MSG-DAT child-PL-M:NOM exist:NEG
 ‘He does not have children.’

In [table 7.5](#) the case-marking morphemes in Wolaitta and an overview of the semantic roles they designate are presented.

Table 7.5 Case affixes in Wolaitta.

Case marker		Case label	Grammatical relation	Semantic roles
Feminine	Masculine/PL			
-íya	-y, -í	nominative	subject	agent, experiencer, or undergoer-subject
-íyo	-a, -íya, úwa	accusative	object	patient, theme, experiencer
-ssi, -yyo, -w		dative	indirect object, possessor/experiencer subject	recipient, beneficiary, possessor
-ppe		ablative	(adjunct/peripheral)	source
-ko		allative	(adjunct/peripheral)	motion toward (animate) referent
-ra		instrumental/ comitative	(adjunct/peripheral)	instrument, 'togetherness'
-n		locative (instrumental)	(adjunct/peripheral)	location, manner, instrument . . .
Feminine -ee	Masculine/PL -a, -u	genitive	possessor	possessor

Source: Amha (2009).

7.7 Interrogative clauses

In a number of Omotic languages, polar interrogatives (yes-or-no questions) are distinguished from the corresponding declarative clauses by adding an invariable particle to the verb, which may or may not be accompanied by special question intonation. For example, in Maale, verb-final suffixes such as *-íya* and *-y* indicate that the clause is interrogative. The morpheme *-íya* on the verb indicates that the clause is perfective interrogative (93a). In the imperfective aspect, the verb is not specially marked for the interrogative. Rather, the same aspect marker as in the declarative clause is used but with obligatory rising intonation (93b).

(93a) *ʔatsí mukk-íya*
 man:M:NOM come-PF:Q
 'Did the man come?' (cf. *ʔatsí mukk-é-ne* 'The man came.')

(93b) *ʔatsí mukk-á*
 man:M:NOM come-IPF:Q
 'Is the man coming?' (cf. *ʔatsí mukk-á-ne* 'The man is coming.')

In interrogative clauses with content-question words, the imperfective (question) marker is followed by yet another final morpheme *-y* (94):

- (94) néení ʔaigó maď-á-y
 2SG:NOM what:ACC work-IPF:Q-CNTQW:Q
 ‘What are you doing?’
 (Amha 2001a: 155–6)

Besides the above-mentioned particle usage, two other interesting morphological strategies have been attested in Omotic interrogatives.

7.7.1 Special interrogative verb inflection and ‘reductive morphology’

One unique feature of Omotic languages, especially languages from the Omoto branch, Bench, and Aari (cf. Bender 1991: 99–100), is participant marking on the verb of the interrogative clause (see Hayward 1995). (See section 7.4.2 on verbs, above, where the inflection of the interrogative verb of Wolaitta is illustrated.)

Another interesting morpho-syntactic phenomenon observed in a few Omotic languages, although the languages in question do not share geographic proximity, is what I call here ‘reductive morphology’, in which a paradigmatic relation between two structures is (partly or fully) indicated by omitting from one structure a morphological element that is obligatory in the other structure. All the reported cases involve the contrast between polar interrogative clauses and their corresponding declarative forms, although the omitted categories vary from language to language. Thus, in Dime perfective and imperfective affirmative-declarative clauses, the verb is obligatorily marked with subject-agreement morphemes. In the corresponding first- and third-person polar interrogative clauses, however, the subject-agreement markers must be dropped. Thus, in clauses with first- and third-person subject, omitting the agreement markers is one of the major indicators of the distinction between affirmative declarative and interrogative clauses in the language. In addition, in the perfective interrogative, the aspect marker *-i-* bears high tone. Compare the verbs in the declarative and interrogative clause in (95):

- | | | | |
|------|---------------------------|--|-----------------------------|
| (95) | PERFECTIVE AFFIRMATIVE | | PERFECTIVE INTERROGATIVE |
| | DECLARATIVE | | |
| | ʔaté ʔád-i-t ‘I came.’ | | ʔaté ʔád-í ‘Did I come?’ |
| | wɔtu ʔád-i-t ‘We came.’ | | wɔtu ʔád-í ‘Did we come?’ |
| | nú ʔád-i-n ‘He came.’ | | nú ʔád-í ‘Did he come?’ |
| | ná ʔád-i-n ‘She came.’ | | ná ʔád-í ‘Did she come?’ |
| | kété ʔád-i-n ‘They came.’ | | kété ʔád-í ‘Did they come?’ |
- (Fleming 1990; Seyoum 2008)

The interrogative marker *-áá* (for both perfective and imperfective polar interrogatives) is used only when the subject is second person:

- (96) *yá ʔád-i-n* ‘you (SG) came.’ *yaye ʔád-áá* ‘Did you (SG) come?’
yesé ʔád-i-n ‘you (PL) came.’ *yesé ʔád-áá* ‘Did you (PL) come?’

Similarly in Sheko, the polar interrogative is distinguished from the corresponding declarative form by the absence of sentence-final particles such as *-ke* and *-me*, whose selection is determined by tense and modality: *-ke* and *-me* respectively occur in ‘non-future’ and ‘future’ affirmative declarative verbs. The following Sheko examples are from Hellenthal (2010).

- (97a) *sook’-á* *ahee sook’-á-ke*
 sleep-3MSG:Q yes sleep-3MSG-NF:DCL
 ‘Did/does he sleep?’ ‘Yes, he slept / is sleeping.’
- (97b) *gabak’a a-tag-á* *ŋ-tag-á-me*
 market 2SG-go-FUT.Q 1(SG)-go-FUT-F:DCL
 ‘Will you go to the market?’ ‘I will go.’

In Zargulla, polar interrogative clauses differ from their corresponding declarative clauses in that the verb of the declarative clause must have the focus marker *-tte-* (98b), while this must be dropped in the interrogative counterpart (98a). The same phenomenon is observed in Zayse (see Hayward 1990). More importantly, in Zargulla polar interrogatives there is no special interrogative intonation.

- (98a) *ʔésí gutá gákk-ó-s-éne*
 3MSG:NOM tomorrow arrive-INT-3MSG-FUT
 ‘Will he arrive tomorrow?’
- (98b) *hoo, (ʔésí) gutá gákk-ó-tte-s-éne*
 yes, 3MSG:NOM tomorrow arrive-O-FOC-3MSG-FUT
 ‘Yes, he will arrive tomorrow.’

The Zargulla examples above illustrate simple polar interrogatives. There is a special interrogative particle *-n* which may be added to an interrogative verb. The addition of this particle plays a pragmatic role, namely that of emphasizing the question.

- (99a) *ʔésí ʔúš-ó-s-íne*
 3MSG:NOM drink-INT-3MSG-HAB/PRES
 ‘Does he drink (alcohol)?’
- (99b) *ʔésí ʔúš-o-s-ín-ěn*
 3MSG:NOM drink-INT-3MSG-HAB/PRES-Q
 ‘Does he drink [alcohol]?’ (the speaker’s expectation was that the person does not drink because of his religion)

7.8 Non-verbal clauses and the use of the copula

In a number of languages, attributive or equational non-verbal clauses in the present are morphologically unmarked. For example, Wolaitta has no present- or past-tense copula marker. In the future tense form, it uses the lexical verb *gid-* ‘be enough’, as in *goššančča gid-ana* ‘(he/she) will be a farmer’ (see Amha 2007c). In contrast, Dizi distinguishes three copulas, which are obligatorily used: the attributive copula *ti-*, the existential copula *-ki-*, and the negative copula *nan-* (identified as ‘auxiliary negative verb’ in Beachy (2005)). The three copulas can be inflected for the number or gender of the subject of the nominal clause (100a-d), as well as for aspect (100e).

- (100a) *yaaba ješ ti-go*
 man good BE-3MSG
 ‘The man is good.’
- (100b) *ješ ti-gɛj*
 good BE-3FSG
 ‘[She] is good.’
- (100c) *bač-a aŋgat ki-go*
 clothes-PROX here EXT:BE-3MSG
 ‘The clothes are here.’
- (100d) *nan-í ?ís-t ki-ti*
 NEG-3FSG it-LOC EXT:BE-NEG
 ‘There is no one (F)’ / ‘There are none.’
- (100e) *kek tɛ-j ee, kek ti-go*
 correct BE-FUT:Q yes, correct BE-3MSG
 ‘Is it correct? Yes, it is correct.’

There are languages that have a present-tense copula but use it optionally or in a pragmatically restricted context. The latter case reflects the situation in Haro, as described by Woldemariam (2003): in Haro the addition of the copula *-kko* emphasizes the nominal predicate; pragmatically neutral attributive clauses in this language occur without this morpheme. Compare: *há?i kááti* ‘This is a chief’ vs *há?i kááti-kko* ‘This is a chief’. Aari, Dime, and Kullo (or Dawro) have a copula, which is optional for present-tense attributive and equational clauses. From available literature, it seems that the absence or presence of the copula in these languages is not associated with a special function, as it is in Haro.

Past- and future-tense attributive/equational clauses often use an obligatory copula verb, e.g. Dime (cf. Seyoum 2008). Moreover, unlike attributive/equational clauses,

existential non-verbal clauses tend to be morphologically marked by a special copula or are headed by lexical verbs corresponding to ‘sit’, ‘exist’, or ‘live’ in English.

In the negative, an obligatory copula or a verbal form heads attributive or equational non-verbal clauses and existential clauses. In Aari, for example, there is a general non-verbal negative copula, *daki*, used as in *laqami daki* ‘it is not good’, *dofen daki* ‘it is not true’, and *etsina maana daki* ‘the man is not a smith’ (cf. Bender 1991). Others mark the negative on equivalents of the English verbs ‘become’ or ‘happen’, e.g., in Wolaitta the expression *gabaré gidákka* ‘You (SG) are not a farmer’ contains the second-person singular negative verb *gid-ákka* ‘you will not become, you will not be enough’.

7.9 Complex sentences

Dependent clauses such as the conditional, concessive, adversative, and converb are morphologically distinguished from main clauses by special endings attached to the verb of the dependent clause (101). Generally, dependent clauses occur before the matrix verb, but cases of the reverse order are reported for the conditional (see Amha 2001a).

The adversative in Maale

- (101a) *ʔiyátá jink-ó ʔáád-andá-me ʔír-á*
 3PL:NOM Jinka-ACC go-F:IPF-ADVST rain-NOM
košš-í work'-é-ne
 make.good-CNV rain-PF-A:DCL
 ‘They would go to Jinka, but it rained hard.’
 (Amha 2001a: 188)

The conditional in Dawro

- (101b) *ne gede b-ope ne a ts'ella*
 2SG:SBJ there go-F:CND 2SG:SBJ 3MSG:OBJ will-see
 ‘If you go there, you will see him.’
 (Kullo, Allan 1976b: 349)

Of all complex clause types, the most widely used and morpho-syntactically and pragmatically interesting one involves the converb. In a number of Omotic languages, the converb forms a special verb paradigm. As a dependent clause it is used to indicate information such as anteriority or simultaneity of the event expressed in the dependent clause in relation to the matrix clause. It is also used for clause chaining. In the following section, we discuss the converb in some detail.

7.9.1 Converbs and switch-reference

The terms ‘converb’, ‘gerund’, and ‘participial’ are used to refer to a (inflecting) dependent verb in a complex clause, which designates an action as anterior or simultaneous to that described by the main verb (see Haspelmath and König (1995); for a survey of converb constructions in Ethiopian Afroasiatic languages and in Nilo-Saharan, see Amha and Dimmendaal (2006b)). Such verbs in Omotic often head clause-chains in discourse, in which several dependent clauses occur before a final, fully inflected main-clause verb.

Many Omotic languages morphologically distinguish two types of converbs: the different-subject converb and the same-subject converb. The former indicates that the agent/subject of the state of affairs expressed by a converb is different from that of the immediately following converb (or series of converbs) and/or main-clause verb. The same-subject converb, on the other hand, indicates that the agent/subject of a converb is the same as the subject of the subsequent converb(s), other dependent clauses, and/or the main-clause verb. This is illustrated in (102–03) using data from Zargulla. In (102) the noun *hargeí* ‘disease’ is the subject of the two consecutive dependent clauses, headed by the verbs *ʔaík(k)*- ‘hold/catch’ and *wóǰó ʔaik-* ‘start killing’. The verb *ʔaikk-* is marked by the morpheme *-í*, which indicates that this verb is a converb form and that it has the same subject as the immediately following verb *wóǰó ʔaik-* ‘start killing’. The verb *wóǰó ʔaik-* ‘start killing’ is also a converb but it is marked by *-um* instead of *-í* because the complex verb that immediately follows it, i.e., *dákk-í b-ánna*, has a different subject, namely the first-person singular, which is morphologically indicated in the inflection of the negative verb *b-*. Note that the final verb *dákk-í bánna* in this example represents a past tense interrogative negative construction which is expressed by a complex verb comprising the same-subject converb form of the negated lexical verb (in this case *dákk-* ‘send’) immediately followed by an inflected negative verb (*b-*). Naturally, these two verbs always share the same subject (cf. Amha 2009).

- (102) *harge-í táná hátte hátte ʔaikk-í wóǰ-ó*
 disease-NOM 1SG:OBJ now now hold-SS:CNV kill-INT
ʔaík-um dákk-í bánna
 hold-DS:CNV send-SS:CNV VB.NEG:PF:1SG:Q
 ‘Didn’t I divorce (her when/because) disease kept catching
 me frequently?’
 (lit. ‘Disease caught me repeatedly (and it) started killing me (and)
 didn’t I send her?’)

Similarly, in the example in (103) the subject of the verbs *ʔul-* ‘return’, *hang-* ‘go’ and *ʔoll-* ‘give up’ is the overt noun *géruns’í* ‘people’. The first two of these verbs

are marked by the same-subject converb marker *-í*. The last verb, *ʔoll-* ‘give up’ is marked by the different-subject converb marker *-um* in anticipation of the switch to a third-person masculine singular agent in the following clause, which is headed by the verb *mutt-* ‘eat’. The subject noun phrase of the main verbs in (102) and (103) is not overt; it is identified only by the agreement morphemes on the verb. If the context does not allow identification of a referent, it may be expressed by an overt noun. In a series of same-subject converb clauses, the subject is mentioned only once, often as subject of the first clause.

- (103) *géruns'-í ʔul-í hang-í ʔoll-úm bee-s*
 people-NOM return-SS:CNV go-CNV give.up-DS:CNV 3LOG-DAT
muútt-á-tte-s-ínne
 eat-INT-FOC-3MSG-PAST
 ‘The people having returned to their home, (the cat) *ate* (the rat).’

In a number of Omotic languages the same-subject converb is further subdivided into anterior and simultaneous converb. Dizi distinguishes a same-subject simultaneous converb, which is characterized by absence of an overt marker; a same-subject anterior converb marked by *-tej*; and a different-subject anterior converb marked by *-m* (see Beachy 2005). In Maale, each of the three types of converbs is distinctly marked: same-subject anterior converb marked by *-áʔʔo* (104a); simultaneous or general converb marked by *-í*, which fulfils various functions including anteriority, simultaneity, and clause-chaining (104b); and the different-subject anterior converb marked by *-em* (104c). The data in (104) are from Azeb Amha (2001a).

- (104a) *ʔízí mís'-ó tík'-áʔʔo ʔáád'-é-ne*
 3MSG:NOM tree-ACC cut-SS:ANT:CNV left-PF-A:DCL
 ‘He left, having cut the wood.’
- (104b) *ta ʔínd-á túk-ó burk'-iš-í káts-ó*
 1SG:GEN mother-NOM coffee-ACC boil-CAUS-SS:CNV food-ACC
kats-i ʔas-ó ʔééll-é-ne
 cook-SS:CNV people-ACC call-PF-A:DCL
 ‘My mother made coffee and she prepared food and invited the people.’
- (104c) *ʔízí mís'-ó tík'-ém núúní makiín-aa*
 3MSG:NOM wood-ACC cut-DS:CNV 1SG:NOM car-LOC
c'aan-é-ne
 load-PF-A:DCL
 ‘He having cut the wood, we loaded it on the car.’

Similarly, in Wolaitta there are four converb types: same-subject anterior converb (marked by *-ídí* or *-ádá*, see below for their distribution), different-subject anterior converb (marked by *-(í)n*), same-subject simultaneous converb (marked by *-íiddí* or *-áiddá*), and a different-subject simultaneous converb (marked by *-íšín*). See Adams (1983), Lamberti and Sottile (1997), Amha (2010a and 2010b), and Amha and Dimmendaal (2005) for details.

Besides their function in clause chaining, same-subject anterior converbs are used in many Omotic languages to form complex predicates or verbal compounds. Such languages include Bench, Dime, Maale, Wolaitta, and Zargulla. Wolaitta, for example, has short and long same-subject anterior converbs. The short form is mainly used in combination with another (main or dependent) verb. Such V_1 – V_2 combinations render subtle semantic modifications including the expression of manner, immediacy, or totality (105) (see Adams 1983; Amha 2001b, 2010b; Amha and Dimmendaal 2006a):

- (105) *wurs-í* *ʔer-eési*
 finish-CNV:SS know-3MSG:IPF
 ‘He knows all.’

With the exception of Yem (for discussion, see below), the different-subject converb marker does not inflect for person, number, and gender of the agent/subject. There is a formal correspondence across languages. For example, the different-subject marker is *-n* in Bench, *-m* in Dizi, *-em* in Maale, (syllabic) *-n* in Sheko, *-um* in Zargulla, *-(í)n* in Wolaitta, and *-nā*, *-ni*, or *-n* (depending on person) in Yem.

Unlike the different-subject converb, the same-subject converb is inflected to varying degrees across languages. Compared to the inflection of main verbs, there is generally a reduction in the distinction of person, number, and gender of the subject of the converb. Moreover, tense, mood, and polarity are not marked on the converb. This is the case in Bench, Gamo, Dawro, and Wolaitta. In Wolaitta, for example, the same-subject anterior converb has two forms, *-ádá*- and *-ídí*, which are directly attached to the verb root to form the converb. The converb with *-ádá* indicates that the subject of the converb is singular except for 3msg; a converb with *-ídí* indicates that the subject is plural or third-person masculine singular. A parallel distribution is observed in the same-subject simultaneous converb markers *-áidda* and *-íiddí*. In table 7.6, I show the contrast between Wolaitta converbs and main verbs in terms of tense–aspect and person marking. The verb used is *wot't* ‘run’.

Aari marks person as well as number distinctions on the converb, but it does not show tense–aspect distinctions on this verb-type. Compare the inflection of the verb *baʔ* ‘bring’ in the affirmative perfect main verb (from Hayward 1990: 475) and

Table 7.6 Aspect and person inflection on Wolaitta main verbs and converbs.

	Same-subject converb			Main verb
	Anterior		Simultaneous	
	Short form	Full form		
1sg	wot't'-á	wot't'-á dá	wot't'-á í dá	wot't'-á á sí
2sg	wot't'-á	wot't'-á dá	wot't'-á í dá	wot't'-á á dá sa
3fs	wot't'-á	wot't'-á dá	wot't'-á í dá	wot't'-á á dá su
3ms	wot't'-í	wot't'-í dí	wot't'-í í dí	wot't'-í á sí
1pl	wot't'-í	wot't'-í dí	wot't'-í í dí	wot't'-í á dá
2pl	wot't'-í	wot't'-í dí	wot't'-í í dí	wot't'-í á dá ta
3pl	wot't'-í	wot't'-í dí	wot't'-í í dí	wot't'-í á dá so na

Source: Amha and Dimmendaal (2005: 311).

the converb paradigm of *?its-* ‘eat’ (Hayward 1990: 488; ‘O’ represents a breathy vowel):

(106)	PERFECT MAIN VERB	CONVERB
	1SG <i>bá?-tít</i> ‘I brought’	<i>?its-ito</i> ‘I having eaten’
	2SG <i>bá?-tay</i> ‘you brought’	<i>?its-ayo</i> ‘you having eaten’
	3SG <i>bá?-ta</i> ‘he/she brought’	<i>?its-iyol/-itso</i> ‘he/she having eaten’
	1PL <i>ba?-tint</i> ‘we brought’	<i>?its-O(O)to</i> ‘we having eaten’
	2PL <i>bá?-tet</i> ‘you brought’	<i>?its-eta</i> ‘you having eaten’
	3PL <i>ba?-tek</i> ‘they brought’	<i>?its-eka</i> ‘they having eaten’

Perhaps the most varied types of converbs are attested in Yem. As Zaugg-Coretti (2010) shows, this language has seven formally distinct converb types: same- and different-subject general converb, same- and different-subject negative converb, same- and different-subject sequential converb, and same-subject simultaneous converb. With the exception of the same-subject negative converb, the other converb types have a reduced inflection, in that they distinguish only gender and/or number. Zaugg-Coretti (2010: 143) summarizes the formal differences between main verb and converb as follows: ‘All converbs show a reduction of finite categories compared to main verbs. This concerns mood markers (such as jussive or optative), aspect markers and/or person markers.’ The paradigms in (107a and b) and their approximate translations are based on Zaugg-Coretti (2010). The basic forms of the verbs in the paradigms in (107a), (107b) and (107c) are respectively *hama* ‘go’, *ko?sū* ‘finish’, and *šaka* ‘not do’; note the tonal

and vowel quality differences corresponding to gender (CNV converb, SS same subject, DS different subject).

- (107a) SS GENERAL CNV
- | | | |
|-----------|------------------|----------------|
| 1, 2 | <i>hamm-a</i> | ‘Going, I/you’ |
| 3SG.F | <i>hamm-a</i> | ‘Going, she’ |
| 3SG.M/POL | <i>hamm-ē</i> | ‘Going, he’ |
| 3PL.F | <i>ham-e-r-a</i> | ‘Going, they’ |
| 3PL.M/POL | <i>ham-e-r-ē</i> | ‘Going, they’ |
- (107b) SS SEQUENTIAL CNV
- | | |
|------------------|-------------------------|
| <i>koʔs-aa-t</i> | ‘Having finished, I’ |
| <i>koʔs-aa-t</i> | ‘Having finished, she’ |
| <i>koʔs-āa-t</i> | ‘Having finished, he’ |
| <i>koʔs-aa-t</i> | ‘Having finished, they’ |
| <i>koʔs-āa-t</i> | ‘Having finished, they’ |
- (107c) DS NEGATIVE CONVERB
- | | | |
|-------------|-------------------------|--------------------|
| 1SG | <i>šák-f-áa-nā</i> | ‘I not doing X’ |
| 1PL | <i>šák-f-áa-nī</i> | ‘We not doing X’ |
| 2SG.M/F | <i>šák-f-āa-n</i> | ‘You not doing X’ |
| 2 PL/SG.POL | <i>šák-f-áa-nī</i> | ‘You not doing X’ |
| 2PL.POL | <i>šák-sé-f-áa-nī</i> | ‘You not doing X’ |
| 3PL.F | <i>šák-sē-f-āa-n</i> | ‘They not doing X’ |
| 3PL.M | <i>šák-sé-f-áa-n</i> | ‘They not doing X’ |
| 3PL.POL | <i>šák-sé-f-áa-tē-n</i> | ‘They not doing X’ |

Other Omotic languages, e.g. Dime, Maale, and Zayse, have only non-inflecting converbs, thereby failing to show the person, gender, or number distinction which is indicated in Aari, Bench, Gamo, Dawro, Wolaitta, and Yem. Thus, Dime has only one converb, which is invariably marked by *-á/ánde* (the shorter form *á* is preferred in clause chains). In Maale, Zargulla, and Zayse the same-subject converb is invariably marked by *-í*.

Zayse and Zargulla have a converb cognate to the Maale general converb (see 104b), but the morphological status of the morpheme is different across languages. As Hayward (1990, 1991a) demonstrates for Zayse, the converb in Zayse and Zargulla is expressed by the same form as one of the main verbs. Hayward labels the latter form ‘short perfect’. In the examples in (108) from Hayward (1991a: 550), the morpheme *-i* is added to the verb roots *gwiid-* ‘hit’ and *gel-* ‘enter’ (glossing adapted, to match the style in the present study).

(108a) *tai ʔesa kallo-*nna* *gwiid-i**
 1SG:NOM 3MSG:ACC stick-INST hit-SH:PF
 ‘I hit him with a stick.’

(108b) *ʔe-ʔatsi *gel-i* ʔuttottesin*
 the man:NOM enter-CNV sit.COP:3MSG:PF
 ‘Having entered, the man *sat*.’

The dual syntactic behaviour of the verb root + *-i* form in Zayse is atypical in view of the synchronic converb – main verb distinction in other Omotic languages. However, use of the converb without or instead of the main verb is also recorded for Amharic (Leslau 1995) and Maale (Amha 2001a). This might be an indicator of a recycling of dependent clauses to main clauses and vice versa, motivated, perhaps, by the frequent and varied use of the construction.

7.10 Concluding remarks

We have shown the controversies with regard to the Afroasiatic membership of Omotic and its relation to Cushitic. Doubts concerning the internal integrity of Omotic as a language family have often been mentioned by referring to formal and structural differences that the South Omotic languages (Dime, Aari, Karo, Banna) and/or languages from the Maji/Dizoid branch (Dizi, Sheko, Nayi) exhibit vis-à-vis other members of Omotic. However, these variations seem to reflect the historical depth of the language family and complex contact phenomena rather than the lack of unity. In the present overview, we compared Omotic languages on the basis of a few grammatical features and word class parameters. Typological correspondences among the various branches of Omotic are observed. These include, sibilant harmony, formal and functional correspondence of verbal derivational morphemes, converb and switch-reference markers. It is interesting that South Omotic languages and Dizoid whose genetic classification has raised controversy also exhibit some typological differences vis-à-vis the other groups. For example, these languages have a nominative–accusative system with an unmarked nominative, whereas the other languages have the marked nominative system. Bench shares the more complex phonological system of the Dizoid languages, e.g. a large inventory of palatalized and labialized consonants, syllabic nasal, heavy syllables and complex tones, whereas its lexicon and some of its grammatical features, e.g. its case and gender marking system, have greater correspondence with Omoto. It is interesting to note that some highly specific, even unique, features are noted across sub-branches of Omotic. For example, the ‘reductive morphology’ involving polar

interrogatives is attested in Ometo (Zayse-Zargulla) and Dizoid (Sheko) as well as in the South Omotic language Dime. Also, shifting subject agreement markers in interrogative clauses are observed in the East Ometo languages Zayse and Zargulla as well as in Aari. Further detailed studies on individual languages and thorough historical-comparative research on this lesser-known family are urgently needed to close the debate on its classification.

Typological outline of the Afroasiatic phylum

Zygmunt Frajzyngier

8.1 Introduction

As a working hypothesis, the present chapter takes the six families of the Afroasiatic phylum as independent branches, without postulating a closer connection between any of them. The purpose of this overview is to enable a discovery of correlations among various coding means and functions. The categories selected for the study are only those that have actually been attested in some languages of the phylum, and not necessarily those that are the frequent objects of general typological studies or that have been a frequent object of inquiry in Semitic and Egyptian linguistic traditions.

The forms and functions selected for the description include those that are frequently found across Afroasiatic languages and those that appear to be rare or under-described for other languages, and especially those that have been to a large extent ignored by contemporary linguistic theories. Because these characteristics are less known, more space is devoted in the present chapter to their description than to the description of forms and functions frequently found in languages from other phyla.

In preparing the present chapter, I have drawn on the work of other contributors to the volume, to whom I am most grateful. I have also had the privilege of using information provided by other colleagues working on Afroasiatic and other languages and on various linguistic issues. In particular, thanks are due to Sean Allison, Azeb Amha, Matthew Anstey, Scott DeLancey, Guy Deutscher, Geoffrey Khan, Gwendolyn Lowes, Amina Mettouchi, Jonathan Owens, Rebecca Scarborough, Erin Shay, Mauro Tosco, and Georgia Zellou-Weissman, for sharing their knowledge of various languages and issues, their publications, and even their research tools. Maarten Kossmann made critical and helpful comments on parts of the first draft of this chapter. Comments from anonymous readers for Cambridge University Press made me aware that some points were not treated with sufficient clarity and that others required a more precise formulation. Erin Shay read with great patience several versions of this chapter and commented on organization, content, and style. I am most grateful to Shiferaw Hajito from whose speech the examples from Kafa are drawn. For examples from Lele, Gidar, Wandala, Hdi, Mupun, and Mina, I am grateful to speakers too numerous to be mentioned here but whose contributions have been acknowledged in the descriptions of individual languages. The analyses, interpretations, and presentations in the chapter do not necessarily represent those of other contributors to the volume or of other colleagues consulted on various issues. Without the editorial work of Marian Safran, this chapter would have been much more difficult to read. I alone am responsible for all errors of fact or interpretation.

The chapter provides information on ways in which Afroasiatic languages are similar and ways in which they are different with respect to a selected formal means of coding and with respect to a selected number of functional domains coded in those languages. For some functions an attempt is made to adduce the reasons why they are coded in one way rather than another.

The similarities among genetically related languages may result from common retention, from borrowing among languages belonging to the same family or to other families, or from similar but independent grammaticalizations from identical sources. Differences among genetically related languages may represent language-internal innovations and/or independent borrowings from different sources. The chapter does not directly address the issue of what forms and functions are retentions and what forms and functions are innovations. In a few cases the chapter identifies innovations resulting from contact among the languages of the phylum and between the languages of the phylum and languages belonging to other families. A comprehensive discussion of these questions, however, needs to be addressed in a future comparative-historical work whose aim will be a reconstruction of the Afroasiatic grammatical system. The discussions presented here may be a useful starting point for such a reconstruction and for the discovery of language contacts.

The entire chapter and many sections within the chapter are divided thematically into two parts. The first part deals with the formal means available in Afroasiatic languages. The second part deals with the functions coded by these forms. Whenever possible, a causal connection driving various correlations among the forms and between forms and functions is offered.

The formal means discussed include: phonology with segmental and suprasegmental inventories and phonological processes; the structure of the lexicon; and derivational and inflectional morphology of nouns, verbs, prepositions, conjunctions, complementizers, and other lexical categories. The syntactic means include the use of adpositions; *converbs*; selectors; repetition of lexical items and phrases; serial verb constructions; coding through position; coding through relative order; and coding through extraposition. Each of these means can code a variety of functions. Therefore, many of these means are discussed several times in the present chapter, first with respect to their properties as formal means and later with respect to how they code various functions. The functional domains discussed include: the relationships among noun phrases; grammatical and semantic relations between the predicate and noun phrases; tense and aspect; mood, including the coding of epistemic modality, interrogative and negative clauses, and deontic modalities; paratactic constructions; clausal complementation; relative clauses; comment clauses; focus; and topicalization and other elements of information structure; and the system of reference.

Information for the present chapter, including data and analyses, was drawn from preceding chapters in the present volume as well as from other sources, some published and others not, including my own notes from work with speakers of various Afroasiatic languages. Colleagues with expertise in various fields generously shared their knowledge of specific issues and languages. Whenever information about a language or language family other than Chadic is not attributed, the source of information is one of the chapters in the present volume.

As stated in the introduction to this volume, a perusal of the large number of language descriptions written in different theoretical approaches over a time span of more than 100 years is bound to result in a large number of technical terms. Some terms, although different, may actually refer to the same category, such as ‘perfect’, ‘perfective’, ‘completed’. Some terms, although identical, may actually refer to different functional categories. Again, the term ‘perfective’ used by different scholars does not have to refer to the same aspect and sometimes may even refer to a tense. Which terms refer to the same phenomenon and which refer to distinct phenomena cannot be resolved without an analysis of the facts in specific languages. Such an analysis is beyond the scope of the present chapter. In order not to misrepresent or contradict analyses of languages on which I did not work, I have largely retained the original terminology of different authors. With respect to a few general phenomena, I have used a different terminology, justifying the reasons to do so.

The choice of phenomena was to a certain degree guided by the knowledge that some facts related to Afroasiatic languages are well known, and others not. Thus, the consonantal structure of Semitic verbs and many nouns has become a part of any introductory textbook of linguistics, and the general linguistic reader is expected to be familiar with it. The categories that have been discovered in lesser-known languages have consequently received as much attention here as the categories well known to a general linguistic audience – and sometimes more.

One purpose of the typology chapter is to point to the open questions. The fact that a phenomenon is described for only one family does not necessarily mean that it is unique to that family. It is often an indication that the phenomenon is deemed interesting and an invitation to look for the phenomenon elsewhere.

For some families, the existing scholarship focuses on inflectional paradigms, while for others, on form–function relationships. Older grammars seldom deal with the syntax of the languages described, and the syntax of complex sentences often receives just a cursory note (cf. Khan’s (2002) description of the study of syntax of Semitic languages). As a result, some families are more thoroughly represented in some sections, and others are more thoroughly represented in other sections. Examples in older grammars consist often of just a line in the original text (sometimes without transliteration) and

a translation, without interlinear glosses. Some examples in older literature assume the reader to be familiar with the language being described and give examples just in the language's orthography without transcription, glosses, or translations. Inclusion of such examples in a chapter addressed to a general linguistic audience does not advance the scholarship.

8.2 Phonology

The questions for the typology of phonological systems pertain to the inventory of underlying segments and suprasegmental elements; the structure of the syllable and constraints on larger entities, e.g. the word; and the phonological processes and their functions attested in various languages. These three areas of phonology determine to a large extent the phonetic structure of the utterance. The structure of the syllable may in turn affect the phonological processes such as vowel epenthesis; suprasegmental entities, in particular tone; and, to a considerable degree, the form of words. In a number of languages – more specifically, in Mina, Mafa, Gidar, and Wandala (Chadic) – phonological processes are a means to code the syntactic structure of the clause. For phonological inventories of individual Afroasiatic languages, see Kaye (1997).

8.2.1 Consonants

Afroasiatic languages contain at least three, and sometimes four, series of consonantal phonemes characterized by the manner of articulation: in addition to stops, continuants, and affricates (in some languages), all Afroasiatic languages also contain one or more of the series comprised of ejectives, implosives, glottalized, or pharyngealized consonants. This fact is usually taken as the central characteristic of the phylum. The phonetic realization of the third series may differ across families. Various languages also have additional series, such as lateral consonants in Semitic, Chadic, and Egyptian; labial-velar consonants in Chadic; and velarized consonants in Chadic and Berber. Labial-velar consonants exist as underlying segments in addition to the labial-velar consonants that are products of the labialization of velars when followed by a sequence of a high round vowel and a low vowel, as demonstrated for Pero in Frajzyngier (1989). The existence of underlying segments with double articulation, such as pre-nasalized stops (frequent in Chadic), labial-velar and palatalized consonants, is to a certain degree dependent on the theoretical assumptions and the methods of phonological analysis, in particular on the way a given researcher discovers a distinction between consonant clusters and single phonemes.

All Afroasiatic languages have bilabial, alveolar, velar, and glottal places of articulation. Some languages also have palatal, lateral, uvular, and pharyngeal places of articulation (e.g. uvular stops and pharyngeal continuants in Middle Egyptian).

Berber languages have a series of pharyngealized stops and continuants. There are eight places of articulation: labial, interdental, dental, pre-palatal, palatal, velar, uvular, and pharyngeal. All consonants can be short or long (geminated). In some languages, e.g. in Kabyle, geminated consonants can occur in the phrase-initial position.

Semitic languages have a series of consonants sometimes referred to as ‘emphatic’ whose phonetic realization differs across languages, and which may be realized as pharyngealized (uvularized), ejective, or glottalized.

Egyptian had the contrast between labial, alveolar, velar, uvular or pharyngeal, and glottal consonants. It had also a series of ejective consonants. The contrast between the voiced and voiceless consonants applied only to the bilabial stops.

For Proto-East Cushitic, Sasse (1979) reconstructs a glottalized series in addition to voiced and voiceless obstruents. Some Cushitic languages have glottalized obstruents and pharyngeals (e.g. Ts’amakko, Mous this volume), other languages have only glottalized consonants, and others have pharyngealized consonants. Glottalic consonants in Cushitic are implosive or ejective. Cushitic languages that have ejectives tend not to have pharyngeals.

For Proto-Omoti, Bender (2003) reconstructs bilabial, alveolar, palatal, velar, and glottal places of articulation, and stop, continuant, affricate, and ejective manners of articulation. In addition to voiceless and voiced obstruents, he postulates ejective consonants and one implosive consonant.

Chadic languages have a series of glottalized consonants. In some languages, this series involves labial and alveolar consonants; in other languages, also palatal consonants. Most Central Chadic languages and some West Chadic languages have voiceless and voiced lateral continuants. Some languages have underlying labial-velar consonants as opposed to labialized velars, which have emerged as a result of the labialization of velars followed by a sequence of a round vowel and an unrounded vowel. Newman (1977a) postulates also a series of palatal velar consonants.

Some facts that do not bear heavily on the phonological system nevertheless merit being mentioned. In Cushitic languages, Tigrinya (Ethiosemitic), and some Chadic languages, there is no underlying voiceless labial stop *p* despite the existence of voiced /b/ and the existence of voice contrast for other places of articulation.

8.2.2 Underlying and phonetic vowels

The relatively rich consonantal inventory in Afroasiatic languages is complemented by a relatively modest underlying vowel inventory. The number of underlying vowels in Afroasiatic languages varies from two to seven. The number of phonetic vowels may be quite large, as described below for Somali. The most frequent phonetic vowel, referred to in the literature as ‘schwa’, is in some languages high central and in others mid

central. In many languages it is a product of vowel insertion, although some linguists postulate a central vowel as underlying in particular languages. As is the case with underlying consonants, the number of underlying vowels depends on the individual phonological analyses. In some analyses, the number of underlying vowels is limited to two: a high and a low vowel. Such analyses often postulate a palatal and a labial prosody. The remaining phonetic vowels are derived through the application of prosody to the underlying vocalic and consonantal segments.

Diakonoff (1965 and 1988) postulates three vowels for Afroasiatic languages: *i*, *a*, and *u*. While such a system might well have been present in Proto-Afroasiatic, contemporary Afroasiatic languages display a large variation in their underlying vowel inventory. Some Berber languages have three underlying vowels; others have six or even seven (Kossmann and Stroomer 1997). In addition, most languages have one or two central phonetic vowels.

For the earliest Egyptian, three short and three long vowels (*i*, *a*, and *u*) are postulated (the Egyptian writing system does not represent vowels). In later stages, for example in Sahidic Coptic, the system of vowels was enlarged by mid vowels in a stressed position and reduced to two vowels, *a* and *e*, in an unstressed position (Loprieno and Müller, this volume). In Semitic languages, the reconstructed system includes three vowels. Some Semitic languages, notably Amharic, have seven underlying vowels.

Cushitic and Omotic languages have a relatively large number of vowels when compared to other families in that they have five short and five long vowels *i*, *e*, *a*, *o*, *u*. Cushitic languages are also characterized by ‘whispering vowels’, i.e. vowels that are not accompanied by the vibration of the vocal cords drawn together. They occur word- or clause-finally in Oromo, Burunge, Alagwa, and K’abeena (Mous, this volume). Somali, in addition to five short and five long vowels, also has extensive vowel harmony, which results in twenty phonetic vowels (Puglielli 1997: 524).

In Chadic languages, the most frequent are underlying three-vowel systems: *i*, *u*, and *a*. Many languages also have phonetic mid vowels [e] and [o], and many languages have a central high or central mid vowel which is most frequently epenthetic. Some scholars propose an underlying two-vowel system, with high and low vowels that have different realizations depending on surrounding consonants and glides.

8.2.3 Syllable structure, word structure, and consonant cluster constraints

The importance of consonant cluster and word structure constraints in the phonetic realization of underlying forms is that they partially affect syllable structure constraints. Syllable structure constraints in turn affect the phonetic realization of the utterance beyond the syllable boundaries. The importance of the constraints or lack thereof on

the syllabic onsets and syllabic codas affect other components of the phonology – more specifically, the tone, as demonstrated in Wolff (1987b) and in the present chapter. In what follows, I briefly review the constraints on syllable and word structure and demonstrate their consequences for the form of utterances in particular languages.

Three types of syllabic structures were allowed in Proto-Semitic, CV, CVC, and CVV. In contemporary Semitic languages, many more types are attested, and in addition to CV, CVC, and CVV, the structures CVVC, CCVC, and CCVCC are allowed. It appears that any consonant can serve as a syllabic coda. In Arabic, voiced and voiceless stops and continuants can occur in a syllabic coda: *bayt* ‘house’, *girbih* ‘water skin’ (Negev, Kaye, and Rosenhouse 1997: 282), *kalb* ‘dog’, *zibs* ‘plaster’ (Tunisian Arabic, Kaye and Rosenhouse 1997: 275), *malik* ‘king’, *srdūq* ‘cock’ (Maghreb, Kaye and Rosenhouse 1997: 281). The importance of the fact that any consonant can form a syllabic coda will become apparent in the discussion of tone.

Although in many Semitic languages syllables must have consonantal onsets, there are nevertheless languages in which syllables can have a vocalic onset. This is the case in Tigrinya and Amharic (Ethiosemitic) (Leslau 1997).

In Berber, a syllable may have a vowel, a simple consonant, or a geminated consonant in the onset, and a vowel, a simple consonant, or a consonant cluster in the coda. Given that the underlying forms of all lexical items in Berber consist of consonants only, syllabification rules, combined with the addition of grammatical morphemes, which can be either vocalic or consonantal, are responsible for the phonetic realization of words. As Kossmann (this volume) demonstrates, in some Berber languages syllabification rules obey sonority hierarchy, and in other languages syllabification follows syllable structure conditions that are not sensitive to sonority hierarchy.

Syllables in Egyptian had to have a consonantal onset. The coda could have been either vocalic or consonantal. In Coptic, the onset could consist of consonant clusters as the result of the loss of an unstressed first vowel. Significantly, it does not appear that constraints on the type of consonant in the coda position existed. In addition to sonorants, voiceless stops and continuants were allowed in the syllable-final position.

Syllables in Cushitic and Omotic languages must have a consonantal onset. A glottal stop is inserted if the morpheme begins underlyingly with a vowel. A syllable may have a voiced or voiceless obstruent in the coda: *bisád* ‘cat’ (Somali, Saeed 1999: 44), *buuruhásut* ‘his porridge’ (Arbore, Hayward 1984a: 98–9, as cited by Mous, this volume); *dəgget* and *dəgget ələd* ‘village (object and ablative respectively)’ (Bilin, Appleyard 2007b: 490).

In some Chadic languages syllables must have a consonantal onset, while in others a syllable may have either a vocalic or a consonantal onset. Grammatical morphemes often

have vocalic onsets, e.g., *a* ‘third-person singular pronoun’ and *á* ‘locative predicator’ in Wandala (Central Chadic). In some languages, lexical morphemes may also have a vocalic onset: *ír* ‘stand’ (Lele, Frajzyngier 2001). Chadic languages differ from other Afroasiatic languages in the constraints on syllabic codas. In many Chadic languages from the West and Central branch, syllabic codas, especially in the word-final position, may only be a vowel or a sonorant. This constraint requires the neutralization of the word-final obstruents into corresponding sonorants, as described for Hausa in Klingenberg (1927). This fact has important repercussions not only for the phonetic form of the utterance but potentially for the emergence of tone as described later in the present section.

8.2.4 Syllable and root weight

Syllable weight plays an important role crosslinguistically, and Newman (1972) postulated that it plays an important role in Chadic languages. The role of syllable weight in other Afroasiatic languages has not been explored. Frajzyngier (1976) defined a heavy syllable in Pero and Kanakuru as one that has the form CVVC or CVCC. Given the fact that a syllable is a unit of phonetic realization rather than of the underlying structure, it appears that the proper analysis should postulate the parameter of weight at the underlying rather than at the phonetic level. The existence of this parameter is provided by the fact that the weight of the root determines the shape of the phonological word formed through the addition of suffixes to the root. In Pero, if the verbal root is heavy, the ventive suffix has the form *ínà*:

kóop + *ínà* → [*kóobínà*]
‘pass’

The evidence that the presence of the vowel *i* in the form *ínà* is not a product of vowel insertion in a disallowed consonant cluster is provided by the fact that, with similar abutting consonants but with a light root, the ventive suffix has the form *nà*:

kpóm + *nà* → [*kpómná*]
‘meet’
(Pero, Frajzyngier 1989b)

The weight of the preceding root affects the vowel of the imperative form of one class of verbs in Pero. The underlying form of the imperative suffix is a high back vowel *u*. This vowel is lowered to *o* if the root is heavy:

áďù ‘eat!’ *áďďò* ‘eat something hard!’
(Frajzyngier 1976)

8.2.5 Tones

Although all Chadic, some Cushitic, and some Omotic languages have tone as an underlying prosodic element, they differ significantly with respect to the role of the tone. In Chadic languages, and in some Omotic languages (Bench, Sheko) every syllable has to have a tone and tone plays an important role in both lexicon and grammatical structure. In most Cushitic languages (Mous, this volume) and in many Omotic languages that have tone, not every lexical item or every syllable has to have a tone. In Cushitic and Omotic languages, tone plays an important role in the grammatical system and less so in the lexicon.

In Somali, removing a high tone codes the subject function of the noun, and shifting the high tone to the final mora codes the genitive case: *dibi* ‘bull’ absolutive, *dibi* ‘bull’ masculine nominative, *dibí* ‘bull’ genitive. Gender distinction in Somali may be marked by tonal changes, e.g. *ínan* ‘boy’, *ínán* ‘girl’ (Mous, this volume, after Saeed (1999)).

Omotic languages have great variation with respect to tone. Some languages have two, three, or more tones. Azeb Amha (this volume) cites Wedekind’s (1983), Breeze’s (1990), and Rapold’s (2006) work on Bench, which is said to have six levels of tone. In Omotic languages that have tones, tones are used to distinguish grammatical functions possibly more often than lexical functions; e.g., in Bench, the passive derivation of some verbs is marked by tone, e.g. *k’áyts* ‘work! do it!’ and *k’àyts* ‘be done!’ (Amha, this volume). In Wolaitta, every word has to have one high tone (Amha, this volume). Such a system resembles the stress systems in other languages.

In Chadic languages described so far, every syllable, and hence every lexical item in the phonetic utterance, has to have a tone. Tone plays a distinctive role in grammatical systems and, to some degree, in the lexicon:

màatáa ‘wife’ *máatáa* ‘wives, women’
dáfàa ‘to cook’ *dáfáa* ‘cook!’ (Imperative)
(Hausa, Newman 2000: 600)

Some grammatical morphemes have a polar tone opposite to the preceding tone. This is the case with copulas in Hausa (‘stabilizers’ in Newman (2000) and some other publications on Hausa):

rìigáa + *cee* → *rìigáa cèe*
gown COP
‘It is a gown.’

móotàa + *cee* → *móotàa cée*
car COP
‘It is a car.’

(Newman (2000: 602); in Newman (2000) high tone is unmarked)

8.2.6 Tonogenesis in Afroasiatic

Given that there are no tones in Berber, Egyptian, and Semitic languages and that there are tones in Cushitic, Omotic, and Chadic, there are two possibilities: (a) Proto-Afroasiatic had tones, and Berber, Semitic languages, and Egyptian, whose writing system does not reflect the presence of tones, lost them; or (b) Proto-Afroasiatic did not have tones, and Cushitic, Omotic, and Chadic languages acquired tones after the split from it. Diakonoff (1988) and Ehret (1995) favour hypothesis (a). Diakonoff postulates the existence of the tone to explain numerous identical segmental structures for different lexical items, and Ehret postulates the existence of the tone based on the fact that three out of six families have tones as part of their underlying phonological structure. Other scholars, namely Wolff (1987b and his other writings) and Kießling (2003b), explicitly favour hypothesis (b).

Some of the arguments in support of the tone's being an innovation rather than a retention are as follows: first, only in Chadic languages does every syllable have to have a tone. In all Cushitic languages and in some Omotic languages, there exist toneless syllables. Tones in Cushitic and Omotic languages have mainly a grammatical function, although there are also examples of lexical distinctions coded by tone only. In a number of Chadic languages, tones in the verbal system perform functions that overlap with the functions of vowels in the Semitic verb. Certain tonal patterns carry specific grammatical functions. For example, in Hausa, initial low tone on the verb codes the point of view of the subject (Frajzyngier and Munkaila 2004), a category coded by vowels in some Semitic languages. In some Chadic languages, e.g. Lamang (Central Chadic, Wolff 1983a) and Hausa (West Chadic, Frajzyngier and Munkaila 2004), verbs do not have an underlying tone, in much the same way that verbs in Semitic do not have underlying vowels.

Kießling (2003b) postulates that tones in Southern Cushitic developed from a predictable stress system and, most importantly, because of the word-final segment reduction that resulted in unpredictable stress assignment on syllables. Amha (this volume) observes that 'the highly tonal [Omotic] languages have a large inventory of independent monosyllabic words, whereas in the less tonal or tone-accent languages such as Wolaitta monosyllabic words are rare'. This observation may suggest that tones are remnants or compensatory traces of reduced syllables. The development of contour tones from reduced syllables in some Tibetan languages was observed by DeLancey (1989).

Wolff (1987b), discussing at length the issues of tonogenesis in Chadic, notes with others that voiced consonants in the syllabic onset tend to be associated with low tone, and voiceless consonants tend to be associated with high tone, as is the case in Ngizim. In other languages either voiced or voiceless obstruents can be followed by high, mid (unmarked in the examples below), or low tone:

<i>kìrè</i>	‘road’
<i>kíré</i>	‘compound of a dead person’
<i>kiré</i>	‘look’ (VN)
<i>ànglè</i>	‘torsion’
<i>ànglé</i>	‘roundness’
<i>ángle</i> or <i>angle</i>	‘fever’

(Lele, Frajzyngier 2001)

The physical effect of voiceless consonants raising the tone is still present, but the effect of tone-raising is the mid rather than the high tone. In Lele, when voiced consonants become voiceless, e.g. as a result of consonant gemination and subsequent geminate reduction, the low tone on the syllable is raised to mid (unmarked).

SINGULAR	PLURAL	GLOSS
<i>bòy</i>	<i>poy</i>	‘break’
<i>dìgrì</i>	<i>tigrì</i>	‘kill’

(Lele, Frajzyngier 2001)

Sonorants can occur with either high or low tone. Most of the examples discussed by Wolff involve syllabic onsets. Wolff also points out that, while for verbs and nouns one can often predict the tone from the nature of the consonant, this is not the case for grammatical morphemes, which may have the same consonant and yet different tones (cf. also Frajzyngier *in press*).

There is yet another possibility for the development of tones in Chadic languages, a possibility not discussed so far in Chadic literature, but discussed by Kießling (2003b) for Cushitic. Tonogenesis in Chadic might have been triggered by two phonological rules postulated across Chadic languages. The first one is phrase-internal vowel deletion, attested in Chadic languages from all branches. The second is neutralization of syllable-final (and, by definition, of word-final) stops and continuants to corresponding sonorants. This rule is attested in contemporary languages from the West and Central branches (Klingenheben (1927) for Hausa, Frajzyngier (2001) for Lele). In this scenario, a neutralization of a voiceless consonant might have contributed to the emergence of a high tone, and a neutralization of a voiced consonant might have contributed to the emergence of the low tone. The tonogenesis as a by-product of segment deletion has been widely attested across language families (Haudricourt (1954) for Old Chinese and Vietnamese, Hock (1991: 97–106), and La Raw Maran for Burmese (Lowes 2007)). While tones might have existed in Chadic languages before they split into the current three or four branches, the presence of vowel deletion rules and syllable-final neutralization in languages from different branches indicates that such rules may well have existed before the family split into contemporary branches.

In Omotic languages, tones are not the result of the presence of specific consonants in the tone-bearing syllables. This fact may indicate that the differences in tone may be due to the deletion of some word-final segments (numbers refer to the level of tone).

- 5 *dub* ‘worm, moth’
 4 *dub* ‘to dance’
 3 *dub* ‘to be useless’
 (Bench, Amha, this volume)

The emergence of tones as motivated by various language-internal factors might have been additionally facilitated by the fact that Chadic, and to a lesser extent Cushitic and Omotic, languages have been in contact with non-Afroasiatic languages that have robust tonal systems in which every syllable carries a tone, and tones have lexical and grammatical functions.

8.2.7 Spirantization of consonants

In many Afroasiatic languages, stops become continuants in an intervocalic position. While this is a common process across languages of the world, its presence in Afroasiatic should be noted. It has been noted in many Semitic languages, e.g. in Syriac (Muraoka 2007: 135), Amharic (Leslau 1997), and Chadic (Pero, Frajzyngier 1989b). In some languages, spirantization takes place in other positions as well. Thus in Ancient Hebrew non-emphatic stops became continuants in the post-vocalic position (Rendsburg 1997: 74–5).

8.2.8 Assimilation of consonants

Assimilation of abutting consonants, a phenomenon well known in other language families, is also widely attested across Afroasiatic languages. It can result in geminated consonants, as demonstrated for Cushitic (Mous, this volume), Semitic, and Chadic:

tùug+ka → [*tùugga*]
 thief+DEF
 ‘the thief’
 (Somali (Cushitic), Saeed 2007: 556)

beex-na → [*beenna*]
 know-1PL
 ‘we know’
 (Eastern Oromo (Cushitic), Lloret 1997: 508)

The assimilation of the *l* of the Arabic definite article *al* to the coronal consonant of the ensuing noun is well known to many students of linguistics: *al taajir(u)* → *attaajir(u)* ‘the merchant’ (Kaye 2007a: 229).

Long-distance assimilation, when the segments involved are separated by other segments, is not frequent across languages of the world, and its presence, while not necessarily providing distinct typological characteristics for the family, merits attention. Two types of assimilation have been noted in Afroasiatic languages: long-distance assimilation of consonants, sometimes referred to as ‘consonant harmony’, and long-distance assimilation of vowels, referred to as ‘vowel harmony’.

Consonant harmony has been recorded in Berber, Semitic, Chadic, Cushitic, and Omotic languages. Interestingly, consonant harmonies noted in these languages involve secondary articulation of palatalization, pharyngealization, and labialization. They do not involve the features of voicing or of the primary places of articulation.

In Berber, pharyngealization spreads to vowels and other consonants (Kossmann, this volume). In Moroccan Arabic, most likely under the influence of Berber, if a word contains one palatal fricative, other coronal fricatives may be palatalized (Georgia Zellou-Weissman p.c.).

Hayward (2003: 248) postulates that for Proto-Omotic one can reconstruct ‘sibilant harmony’. Amha (this volume) reports that in several Omotic languages, if two or more sibilant consonants occur in a word, they must agree with respect to the feature [palatal]. All of them are either [+palatal] or [–palatal]. In some Omotic languages, the sibilant harmony is unidirectional, from root to the suffix, and in other languages it is bidirectional.

In some Chadic languages, e.g. Wandala, the presence of a labial glide can cause labialization of the preceding consonants.

8.2.9 Vowel harmony

Vowel harmony refers to a process of assimilation in which the vowels involved are separated by consonants. Vowel harmony has been observed in Berber, Cushitic, Semitic, and Chadic languages.

In Berber, pharyngealization has a vowel lowering effect. While the lowering of adjacent vowels has been observed in other languages, including Afroasiatic (Arabic), vowel lowering in Berber extends throughout the entire word, not just to vowels adjacent to pharyngeal consonants.

Advanced Tongue Root (ATR) vowel harmony has been observed in a few Chadic languages: Tangale (West Chadic) and East Dangla (East Chadic). In East Dangla in a given stem, all mid vowels are either [+ATR] or [–ATR]. In most cases, the suffix vowel assimilates to the stem:

bðk ‘to crow’ + *aa(w)* (PL) + *e* (verbonominal suffix) →
bðkàawε or *bðkàawe*
 ‘crow.VN.PL’
 (Shay 1999)

The presence of ATR vowel harmony in Tangale was plausibly attributed to influence from Niger-Congo languages (Jungraithmayr 1971).

Arabic has vowel raising across consonants (Kaye 1997). Both vowel rounding and vowel fronting operating across consonantal segments have been observed in Amharic and Tigrinya:

qəmburs → [*qumburs*]
 ‘fat white grub’
worräta → [*worrotä*]
 ‘benefit, favor’
 (Leslau 1997: 426)

Cushitic languages Somali, Boni, and Rendille have ATR vowel harmony. Vowels within one word are pronounced either with or without tongue-root advancing (Mous, this volume, and references there to Kim and Kraska (1992), Puglielli (1997), Pia (1965, 1984), and Clements and Rialland (2007)).

Chadic languages have several types of vowel harmony. In addition to the ATR vowel harmony mentioned earlier for Tangale and East Dangla, Gidar (Central Chadic) has fronting and rounding vowel harmony. The unusual aspect of vowel harmony in Gidar is that it operates to the left and the right of the trigger vowel, regardless of whether the trigger vowel is in the stem or in the affix. Under fronting vowel harmony, the low vowel *a* becomes [e] if there is a front vowel in a word:

- (1) *à-tàw-í-kà* → [*è-tèw-í-kè*]
 3M-cut-3PL-PRF
 ‘he cut them’

Under rounding vowel harmony, the low vowel *a* is rounded to mid *o*, if there is a high or a mid vowel in the word:

- (2) *à-kkó-án-kà* → [*ò-kkó-ón-kò*]
 3M-cook-PL-PRF
 ‘they cooked [liquid food]’

Another unusual feature of Gidar is that a sonorant that has identical value for the feature front and round to those of the potential trigger is a barrier to the vowel harmony:

target sonorant[αfeature] trigger[αfeature]
 trigger[αfeature] sonorant[αfeature] target
ná-nì/(not **né-nì*)
 GEN-3M (Frajzyngier 2008)

Hoberman (1988) describes a most interesting case of ‘emphasis’ (pharyngealization), which affects both consonants and vowels in the Aramaic dialect of Jews of Azerbaijan. The interest of this harmony is that it is a coding means rather than an automatic outcome of the presence in the utterance of a segment with some specific features. For other dialects of Neo-Aramaic, see Khan (1999: 40ff.).

8.2.10 Vowel insertion

The disallowed syllable-structures or word-structures in all Afroasiatic languages are resolved most often through vowel insertion. Vowel epenthesis can occur in word-initial, word-medial, and word-final positions. While the most frequent epenthetic vowel is high central or mid central, referred to as schwa in most descriptive grammars, other vowels can also be epenthetic.

In some Ethiosemitic languages, e.g. in Tigrinya and Amharic, an initial underlying consonant cluster requires vowel insertion preceding the first consonant (Leslau 1941, 1997). The epenthetic vowel is most often central.

In some Chadic languages, the central vowel is by far the most frequent vowel inserted. All other vowels may be epenthetic, their quality being determined by surrounding consonants, as in the following example, where the palatal consonant triggers the insertion of a high front epenthetic vowel:

- (3) *njà-n-njà* → [*njà-n-í-njà*]
 sit-1SG-sit sit-1SG-EP-sit
 ‘I am sitting’/ ‘I sat down’

(Wandala, Frajzyngier field notes – in my own studies, I use a lower-case initial at the beginning of an elicited example, and upper-case in examples from natural-language data)

Vowel epenthesis rules are attested in all Afroasiatic families for which we have appropriate data (no information is available for Egyptian).

8.2.11 Word-final vowel retention and deletion

In some Cushitic, Omotic, and Chadic languages, there exist rules of final vowel deletion. Recall that these are also languages that have tone. In Cushitic languages, final

vowel deletion has nouns in its scope. In Omotic, some nouns have a terminal vowel that is deleted when a suffix is added. In other nouns, the final vowel is not deleted when a suffix is added. The status of the noun-final vowel in Omotic remains an open question.

In Chadic languages from the Central branch and to a certain degree in the West branch, word-final vowel retention is a coding means to indicate the phrasal boundary ('pre-pausal position' in a number of older grammars), and vowel deletion is a marker of the phrase-internal position. In Hausa, final vowel deletion operates before the addition of a suffix (Newman (2000) calls it a 'stem preparation rule'). In Gidar (Central Chadic), a word-final vowel is deleted before the associative preposition / nominal conjunction. In the phrase-final position, the noun retains its final vowel (all data from Frajzyngier 2008):

- (4) *wàʔi dè pɔ̀lsà*
 cow ASSC horse
 'a cow and a horse'
- pɔ̀ls dè wàʔiyà*
 horse ASSC cow
 'a horse and a cow'

Here are a few examples of the phrase-internal and phrase-final forms of nouns in Mafa (Central Chadic). Barreteau and Le Bléis call the forms 'pre-pausal', i.e. phrase-final, and 'non-pausal', i.e. phrase-internal:

	PHRASE-FINAL	PHRASE-INTERNAL	GLOSS
e → i	<i>zle</i>	<i>zli</i>	'cow'
o → u	<i>ndó</i>	<i>ndú</i>	'man'

(Barreteau and Le Bléis 1990: 21)

If a word does not have a final vowel, the phrase-internal position may be coded through internal vowel reduction:

	PHRASE-FINAL	PHRASE-INTERNAL	GLOSS
a → ə	<i>mávár</i>	<i>mávór</i>	'guinea-corn mush'

(Barreteau and Le Bléis 1990: 21)

Vowel deletion and vowel retention as a means to mark phrase-internal and phrase-final positions appear to be rare typological characteristics, but they are important means for coding the syntactic organization of an utterance. The two rules allow one to determine which elements belong to a constituent and which do not.

8.3 Lexical categories

8.3.1 Introduction

Lexical categories are defined by the roles they play in various predications (i.e. larger constructions). In addition, lexical categories may differ in morphological characteristics and processes, e.g. derivational markers and inflectional markers, such as case marking on nouns and mood/tense/aspect coding on verbs in Semitic, Cushitic, Omotic, and Berber. Lexical categories may also differ in phonological properties. These additional characteristics not only allow one to determine the categoriality of a lexical item but also enable the coding of various functions through position with respect to a given lexical category.

All Afroasiatic languages have the categories ‘noun’, ‘verb’, and ‘adposition’. Many languages have adjectives and adverbs. In some of these languages, the categories ‘adjective’ and ‘adverb’ are comprised of very few lexical items. In East Dangla and some Central Chadic languages, there is a single category ‘modifier’ that can modify either a noun or a verb, thus serving the function of both adjectives and adverbs in languages that distinguish between those two categories. Three branches of Afroasiatic have ideophones, a category found throughout Africa. The Chadic family also has locative predicators, so far the only family in which this category has been found.

In most Afroasiatic languages, nouns differ from verbs in the types of inflectional and derivational morphemes they take, in their syntactic properties, and in their phonological make-up. A lexical verb cannot be used as an argument unless some derivational or inflectional morphemes have been added, and, similarly, a lexical noun cannot be used as a predicate in a non-equational clause, unless some inflectional or derivational morphemes have been added.

8.3.2 Phonological distinction between verbs and other categories

In Semitic and some Chadic languages, verbs are phonologically distinct from nouns and other lexical categories in a number of ways. In Semitic and Egyptian, underlying forms of verbs historically had consonants only, while some nouns had both vowels and consonants in the underlying form. (See, however, Goldenberg (2005) and citations therein for vowels constituting a part of the underlying form of the verb in Gurage (Ethiosemitic)). In other Afroasiatic families, underlying forms of verbs may contain consonants only or consonants and vowels. In languages with tone, tone is attested in both types of underlying forms.

In many Chadic languages, vowels have to be postulated as part of the underlying structure of verbs. In some languages, specific semantic properties are associated with different stem-internal vowels. In Hdi, for example, the root-internal vowel *i* is associated

with movement away from a source (Frajzyngier with Shay 2002). Such associations suggest that vowels were once morphemes contributing semantic information and that, over time, they became an integral part of the verb. No semantic association can be found for stem-internal vowels of nouns in Chadic languages. In many Chadic languages, verbs cannot begin with a vowel, while nouns and other lexical categories can.

8.3.3 Properties of nouns

The existence of the category ‘noun’ and its extended form ‘noun phrase’ in Afroasiatic is not controversial. The evidence for their existence is provided by standard tests, including the ability of the phrase to be replaced by its head alone, i.e. either by a noun or by an independent pronoun. Anaphors refer to the whole noun phrases, and determiners often have the whole noun phrase in their scope. In most languages, only a noun or a pronoun can be the head of the noun phrase. In languages in which adjectives and demonstratives code gender and number, adjectives may also serve as heads of noun phrases.

In all families of Afroasiatic, albeit not in all languages, nouns have the category ‘gender’, discussed below under a separate heading. In all families, although again not in all languages, nouns can also be coded for number. In Berber, Semitic, Egyptian, Cushitic, and Omotic languages, nouns can be marked for case, although the number and functions of cases differ significantly across families.

In Semitic languages, nouns can have a construct state, which marks the head of a modifying construction.

In Berber, nouns can have an annexed and an absolute state. The annexed state in Kabyle provides the value for the function encoded in the element to its left. The function of the noun in the annexed state is computed by taking into consideration the category to the left of the annexed state (Mettouchi and Frajzyngier ms.). As discussed below, the annexed and the absolute states of nouns in Berber have functions different from those of the construct and absolute states of Semitic. In some Chadic languages, nouns, like other categories, can have phrase-internal and phrase-final forms.

8.3.4 Gender

The category ‘gender’ has a double nature in Afroasiatic. On the one hand, it is a means that enables a system of reference, as is the case in many other languages (Martinet 1967; Frajzyngier and Shay 2003). On the other hand, gender markers have acquired a semantic function. The gender referred to as ‘feminine’ often codes the diminutive, or sometimes pejorative, meaning.

In most Afroasiatic languages, nouns have inherent gender. The categories that overtly indicate gender are subject, object, possessive, and independent pronouns; markers of possession; and copulas (Chadic). In Berber, nouns are overtly marked for gender. Most languages have a two-gender system, but some Cushitic languages have three genders, because number behaves like a gender category. In Cushitic languages, gender is polar in the sense that the gender of the plural is the opposite of the gender in the singular (Mous 2008). Some Chadic languages, e.g. Pero (West Chadic), Gwandara (West Chadic), and Mafa (Central Chadic), have no gender anywhere in the grammatical system – i.e., pronouns, determiners, the verbal system, and the copulas do not indicate gender. In at least one Chadic language, Gidar, the diminutive/feminine marker cannot co-occur with the marker of plurality. This fact indicates that the diminutive/feminine and plural markers are members of the same functional domain. The situation is parallel to that in Cushitic languages (Mous 2008).

In some Omotic languages, e.g. Basketo, Bench, Dawro, Gamo, Gofa, Hamar, and Wolaitta, gender is marked morphologically on nouns by gender markers, by different definite markers, or by different case markers. The other exponents of gender are verb agreement, demonstratives, and adjectives. Gender differentiation in Omotic applies only to humans and higher animals, and for the great majority of languages only in the singular. All inanimate nouns are either always masculine or always feminine. Gender distinction in pronouns exists only in the third person. In some Omotic languages, e.g. Bench and Wolaitta, masculine is the default gender, and in others, e.g. Zayse and Zargulla, feminine is the default gender.

In Berber, feminine gender markers for lower animals and inanimate objects designate small size. These properties of the gender system have also been observed in other languages, e.g. in Semitic.

In languages with gender distinction, this distinction is reflected in the pronoun system even if it is not reflected elsewhere in the grammar. Some languages have gender distinction in the third person only; others have gender distinction in the third and the second person. Some languages have gender distinction in the singular and plural (Semitic), and other languages have gender distinction only in the singular.

8.3.5 Pronouns

Pronominal systems in the Afroasiatic phylum include: independent pronouns (Berber, Chadic, Semitic, Cushitic, some Omotic); subject and object pronouns (all languages of the phylum); reflexive pronouns (postulated for Cushitic, but not for Berber, Egyptian, Semitic, or Chadic); relative pronouns (a category distinct from relative markers) (Egyptian, Chadic); and logophoric pronouns (Chadic, Omotic). Independent pronouns, just like nouns, can co-occur with subject pronouns. They cannot, however, co-occur

with object pronouns and carry the object function. Thus the structure Independent pronoun_[subject] – Subject pronoun – Verb is allowed, but the structure Verb – Object pronoun – Independent pronoun_[object] is not allowed:

- (5) (*néní*) ‘*ánn-es-a-n* *s’ eél-ínne*
 (2SG:NOM) which-3MSG-ACC-2SG see-PAST
 ‘Which one (M) did you (SG) see?’
 (Zargulla (Omoti), Amha, this volume)

The existence of independent pronouns, distinct from subject pronouns, constitutes a common characteristic of Afroasiatic languages.

Some languages make a distinction between the first-person plural inclusive and exclusive pronouns (Chadic, Cushitic (Somali), Omotic). Some languages display a distinction between the first-person dual inclusive, first-person plural inclusive, and first-person plural exclusive (Lele, East Chadic, Frajzyngier 2001).

In some languages, there may be several types of subject pronouns, each type coding a different pragmatic function (Gidar (Chadic) and Bench (Omoti)). Thus, in Gidar, one third-person masculine singular subject pronoun is used in pragmatically independent clauses and another pronoun is used in comments on focus clauses (Frajzyngier 2008).

In some Central Chadic languages, pronouns, demonstratives, and deictics have a phrase-internal and a phrase-final form. Unlike in nouns, where the phrase-internal form may be analysed as a reduction of the phrase-final form, in pronouns, the phrase-final form is an expansion of the underlying form of pronoun. In Mina (Central Chadic), the phrase-final form of pronouns and anaphors is derived through the addition of the suffix *-aŋ*.

8.3.6 Properties of verbs

Verbs in many Afroasiatic languages differ phonologically and morphologically from all other lexical categories. In many languages, the underlying form of verbs cannot begin with a vowel, while other lexical categories can. Verbs in Semitic languages are characterized by a distinct morphological division of labour. Consonants alone, whether one, two, three, or four, carry the lexical-referential meaning of the verb, while vowels and other consonants carry inflectional and derivational functions. This characteristic of verbs is taken to be one of the telltale signs of Semitic verb formation. In Egyptian, the underlying forms of verbs and nouns consisted of consonants. The number of inflectional and derivational markers found on the verb differs significantly across the phylum. Inflectional and derivational markers on the verb code plurality of object or plurality of event (plurality of the subject is coded by subject pronouns); semantic

relationships between the verb and the arguments (passive (in all families except for Chadic); causative; a function that is often referred to as 'reflexive'); relationships among the arguments; presence of adjuncts (Chadic); spatial characteristic of the event with respect to the place of speech or some other locative centre; and even the position of arguments after the event (Chadic).

In some Chadic, Omotic, and Cushitic languages, consonants, vowels, and tone all carry lexical and referential meaning, and thus must be postulated to be part of the underlying structure of verbs. In some Chadic languages, tones in verbs carry only a grammatical meaning (Lamang, Wolff (1983a), Hausa, Frajzyngier and Munkaila (2004); but see Newman (2000) for a different view).

The existence of the category 'verb phrase' in the Afroasiatic phylum is much more controversial than the category 'noun phrase', as there are no clear structural criteria by which verb phrases behave as constituents of the clause. In many Afroasiatic languages, there is a structural unit 'verbal complex' composed of the simple or sometimes reduplicated form of the verb, with inflectional and derivational affixes, including verbal extensions. In many languages, the grammatical and semantic relations are coded within the verbal complex. In some languages, e.g. in Gidar (Central Chadic), the verbal complex may include elements that in other languages are separate adjuncts, e.g. a benefactive phrase. In some Cushitic languages (Alagwa, Arbore, Boni, Burunge, Dahalo, Dhaasanac, Dirayta, Dullay, Elmolo, Iraqw, Konso, Oromo, Rendille, and Somali) there exist complexes of morphemes that include subject markers, focus markers, and sometimes object markers, called 'selectors' in a number of languages, 'focus markers' in Oromo, and 'indicator particles' in Somali. In some Omotic and Cushitic languages, subject pronouns occur on elements other than the verb.

8.3.7 Adjectives

Adjectives are lexical items whose function is to modify nouns and which differ in morphological or syntactic characteristics from other lexical categories, e.g. nouns, verbs, or adverbs. In some grammatical descriptions, the term 'adjective' refers to lexical items that code property concepts, regardless of the grammatical function of these items. Few Afroasiatic languages have lexicalized the class of adjectives so that their morphological and syntactic characteristics differ from those of nouns and verbs. Even when a language has lexicalized such a class, its membership is small.

In some languages, adjectives have unique morphological properties not shared by other lexical categories. In South Cushitic languages, Rendille, Bilin, Oromo, Arbore, and Dhaasanac, adjectives show number agreement. Ts'amakko has no number agreement in adjectives.

Some languages have morphological devices to derive adjectives from other lexical categories. In Ts'amakko (Cushitic), the suffix *-al* (~ *-ol*) derives adjectives from nouns (Mous, this volume). In Arabic, the suffix *-ii* derives relational adjectives. Some of these adjectives have been borrowed into English: *al-kuwayt* 'Kuwait', *kuwaytii* 'Kuwaiti' (Kaye 2007a: 238).

If a language does not have adjectives as a lexical category, property concepts have been lexicalized as either a sub-category of verbs or a sub-category of nouns. In Berber and Omotic, property concepts are a sub-class of nouns. In some Omotic languages, property concepts differ from other nouns in their plural formation. The plural of nouns is coded through suffixation; the plural of property concept words is coded through reduplication.

In some languages in which property concepts have been lexicalized as verbs, the verbs expressing these concepts constitute a separate lexical class. This is the case in Somali and Afar (Cushitic, Banti 1988b: 208–13) as described in Mous (this volume), and in Mupun (West Chadic, Frajzyngier 1993). The means of modifying nouns depend on the category in which the property concept has been lexicalized. If the property concept was lexicalized as a verb, the modifying construction is similar to that of a relative clause, in that it has the relative clause marker. Tuareg and some other Berber languages lack the category 'adjective' and use relative clauses with stative verb forms in contexts involving the modification of a noun (Kossmann, this volume). This is also the case in Mupun (West Chadic, Frajzyngier 1993). Here is an illustration from Lele (East Chadic). Colour terms in Lele have been lexicalized as verbs, as evidenced by the fact that they, like other verbs, can take the full tense and mood paradigm:

PAST	GLOSS	IMPERATIVE	FUTURE	VERBAL NOUN
<i>indì</i>	'be black'	<i>ùndù</i>	<i>índè</i>	<i>ìndè</i>
<i>wilé</i>	'be red'	<i>wilé</i>	<i>wílélé</i>	<i>wilé</i>

The modification of nouns by a property-concept verb uses the relative marker:

hìdà go hin
 tree REL grow
 'a tall tree'

If the property concept was lexicalized as a noun, the modifying constructions have the form of nominal modification, as is the case in Northern and Eastern Berber (Kossmann, this volume).

The inherent adjectives in several Chadic languages behave in a manner different from that of the nominal modifiers. Thus, in Hausa, adjectives can precede or follow the noun. When they precede the noun, they behave like heads in that they have a suffix coding the features of the gender and number of the noun:

- (7) *da-ŋ k'àrami-n yaaròo*
 small-M small-M boy
 'a wee small boy'
 (Newman 2000: 371; k' is ejective velar stop)

When the adjectives follow the noun, the noun does not have a determiner coding the gender or number:

- (8) *yaaròo k'àrami*
 boy small
 'a small boy'
 (Newman 2000: 374)

8.3.8 Ideophones

Ideophones, a typical category for a number of African languages, are characterized by a distinct phonological form and by a constrained distribution within each language. The distinct phonological properties are the presence of segments and phonological structures that are otherwise not attested in the language. Constrained distribution refers to the fact that ideophones often co-occur with only one other lexical item. Ideophones are attested in the Chadic, Cushitic, and Omotic families. Most ideophones are clausal adverbs or nominal modifiers. In some languages, the number of ideophones appears to be small; in other languages it is very large, numbering hundreds of items.

Ideophones in Omotic languages can be used as predicates with the auxiliary verb 'say' for intransitive predication, and the verb 'do' for transitive predication.

The abundance of ideophones in Chadic languages correlates with their contact with Niger-Congo languages, in which ideophones are frequent.

8.3.9 Adpositions

The important question with respect to adpositions is whether languages have prepositions or postpositions, and what functions they code. The older typological studies were also interested in finding correlations between the occurrence of prepositions and postpositions and the word order of major syntactic categories.

Prepositions occur in verb-initial and verb-final languages in all Afroasiatic families, except for Omotic. Several languages may have prepositions and postpositions at the same time. In Ghadames and Awdjilah (Berber), along with several prepositions there is one locative postposition *i*. Postpositions occur in Southern Cushitic and Omotic languages and in some Chadic languages. Whether a language has prepositions or

postpositions or both largely depends on the lexical sources from which its adpositions have been grammaticalized.

In some languages (Ethiosemitic), prepositions can become prefixes if the boundary between the preposition and the noun is obliterated for phonological reasons. In some dialects of Gidar (Central Chadic), prepositions undergo vowel harmony rules triggered by the vowel of the following noun. This characteristic makes the prepositions behave like prefixes.

Functions of adpositions vary significantly across languages. In all language families, adpositions mark the nominal indirect object, locative complements, time, and other adjuncts. In a number of languages, prepositions can mark the direct object (Hebrew, Aramaic, Tigrinya (Ethiosemitic), and Hdi (Central Chadic)). Prepositions can also mark the subject in some types of clauses in Wandala (Central Chadic). The coding of subject and object through adpositions in Semitic, Cushitic, and Omotic languages is a by-product of the coding of pragmatic functions of focus and possibly topicalization, as discussed later in this chapter and as proposed for languages of Ethiopia in Tosco (1994a and b).

Some prepositions in Berber are followed by nouns in the annexed state, a few prepositions are followed by nouns in the absolute state, and some prepositions can be followed by a noun in either the absolute or the annexed state. These facts indicate that prepositions do not constitute a formally or functionally homogeneous class. In languages that have a genitive case marker, e.g. Arabic, all prepositions are followed by the noun in the genitive case.

In addition to prepositions, Chadic languages have grammaticalized a class of spatial specifiers that occur after the preposition and before the noun. Prepositions then code the following noun phrase just as a locative complement, and spatial specifiers provide information about the spatial relationship with respect to the locative complement, such as 'within', 'under', 'on'. Spatial specifiers alone cannot be markers of the locative complement. The locative preposition can occur without the spatial specifier. The situation in these Chadic languages resembles the coding of nouns through two inflectional markers in Kafa (Omotic), where one suffix codes the locative case of the noun, and a second suffix codes the spatial specification.

8.3.10 Locative predicator

The category 'locative predicator' has been recorded only in Chadic languages. Its function is to code locative predications when the predicate of the clause is not inherently locative. Inherently locative predicates are predicates coding directional movement or presence at a location. If the predicate is inherently locative, the locative predicator is not used. In Mina (Central Chadic), the verb of existence (not existence in

a place) is not inherently locative; hence, locative predication requires the locative predicator:

- (9) *háḥəm dáhà á bíŋ ngəŋ*
 girl exist PRED house 3SG
 ‘There is a girl at her house.’
 (Frajzyngier *et al.* 2005)

The verb ‘fall’ is not inherently locative; hence, the locative predicator must be used if there is a locative complement:

- (10) *i ŋ kə ɲəv-a a kayak*
 3PL PREP INF fall-GO PRED earth
 ‘They will fall down on the ground.’
 (Frajzyngier *et al.* 2005)

The verb ‘go’ is inherently locative; hence, locative predication does not require the locative predicator:

- (11) *sə ndə wùtś céh*
 1SG go house your father
 ‘I am going to your father.’
 (Frajzyngier *et al.* 2005)

Since a noun often follows a locative predicator, locative predicators have been mistakenly analysed and described in many Chadic languages as prepositions. The absence of the marker with inherently locative predicates provides sufficient evidence that the locative predicator is not a preposition. More on the interaction of the locative predicator with verbs and prepositions can be found in the section on locative predications.

8.4 Morphological processes

8.4.1 Introduction

Afroasiatic languages have the following morphological processes:

- Prefixation, attested in Berber, Egyptian, Semitic, Cushitic, and Omotic languages (Dizi). In Chadic languages, prefixation is limited to a few derivational morphemes found in nouns.
- Suffixation is attested in all Afroasiatic families in nouns, verbs, adjectives, adpositions, and complementizers.
- Infixation, i.e. insertion of a morpheme between the underlying segments of another morpheme, is attested in Berber, Semitic, Cushitic, and Chadic

languages. Infixation can have a noun, a verb, or an adjective in its scope.

- Gemination of consonants, attested in all families of the phylum. Gemination carries a variety of functions in both nominal and verbal systems.
- Vowel lengthening as a morphological process, attested in all families, where it also carries a variety of functions.
- Reduplication, attested in all families of the phylum.
- Tone changes for morphological purposes, attested in all languages that have tones. This appears to be the primary function of tone, since not all languages that have tone use it to code lexical distinctions.
- Word-final, word-medial, or word-initial vowel reduction, which carries a variety of functions. The major functions of vowel reduction are to indicate syntactic constituency within the utterance (many Chadic languages) or semantic and pragmatic dependency, as is the case in some Berber languages (cf. Heath 2005).
- In some languages, e.g. Berber, scholars have postulated the existence of discontinuous morphemes. In the verbal paradigm of Kabyle, for example, the singular feminine has the prefix *t* and also the suffix *t*. Several Central Chadic languages, such as Gidar (Frajzyngier 2008) and Giziga (Shay in progress), also have what appear to be discontinuous morphemes. In a number of cases these can be analysed as combinations of two different morphemes, each of which can occur without the other.

The present chapter cannot do justice to all derivational and inflectional morphology, and the selection of means and processes starts with the most common and proceeds to the means and processes that are relatively rare. For studies of the morphology of some Afroasiatic languages, see Kaye (2007b). After a brief discussion of the processes of gemination and reduplication, the rest of this section discusses the morphological changes characteristic of different lexical categories.

8.4.2 Gemination

Gemination is a frequent morphological means in many Afroasiatic languages and serves a variety of functions across lexical categories. The functions coded by gemination across Afroasiatic languages often overlap. One of the frequent functions of gemination in Afroasiatic is the coding of nominal or verbal plurality or both.

In the verbal system of Semitic languages, gemination can derive causative/transitive forms from intransitive forms:

kiser ‘break’ *kisser* ‘smash’
(Maltese, Hoberman 2007: 271)

In some languages, the gemination of voiced stops and affricates involves the de-voicing of the consonants. This is the case in several West Chadic languages, e.g. Pero and Kanakuru, where gemination of the penultimate consonant is one of the means of coding verbal plurality:

<i>úgújò</i>	<i>úkkujò</i>
‘throw on the ground (singular object)’	‘throw on the ground (plural object)’
(Frajzyngier 1989b)	

In Amharic, the penultimate consonant of the three-consonantal or four-consonantal verbs is geminated in the perfective:

<i>säbbärä</i>	‘he broke’	Imperfect: <i>yäsäbr</i>
	(Leslau 1997: 406)	(Leslau 2007: 350)
<i>mäsäkkärä</i>	‘he testified’	Participle: <i>mäskari</i>
		(Leslau 2007: 374)

The fact that gemination is attested as a grammatical means in all Afroasiatic languages is typologically important and may be considered one of the distinguishing features of the Afroasiatic phylum.

8.4.3 Reduplication

One of the means most frequently used for inflection and derivation is the partial or complete reduplication of part of a morpheme, of a complete morpheme, or of a word. The functions of gemination and reduplication overlap across Afroasiatic languages (Frajzyngier 1979). The reduplication of a morpheme or a part of it codes the plurality of verbs and nouns in various Chadic languages and the plurality of nouns and adjectives in Amharic:

<i>wäyzäro</i>	‘lady’	<i>wäyzazər</i>	‘ladies’
<i>təlləq</i>	‘big’ (sg)	<i>təlləq</i>	‘big’ (pl)
(Leslau 2007: 342)			

As a derivational means, reduplication is used to derive adverbs from all other lexical categories in various Chadic languages. In Mina, the adverb *bibíc-bibíc* ‘all day’ is derived from the noun *bibíc* ‘day’. The reduplication of the noun *cidé* ‘pile’ derives the adverb of manner ‘in piles’:

- (12a) *wírnjik díy-à bək-áhà cidé cidé cidé cidé á kətəf*
 ash put-GO pour-GO pile pile pile pile PRED road
 ‘Ash was pouring [out of the shoe] in small piles on the road.’

The reduplication of the adjectival phrase codes the intensification of the property lexicalized in the adjective:

- (12b) *ḥámbáy ləkwiḏ ləkwiḏ ləkwiḏ ləkwiḏ*
 stick straight straight straight straight
 ‘a very straight stick’
 (Frajzyngier *et al.* 2005)

The adverb *tátà* ‘alone’ is derived from the numeral *ntá* ‘one’ (with the deletion of the initial nasal in the word-internal position):

- (12c) *sə hə tátà*
 ‘I/you alone’

The reduplication of the complete verbal root codes aspectual distinctions in Central Chadic languages Hdi (Frajzyngier with Shay 2002) and Malgwa (Löhr 2002). One type of reduplication in Hdi codes perfective aspect and another type of reduplication codes progressive aspect.

Perfective

- (13) *tò, lá-lá-ká ndá gí íḡní rí*
 OK go-go-2SG to compound (Mafa) 1PL.EXCL Q
 ‘Did you go to our place?’

Progressive

- (14) *tà tsgh-áy-tsgh-áy-ká rí krí ká pákává ghúvì ná*
 IMPF send-PO-send-PO-2SG Q dog COMP hyena DEM
 ‘“Dog, are you sending them up?” said Hyena.’

8.5 Inflectional categories of nouns

Some Afroasiatic languages have a rich system of inflectional and derivational coding on nouns, and other languages have no inflectional morphology and very constrained derivational morphology on nouns. The functions coded by the inflectional morphology of nouns include: the relationship between nouns and predicates; the relationships between nouns; dependency relations; head–modifier relations; various types of possessive relations; number (though a strong case can be made that number is a derivational category); and referential status, often described under the category of definiteness.

8.5.1 The category 'state'

The term 'state' is used in Afroasiatic linguistics for two distinct phenomena with quite different functions.

The free state in Semitic and Cushitic is the form of a noun in isolation, e.g. as a citation form or as a modifier. The construct state, the marked form of the noun, is the means of coding the noun as a head of a modifying construction. Most often, the head noun is phonologically reduced. Thus in Biblical Hebrew *yaad* 'hand' (*aa* indicates long vowel) becomes *yad* when it is the head of the modifying construction: *yad hammelek* 'the hand of the king' (Rendsburg 2007: 92).

An indefinite noun has the ending *n* in Classical Arabic: *kita:bun* 'a book'. When it is followed by a possessive pronoun, the marker *n* is deleted: *kita:bu-hu* 'his book' (Fischer 1997: 195). But there are construct states when the stem is expanded (Classical Arabic).

Some linguists consider the construct state to be a category akin to case. The formal origins of the construct state are different from the origins of case marking. Case marking involves the addition of a morpheme, while the construct state often involves the phonological reduction of a nominal form. Some scholars (e.g. Fischer 1997) also include in the category 'state' the definite and indefinite forms of nouns. For Akkadian, Diakonoff and Kogan 2007 postulate three states: the absolute ('normal'), the construct, and the predicative. The predicative state is the state of the noun when it functions as a predicate in verbless clauses. The construct state is often a reduced form of the noun and does not exhibit mimation or nunation, i.e., addition of either of the two suffixes that characterize the absolute state. The construct state is also characterized by the neutralization of the case distinction for some classes of nouns. For Aramaic languages, too, linguists postulate three states: a construct state, an absolute state, and an emphatic state (Muraoka (2007: 139) for Syriac; Voigt (2007: 155) for Mandaic). The absolute state is the form of adjectives when they serve as predicates.

In Cushitic languages, a noun is in a construct state when modified by an adjective or a relative clause (Mous, this volume).

In Berber, the distinction is between a free state and an annexed state. The contrast in Berber is neither formally nor functionally parallel to the contrast in Semitic and Cushitic, despite the similarity in nomenclature. The free state is marked by a prefix. The free state is used when the noun occurs in the pre-verbal position (e.g. when it is topicalized); when the noun is the predicate of an equational clause; and when the noun is a direct object in the position directly following the verb. The annexed state of feminine nouns is identical with the basic stem, while the annexed state of masculine nouns is derived through prefixes to the noun. The annexed state characterizes nouns in a variety of functions, including subjects in the post-verbal position, complements

of some prepositions, and objects in some constructions. As Kossmann (this volume) describes it, some scholars see in the annexed state an expansion of the person markers that occur on the verb (classical treatment by Galand (1964)), while other scholars, e.g. Sasse (1984a) and König (2006), categorize the annexed state as a marked nominative. Chaker (1988) proposed that one of the by-products of the coding of states is the distinction between the subject and object:

- (15) *ye-n'a wergaz*
 killed-3SG man (annexed state)
 'the man killed'
- ye-n'a argaz*
 killed-3SG man (free state)
 'he killed a man'
- (Berber, Chaker 1988 as quoted in Mettouchi 2006: 124)

In Kabyle, either the subject or the object may occur in the annexed state, and either the subject or object can occur in the absolute (free) state. Hence, the annexed state does not represent the marked nominative. The subject in Kabyle occurs in the free state when it precedes the verb. It occurs in the annexed state only when it follows the verb. An object in the position after the verb (i.e. when it is coded by position) occurs in the free state. When the verb has an object pronoun, the nominal object is marked by the annexed state. This synchronic analysis does not affect the diachronic analysis of the origin of the annexed state as proposed in Mettouchi (2006).

8.5.2 Case

Case refers to the inflectional coding of relationships between a noun phrase and the predicate, between two noun phrases, and between other components of a clause, e.g. adverbs. The category 'case' may be applied to nouns, adjectives, numerals, determiners, and pronouns. Coding on the verb, whose scope may include relations between the predicate and noun phrases, is not included in the category 'case'. Semitic, Berber, Cushitic, and Omotic languages have case markings. Chadic languages do not have case marking. Case marking is not evident in data from Egyptian, although one cannot rule out the possibility that Egyptian had case marking. The systems of coding case differ in the number of case distinctions; in the formal marking of the case; in the selection of grammatical roles marked by the case and the roles left unmarked (Sasse 1984a); in the way the case markers are used; and in the functions of the case marking. The differences are not only across the Afroasiatic families but also across languages within one family.

A general characteristic of case marking in Afroasiatic languages is that functions such as genitive, dative, locative, etc., are more often overtly marked by case than are the subject and object roles. The explanation of this fact is provided further down in this chapter when the coding of grammatical relations is discussed.

Bilin (Agaw or Central Cushitic branch of Cushitic) has the largest number of cases (seven): absolute, accusative (definite object), genitive, dative, comitative, locative, and ablative (Appleyard 2007b: 487). The absolute marks both the subject and the indefinite object, while the accusative marks only the definite object. The functions of these two cases are not in the domain of indicating grammatical relations between the verb and the arguments. We will see that the same holds for nominative/absolute and accusative case markers in many other Cushitic and Omotic languages and in Southern Ethiosemitic languages. Arabic, Akkadian, and Ugaritic are said to be the only languages to retain the Proto-Semitic case system, in which suffixes *-u*, *-a*, and *-i* are reconstructed for nominative, accusative, and genitive, respectively (Kaye 2007a: 229). Other Semitic languages are usually considered to have lost their case marking, and have renovated object marking through a preposition. For a different view, see Owens (1998 and 2006b).

Ethiosemitic languages have only one case overtly marked, and this case codes the affected argument in an active construction, the recipient, or the directional locative complement. In some Ethiosemitic languages, e.g. Ge'ez and Amharic, the accusative case is marked by a suffix to the noun. In Tigrinya, the object is marked by a preposition which came to be prefixed to the noun and which might have originated as a dative marker (cf. Tosco 1994b), a phenomenon known in many other languages.

Some Cushitic languages are characterized by a marked nominative case system, i.e. a system in which the subject of an intransitive verb and the controlling argument of a transitive verb are marked, and the object of the transitive verb and the noun in isolation are unmarked. The marking can be inflectional or syntactic. Some linguists refer to the unmarked case in such a system as 'accusative'; others as 'absolutive' or 'absolute' (Sasse 1984a). A similar system exists in some West Omotic languages, and in a number of other East African languages belonging to the Nilo-Saharan family. In addition to the marked nominative, other marked cases are the dative and the genitive.

Omotic languages are divided into two groups with respect to case: East Omotic languages (Aari, Dime) and some Gonga languages of the West Omotic branch have a marked accusative and an unmarked nominative. Other languages of the West Omotic branch have a marked nominative and an unmarked accusative. In Omotic, the case referred to as 'accusative' is used for more than direct object marking. It also codes the citation form of a noun, the predicate of an equational clause, and locative functions. In some Omotic languages, markers coding beneficiary, locative, instrumental, or vocative functions are added to a noun already marked by either the accusative or the genitive case:

- (16a) *naʔá-a-ssi* *mat' aáfa* *ʔimm-aási*
 child-M:GEN/ACC-DAT book:ACC give-1SG:PF
 'I gave a book to the boy.'
- (16b) *naʔ-ée-ppe* *mat' aáfa* *ʔekk-aási*
 child-F:GEN-ABL book:ACC take-1SG:PF
 'I took a book from the girl.'
 (Wolaitta, Amha, this volume)

In Semitic, Cushitic, and Omotic languages there is a connection between case marking and definiteness in that nouns that are definite are more likely to be marked for case.

König (2006) attributes the origin of a marked nominative system to different sources, one of which includes the marker of definiteness. She does not associate the presence of the marked nominative with word order or any other grammatical characteristic of the languages in question. She postulates that the marked nominative systems represent innovations in East African languages.

Sasse (1984a) postulates that Proto-Afroasiatic had a case system and that it was of the marked nominative type. Loprieno and Müller (this volume) state that case marking might have existed in prehistoric phases of Egyptian and might have been marked by a vowel in Earlier Egyptian, though the vowel was never evident in writing. The presence of cases marking grammatical relations between verbs and noun phrases in contemporary Afroasiatic languages can be explained by synchronic facts as described in the section on the coding of grammatical relations in Afroasiatic later in this chapter.

8.5.3 Number

In addition to being an inflectional category of nouns, adjectives, determiners, and pronouns, number is also an inflectional category of verbs in Berber and many Chadic languages. Pero (West Chadic) and Mafa (Central Chadic) do not have the category 'nominal number'. In some Chadic languages, number markers occur at the end of the noun phrase rather than at the end of a noun. Most Afroasiatic languages distinguish between singular and plural number. Semitic languages distinguish also a third category, dual. In most languages, the singular is the unmarked category, and the plural is the marked. There are, however, languages where the number system consists of the unmarked form of the noun from which the singulative and plural are derived through morphological changes:

SINGULATIVE	←	BASIC	→	PLURAL
<i>miilitte</i>		<i>múle</i> 'fresh milk'		<i>milladde</i>

(Gawwada, Cushitic, Tosco 2007: 521)

In Somali (Cushitic), as described in Saeed (2007: 551), there are four classes of nouns: count, mass, collective, and transnumeral. Count nouns can be marked for plural when used with a numeral larger than 1: *kòob* ‘cup’ *labá kóob* ‘two cups’. Mass and collective nouns cannot be counted by numerals, and require a relative clause construction.

The main means to code number in Afroasiatic languages are as follows:

- Reduplication of a sequence of segments often accompanied by processes of vowel epenthesis and assimilation (Cushitic, Chadic):

dáb ‘fire’ *dabáb* ‘fires’
(Somali, Saeed 2007: 551)

- Suffixation (Berber, Egyptian, Cushitic, Chadic):

t-azar-t *t-azar-in* ‘fig tree/s’
(Berber, Kossmann 2007: 433)

bít *bità* ‘hawk/s’
(Beja (Cushitic), Appleyard 2007a: 454)

- Prefixation (Berber):

badu *i-buda* (with apophony) ‘furrows’
(Berber, Kossmann 2007: 434)

- Infixation, i.e. insertion of an affix in between the segments of the root (Semitic, Chadic); and vowel alternations (Cushitic, Chadic). (Greenberg (1955) postulated that one of the means of forming the plural in Afroasiatic was through the infixation of the vowel *a*. This means is productive in a number of Chadic languages and in Berber. It is possible that the phenomenon described as ‘apophony’ in Berber contains the traces of this old plural formation.)

nəsmir *nəsmar^a* ‘nail/s’
(Kossmann 2007: 434)

Appleyard (2007b: 485) postulates that one class of nouns in Bilin (Cushitic) derives its plural through the elimination of the singular suffix *a*:

SINGULAR	PLURAL	
<i>gaba</i>	<i>gab</i>	‘word/s’

In Omotic, the singular is the unmarked category (except in Aari) and the plural is marked. Most languages have only one plural marker for nouns. Maale has several plural markers. Zayse and Zargulla have two plural markers, one for kinship terms and another

for all other nouns. In Dizi, a noun is not marked for the plural if plurality is coded on the verb. The same phenomenon has been noted in the Central Chadic language Bachama (Carnochan 1970). Zaborski (2003: 63) states that limited use of the plural marking is one of the characteristics of the Ethiopian macroarea. The limited plural marking on nouns is a characteristic of Chadic languages.

In Semitic there are different plural markers for masculine and feminine nouns. Some nouns in Hebrew that are masculine in the singular may be feminine in the plural, and nouns that are feminine in the singular may be masculine in the plural. This type of polarity has been noted in Cushitic languages as well.

In some Chadic languages, e.g. in Hausa, there are many means to derive plural forms. There are also languages that have no number distinction in nouns (Pero (West Chadic, Frajzyngier 1989b), Gwandara (West Chadic), and Mafa (Central Chadic)). For many Chadic languages, even if a language has a nominal plural marker, there are constraints on its deployment. Thus, a noun modified by a numeral larger than 1 does not have to have the plural marker. Although in Wandala (Central Chadic) there exists a plural suffix, it is used only with some nouns, mainly nouns denoting humans and large animals. Even then, the plural marker is not used when the number can be deduced from other indicators, e.g. from the context or from the coding on the verb:

- (17a) à h-à-dʒ-t(ɔ) brè
 3SG close-PL-close-T room
 'he closed rooms'

Compare a singular verb:

- (17b) à hàd-tè pàrè
 3SG close-T door
 'he closed the door'
 (Wandala, Frajzyngier field notes)

8.6 Inflectional categories of adjectives

In Berber, Egyptian, Semitic, Omotic, and Cushitic languages, adjectives can code gender, number, and case. There is no agreement between the noun and the adjective with respect to state. This is the case with Berber, as explicitly stated in Kossmann (this volume). There are no inflectional categories of adjectives in Chadic.

In some languages, e.g. Hebrew, adjectives agree in gender and number with the head noun. Only gender is illustrated in the following example. Agreement in number is illustrated later.

- (18) *xaruz gadol ze nofel*
 bead big this fall
 ‘this big bead is falling’
- kubiya gdola zo nofélet*
 block big:F this:F fall:F
 ‘this big block is falling’
 (Berman 1997: 326)

For the complex system of agreement of adjectives (and verbs) in Arabic, see Gragg and Hoberman (this volume).

The gender coding on adjectives in Omotic appears to be an independent coding means rather than a mechanical realization of agreement. Amha (this volume) states that in Wolaitta (Omotic), when adjectives modify a noun, they do not carry the features of gender and number, i.e. there is no agreement. Thus, the adjective *woggá* ‘big’ cannot be marked for gender or case when it is used as a modifier of the noun *mítta* ‘tree’:

- (19) *woggá mítta-y kúnd-ísi*
 big tree-M:NOM fall-3MS:PF
 ‘the big tree fell’

When the adjective occurs as the head of an expression, it takes the inflectional categories of nouns:

- (20) *woggá-y kúnd-ísi*
 big-M:NOM fall-3MS:PF
 ‘the big one (NOM) fell’

In Classical Arabic and contemporary dialects, adjectives have a comparative (elative) form: ‘*akbar* ‘bigger’ from *kabiir* ‘big’. For Moroccan Arabic, see Heath (2007: 253).

In Basketo (Omotic), when the adjective precedes the head noun, it does not code the number of the head noun, but when the adjective follows the head noun, it codes the features of number and case of the head noun:

- (21a) *mints gabar-ants-i*
 strong farmer-PL-NOM
 ‘strong farmers’
- (21b) *gabara mints-ants-i*
 farmer strong-PL-NOM
 ‘strong farmers’
 (Amha, this volume, from Amha 1995: 3)

Similarly, in the Cushitic languages Oromo and Ts'amakko, when the adjective follows the noun, the noun does not have gender markers, but the adjective has (Mous, this volume).

8.7 Inflectional categories of verbs

The richness of verbal inflection varies considerably among the Afroasiatic families and within the individual families. It appears to correlate with the position of the predicate in a pragmatically neutral clause. The clause-initial and clause-final positions of the verb are usually associated with a larger number of inflectional categories than the clause-medial position. Some languages have no verbal inflection, whereas other languages could even be classified as polysynthetic, having seven or eight functional categories coded through inflection. The inflectional means on the verb include: gemination (Semitic, Chadic), reduplication (Cushitic, Ethiosemitic, Chadic), infixation (Semitic, Berber, Chadic), suffixation (all branches), and prefixation (Semitic, Berber, Cushitic). Semitists prefer to talk about root and vocalic patterns interlaced among the consonants of the root. Several coding means can be applied at the same time, resulting in complex structures.

With respect to gemination, Afroasiatic languages differ as to which consonant gets geminated. In some languages, it is the penultimate consonant that undergoes gemination (Semitic, Chadic), in other languages it is the final consonant that undergoes gemination (Konso and Gedeo, Cushitic), and there are also languages in which the first consonant undergoes the process of gemination (Lele, East Chadic).

Languages differ with respect to which sequence of segments is reduplicated and the direction of reduplication. In some languages, reduplication of different sequences of segments codes different functions. Thus in Wandala (Central Chadic), the first consonant of the verb is reduplicated (with a vowel insertion) to code the plurality of the verb, and the whole verb is reduplicated to code an aspect. In Hdi and Wandala (Central Chadic), the verb can be reduplicated twice, once to code plurality of the event and again to code aspect. Such forms may result in four instantiations of the verbal root in one lexical item.

Verbal affixes in Afroasiatic languages code: grammatical relationships between the subject and the object; semantic relationships between the verb and noun phrases (Chadic); semantic roles of subjects (causative, middle, passive); definiteness of the object (Tigrinya, Ethiosemitic, Gidar, and other Central Chadic languages); tense; aspect; mood; point of view (Chadic); and goal (Chadic). The same categories may be coded by suffixes in some languages and prefixes in others. Thus, the semantic relations of the subject (causative, middle, passive) are coded by suffixes in most Cushitic languages, but by prefixes in Afar and Saho.

All Afroasiatic languages have morphological means to derive verbal nouns. Some languages derive a few types of verbal nouns; others, more specifically Cushitic languages, can derive several dozens of verbal nouns. Some of the most frequently derived nominal categories are names of agent, names of place (both involving the prefix *m*, one of the Afroasiatic retentions), instruments, and abstract nouns, e.g. *but' -ima* 'poverty' from *but'* 'be poor' in Sidamo (Mous, this volume). In Egyptian, the masculine marker **ij* or the feminine marker **it* was added to a stem, which might be different from the stem of the singular or plural noun, to form the corresponding adjective (Loprieno and Müller, this volume).

Most Berber languages derive verbal nouns through the addition of nominal affixes to the root. Other means include gemination, vowel suffixing, and adding a prefix to the root. Other categories coded in the verbal complex include: anaphora to the subject and the object: verbal plurality; point of view; directionality of movement; spatial orientation with respect to the speaker and spatial orientation with respect to the locative complement; polarity; definiteness of the complements; and dependent or independent status of the clause. This list, although quite large, is by no means exhaustive.

The coding of functional domains on the verb interacts with the following: the function of word order; the position of the verb; nominal inflection; the types of adpositions in the language; external markers of tense, mood, and aspect; external markers of syntactic and pragmatic dependency; the coding of the number on nouns; and the coding of definiteness. The interaction is characterized by the complementarity of the coding means. If a given function is coded by inflectional means on the verb, the external coding, such as coding by prepositions, does not have to occur. Interestingly, the reversal of this relationship does not hold, and if a function is coded by external means, it may also be coded by inflectional means on the verb. The case in point is the coding of the plurality of the verb. If the verb codes plurality, the object does not have to be coded for plural. If the object is coded for plural, the verb may also code plurality.

Berber languages code mood, aspect, and negation through vocalic patterns inserted into the consonantal skeleton of the root. They have a causative/factitive prefix *ss* (which also derives verbs from nouns, e.g. *awal* 'word' > *ss-iwəl* 'speak', and transitive verbs from intransitive verbs; rarely does it derive a transitive verb from another transitive verb).

The prefix *mm* in Berber codes reciprocal relations between arguments; and the prefix *tt* ('passive'), indicates that the subject of the verb is the affected argument. All verbal forms so derived are inflected for the subject, and they can also have object pronouns added. The order of pronouns in the verbal piece in Berber is VS–IO–DO–directional clitic. The directional clitic codes the direction away from or toward the speaker. The directional clitics of Berber correspond to ventive (movement toward the speaker) and andative (movement away from the speaker) extensions in Chadic languages. In

the cohortative mood, Berber codes dual number in addition to singular and plural. The Ghadames dialect of Berber codes the distinction between the first-person plural inclusive and exclusive, a characteristic found in some Chadic languages.

Old Egyptian had the verb in the clause-initial position. The verbal complex coded tense, aspect, and voice through suffixes to the root. These were followed by suffixes coding the person, gender, and number of the subjects. The indicator of plural was a suffix *n*, added to the markers of person. There was no gender distinction in the plural. The following paradigm illustrates just the coding of the subject on the verb:

SINGULAR		
1st com	<i>sdm-j</i>	‘I hear’
2nd masc.	<i>sdm-k</i>	‘you hear’
2nd fem.	<i>sdm-t</i>	‘you hear’
3rd masc.	<i>sdm-f</i>	‘he hears’
3rd fem.	<i>sdm-s</i>	‘she hears’
PLURAL		
1st com	<i>sdm-n</i>	‘we hear’
2nd com	<i>sdm-tn</i>	‘you hear’
3rd com	<i>sdm-sn</i>	‘they hear’

(Loprieno and Müller, this volume)

The coding of plurality of the subject in Egyptian is interesting because, in some Cushitic languages (Beja, Zaborski 1975: 25) and in at least two Central Chadic languages, Gidar and Giziga, the person and number are coded by separate morphemes. The plurality of the subject in the second person in Beja is *na* and in the second- and third-person plural in Gidar is *n* (Frajzyngier and Shay 2008).

Voice distinction in Egyptian had two sub-domains: active and passive. Aspect had two sub-domains, perfective and prospective. One tense, preterite, was overtly marked. Of particular interest in the Egyptian verb are geminated forms. Loprieno and Müller (this volume) follow Polotsky (1976) in attributing to this form the function of coding the pragmatic theme of the clause:

- (22) *jrr hm-k r mrj.t-f*
 do.IMPf Majesty-your to desire(REL).FEM-him
 ‘Your Majesty acts as he desires.’

Old Egyptian also had an aspectual form built with a different set of person suffixes, whose verb could be intransitive or transitive, and either the meaning was perfect or the function was passive:

- (23) *mk* *wj* *jj-kw*
 behold me come(STAT)-me
 ‘Look, I have come.’ i.e. ‘I am here.’
 (Loprieno and Müller, this volume)

Later Egyptian shifted to the SVO pattern that employed the auxiliary verb ‘do’ followed by the infinitive form of the verb, with tense and aspectual markers preceding the subject pronoun.

In traditional Semitic scholarship terminology, the term ‘derivation’ was reserved for the derivation of verbal stems, and ‘inflection’ was reserved for the addition of person markers. Various verbal stems derived through prefixation, gemination of the penultimate consonant, and infixation code the semantic relations between the subject and the predicate. Vocalic patterns inserted into the consonantal skeleton code a variety of domains that include mood and aspect. In the imperfective aspect, subject pronouns are prefixed, and in the perfective aspect, they are suffixed. Inflectional markers coding various domains can be combined. As an illustration, consider the verbal complex of Classical Arabic, which has one of the richest systems of the inflection of verbal stems. The following description is based on Fischer (1997: 205–211). Stem I is unmarked, e.g. *kasara* ‘he broke’. Stem II, derived through gemination of the penultimate consonant, expresses plural action, *kassara* ‘he fragmented’. Stem III, derived through the lengthening of the first vowel *a* of the verbal stem, codes an attempt to achieve an action directed at another participant, *sa:’ada* ‘he attempted to achieve happiness for someone’ from *sa’ida* ‘he is happy’. Stem IV, derived through prefixation of the form *’a*, codes the causative. To be more precise, it indicates that the subject was not a participant in the event described by the verb but rather a causer of the event, *’adxala* ‘he made enter’. Compare *daxala* ‘he entered’. Stem V, derived through prefixation of *ta* to stem II, codes the ‘reflexive’ in comparison to stem II, *’allama: ta’ allama* ‘he taught himself, he learned’; *tadawwara* ‘it is circular’ from *dawwara* ‘he made round’. Stem VI is derived through the addition of the prefix *ta* to stem III. Given that stem III codes action directed at someone else, the combination of the prefix *ta* and stem III results in a reciprocal interpretation: *ta’a:wanu* ‘they assisted one another’. Stem VII is derived through the addition of the prefix *n* (with epenthetic *’i*) to stem I, coding the ‘pseudo-passive’ (Fischer’s terminology). Stem VIII is derived through the addition of the infix *t* after the first consonant of the stem (with an epenthetic *’i* as required by phonological rules) to stem I. The form codes an action done for the benefit of the subject (‘agent’ in Fisher (1997)): *’iktašafa* ‘he disclosed for his own sake’ from *kašafa* ‘he disclosed’. Stem X is derived through the addition of the prefix *st* (with an epenthetic *’i*) to stem IV. The form codes the ‘reflexive’ (Fischer 1997: 206): *’ista’lama* ‘he asked for information’ from *’a’alama* ‘he gave information’. Stems IX and XI are true derivational

means in that they derive verbs from adjectives, e.g. *'iswadda* 'he became black' from *'aswadu* 'black'. Most of the stems, except for stem II (frequentative, iterative), code semantic relations between the subject and the predicate. Some markers added to the basic stem are often called 'reflexive' and others are called 'causative' in Semitic and general linguistics, and their function is sometimes characterized as 'valency changing' (Dixon and Aikhenvald 2000). The labels 'reflexive' and 'causative', unless accompanied by specific descriptions of their functions, are much too vague as tools in functional description. It is not clear that markers referred to as 'reflexive' and 'causative' necessarily change the valency of the verb. They do, however, change the semantic role of the subject.

Each stem in Classical Arabic may occur in two aspectual/tense forms, perfect and imperfect. Perfect is coded by suffixes to the verb and imperfect by prefixes to the verb. Passive is coded by the vowel *u* occurring after the first consonant of the stem.

Other Semitic languages code categories from the same domains as Classical Arabic, albeit not necessarily the same number of categories.

The verbal inflection in Cushitic languages consists of prefixes, suffixes, internal vowel changes, and gemination. Person, gender, and number categories are marked by prefixes or suffixes. Some Cushitic languages have an unspecified subject pronoun used for an unspecified human agent, a collective, and weather phenomena. In some languages, e.g. in Afar, there is a separate marker for person (a prefix) and number (a suffix). A similar phenomenon has been recorded in Egyptian and in Gidar and Giziga (Central Chadic). In addition to coding the person and number of the subject, some Cushitic languages code the person and number of the object through suffixes to the verb. The third-person object is unmarked in Boni, Rendille, Konso, Elmolo, and Dhaasanac. The third-person object pronoun may also be unmarked in a number of Chadic languages.

In some Cushitic languages, the subject pronoun may form a complex with focus, tense, or aspectual markers, and can also be added to other constituents. The latter phenomenon has also been attested in Omotic languages, e.g. in East Omoto languages Zayse and Zargulla.

In addition to the person of the subject, the verbal forms in Cushitic encode two aspects, perfective and imperfective; tense; mood, with optative/imperative marked; evidentiality; syntactic dependency; and polarity. Mous (this volume) also postulates causative, middle, and passive voices, which he characterizes as valency-changing means; and frequentative–habitual derived through reduplication, which covers a large variety of semantic functions. Gemination in Cushitic verbs is a coding means for different functions. In Gedeo, gemination of the final consonant codes the imperative plural. The domains coded by verbal inflection in Cushitic languages overlap significantly with the domains coded by inflection in Semitic languages.

Omotic languages code tense, mood, and aspect distinctions on the stem. To these stems, suffixes coding causative, passive/reciprocal, inchoative, and intensive or pluralational can be added, as illustrated for Wolaitta in Amha (this volume). Causative and passive/reciprocal code the semantic roles of participants. The simultaneous presence of the two categories is illustrated in the following examples from Haro (Omotic):

- (24a) *'és-í bē-'adda 'é-gal-utt-us-ín-e*
 he-NOM 3REF-father:ABS 3MS-thank-PAS-CAUS-PAST-AFF:DEC
 'He made his father be thanked.'
- (24b) *'és-í šaatá-t-o*
 he-NOM child-FEM:DF-FEM:ABS
'é-bo' -unt-us-ín-e
 3MS-kneel_down-PAS:REFL-CAUS-PAST-AFF:DEC
 'He made the child kneel down.'
 (Woldemariam 2003: 126, as cited in Amha, this volume)

The verbal stem can be reduplicated to code plurality:

- (25) *barbarit-éetè* 'they parted'
bàritè 'he parted'
 (Kafa, Frajzyngier field notes)

Markers coding the semantic roles of the subject (causative, passive) can be followed by tense/aspectual markers.

Subject suffixes can co-occur with subject pronouns preceding the verb. Thus, in Dime, subject suffixes distinguish only between the first and non-first person, and do not distinguish between singular and plural markers. Subject pronouns preceding the verb distinguish between first, second, and third person and between singular and plural markers:

- 'até 'ád-i-t* 'I came'
wótu 'ád-i-t 'we came'
nú 'ád-i-n 'he came'
ná 'ád-i-n 'she came'
kété 'ád-i-n 'they came'

(Amha, this volume, following Fleming 1990, and Seyoum 2008)

Verbal inflections in Chadic languages vary significantly across the family. In some languages, especially in Central Chadic and some West Chadic languages, one can postulate the existence of the verbal root consisting of all consonants and, in some languages, of the first vowel. In other languages, e.g. Mupun (West Chadic), the division

into the root and stem cannot be synchronically justified. The richest system of verbal inflections is represented by Central Chadic languages. Consonants carry the most abstract semantic characteristic of the verb. Suffixed and infixing vowels, tones, and a variety of consonantal affixes and other morphological means, as listed below, provide the bulk of the meaning of the clause. The following means are used in Chadic:

- partial or complete reduplication of the verbal stem;
- gemination of the penultimate consonant;¹
- insertion of the vowel *a* after the first consonant;
- tonal templates to code point of view or aspect;
- vocalic suffixes to code the category ‘goal’ or the point of view of the subject;
- suffixation of vocalic and consonantal morphemes to code the semantic roles of the second argument;
- suffixation of the subject and object pronouns; and
- suffixation of the markers coding spatial orientation and directionality of movement, including ventive and allative (‘efferential’ in Newman’s (1983) terminology). This last class of morphemes is often referred to as ‘verbal extensions’ in analogy with similar morphemes in Bantu languages.

In some languages, subject suffixes derived from possessive pronouns (called by Newman ‘Intransitive Copy Pronouns’ (1983)) co-occur with subject pronouns that precede the verb. Subject suffixes in such constructions code a variety of functions, including the inceptive aspect and the point of view of the subject:

- (26) *má dàddàm ɲá njá-ɲrè án yàl-àh-á-rwà*
 HYP meantime 1EXCL remain-1EXCL ASSC child-PL-GEN-1SG
 ‘In the meantime, I remain with my family’ (lit. ‘we remain with my children’)
 (Wandala, Frajzyngier in press)

8.8 Inflectional categories of prepositions

Inflectional coding on prepositions has been observed only in the Chadic language Gidar (Central Chadic). In that language, the associative preposition *dà* indicates that the referents of two nouns do not actually form one entity in the real world (Frajzyngier 2008). The associative preposition codes the gender and number features of the second conjunct through possessive suffixes. The masculine singular is the unmarked category:

- (27) *dàr-ʔiŋé dā krà*
 hyena ASSC dog
 ‘hyena and dog’

If the noun following this preposition is diminutive/feminine, the preposition is followed by the suffix *t* with high tone, which shifts to the preceding syllable:

- (28) *tímé à-rəm báynà dā-t hāw-kà*
 sheep 3M-catch friendship ASSC-F goat-F
 ‘Sheep befriended a female goat.’

If the noun following the preposition is plural, the preposition receives the suffix *tí*, whose vowel is subsequently deleted in the phrase-internal position:

- (29) *mòskóy à-gápó ʔǝ-n à-dà zzá-n sá wrá*
 evening 3M-arrive father-3M 3M-D.PROG come-3M from bush
dí-t wàtí-dé
 ASSC-3PL cow-PL
 ‘When the evening came, his father was coming home from the bush
 with cattle.’
 (Frajzyngier 2008)

8.9 Inflectional categories of complementizers

In Nigerian Arabic and in East Dangla (East Chadic), a subject marker may be added to a complementizer. In Nigerian Arabic, it is the subject of the complement that is coded on the complementizer:

- (30a) *ána ‘aaríf bee-ha t-ǝji*
 I know that-3F 3F-come
 ‘I know that she is coming.’
 (Nigerian Arabic, Owens 1993: 161)
- (30b) *ána ‘aarfa-ak bée-b íntá baxít*
 I know-2M.SG COMP-2M.SG 2M.SG rich
 ‘I know that you are rich.’
 (Owens 1993: 161)

In East Dangla, the complementizer codes the person, gender, and number of the speaker (Shay 1999 and field notes):

- (31a) *àn-in-dyì no-s 'kíníŋ kí d̀ùbil'*
 say-1SG-3M 1SG-COMP 2M 2M young man
 'I told him, "You are a young man."'

The matrix clause of saying can be omitted, leaving only the complementizer to code the speaker and the act of speaking:

- (31b) *tyà-s 'no àlal-lúudé'*
 3F-COMP 1SG throw-NEG
 'She said, "I'm not throwing (one)."'
- (31c) *ŋà-s 'ká àlal-lúudé?'*
 3M-COMP 2F throw-NEG
 'He said, "You're not throwing (one)?"'

The subject is coded on the complementizer even if the speaker is also represented by a noun or by a subject pronoun suffixed to the matrix verb:

- (31d) *mityil ŋà-s 'bóri àsú'*
 lion 3M-COMP hyena come
 'The lion said, "Hyena, come!"'

8.10 Syntactic coding means

8.10.1 Repetition

The repetition of a verb, or of a verb with its object, is attested in Chadic languages. Repetition is different from reduplication in that it may involve the whole phrase or several morphemes at the same time, as illustrated in the following example from Gidar. In the first clause the verb is repeated before the subject pronoun to code the focus on the predicate:

- (32) *àǝ-n ná ǝhóm à-dà ǝhómà*
 father-3M COMP weep 3M-D.PROG weep
 'As for his father, he is crying.'

Compare a clause with the focus on the subject:

- (33) *àǝ-n d̀àw hómà*
 father-3M D.PROG cry
 'it is his father that is crying'

For a transitive verb, the repeated and fronted element may also include the object:

- (34) *ʃkkàdʃ hílǫw t̀-̀d̀à ʃkkàd̀̀à*
 polish calabash 3F-D.PROG polish
 ‘she is polishing the calabash’
 (Frajzyngier 2008)

The repetition of the verb appears to have a similar function to cognate objects in Semitic and other languages (Goldenberg 1971).

8.10.2 Converbs

The term ‘converb’ refers to a form of the verb that may lack the coding of person, gender, tense, or aspect, which are otherwise coded on the verb in the given language. Sometimes they are referred to as a non-finite form of the verb. There is considerable variation within any language family as to which features are coded on converbs.

In Afroasiatic languages, converbs occur in verb-final languages, and they are used in the formation of complex sentences. In some Omotic languages, the converb can have a suffix indicating the number of the subject, and there are languages in which the converb codes the person of the subject (CNV = converb):

- (35) *‘e-’atsi geli ‘uttottesin*
 the-man.NOM enter (CNV) sit.COP.3MS.PF
 ‘Having entered, the man sat.’
 (Zayse (Omotic), Amha, this volume)

In some Cushitic languages, converbs can code the person and the gender of the subject (CON = converb):

- (36) *aníng ‘ayto’o a dooǰár ǰáa’*
 1SG maize O.F cultivating:F:CON like
 ‘I would like to cultivate maize.’
 (Iraqw, Mous 1993, as cited in Mous, this volume)

Converbs have also been observed in Ge’ez and other Ethiosemitic languages. Leslau (2007) likens the converbs of Amharic, to gerunds in English. In Amharic gerunds do code the person, gender, and number of the subject:

- (37) *lemat-u-n kǎfto dabbo-w-ən wǎssädä*
 basket-DEF-ACC uncover:GER:3M:SG bread-DEF-ACC take:3SG:M
 ‘having uncovered the basket he took the bread’
 (Leslau 2007: 357)

8.10.3 Serial verb constructions

Serial verb constructions, a phenomenon well known in Southeast Asian and Niger-Congo languages, have been observed only in Chadic languages. These constructions consist of two or more verbs sharing the same arguments, and the same tense, aspect, and mood. Each of these categories is coded only once in a serial verb construction. In Mupun (West Chadic), serial verb constructions are used in the coding of locative predication:

(38a) *wa mu siam n-tulu*
 return 1PL descend PREP-home
 'we went down home'

(38b) *mo taa dee n-panksin*
 3PL fall stay PREP-Pankshin
 'they stopped over in Pankshin'
 (Frajzyngier 1993)

The presence of serial verb constructions in Mupun correlates with the absence of verbal extensions. In languages with a rich system of verbal extensions, there are no serial verb constructions. It may well be that the presence of serial verb constructions in Mupun is due to the influence of Niger-Congo languages.

8.10.4 Selectors

'Selectors', a term used in Cushitic linguistics, refers to a complex consisting of several grammatical morphemes strung together to provide information about the type of the clause, tense, aspect, mood, modality, polarity, and other functions that have the whole clause in their scope. Selectors also indicate the information status of the clause, including the verb or sentence focus. Selectors are noteworthy because lexical items, such as nouns or verbs, are not part of the complex. The existence of selectors in Cushitic is linked with the possibility of coding the relations of a noun phrase to the predicate on a constituent other than the noun in question. Mous (this volume) calls the marked constituents 'wrong' nouns and labels the phenomenon as 'anti-iconicity'. The following example illustrates the coding of grammatical relations within the selector group:

(39) *kúu lo-s-o ħab-it Juma*
 2SG.M OPT-DAT-O.M tell-2SG Juma
 'You should tell Juma.'
 (Alagwa, Mous, unpublished)

Selectors may occur before the verb (Dahalo, Iraqw) or after the main verb (Arbore). As Mous (this volume) states, Alagwa, Burunge, and Iraqw have different selectors for main clauses, for consecutive clauses, and for object relative clauses.

8.10.5 The verb ‘to say’ as a grammatical coding means

In Cushitic, Omotic, and Ethiosemitic languages, the verb ‘to say’ performs a variety of grammatical functions far exceeding its lexical meaning. One of them is that of a predicator for semantic notions that have been lexicalized in categories other than that of verb. In this function, it corresponds to some functions of the verb ‘to do’ in English. In Omotic and Cushitic, equivalents of the verb ‘to say’ can be combined with ideophones to form predicates. The equivalents of the verb ‘to say’ are used to code intransitive predicates, and the equivalents of the verb ‘to do’ are used to code transitive predicates:

páški ga ‘be happy’ (*páški* = ideophonic verb + *g-* ‘say’ + *-a* =
2SG:IMP) (Wolaitta (Omotic), Amha, this volume)

qwa alä
snap say
‘snap, make a click’
(Leslau 2007: 378)

In Somali, the verb ‘to give’ is used in transitive constructions (Dhoorre and Tosco 1998).

More importantly, the verb ‘to say’ can also be combined with other verbs, a characteristic shared by Cushitic and Omotic, to form tense forms. Appleyard (2007a: 471) states that the verb *y-d-y* ‘to say’ in Beja is used in the formation of the intentional/future tense:

- (40) *‘ibaabi ‘a-ndi*
go 1SG-say
‘I will go’ [‘ represents a glottal stop].

8.10.6 Linear order

Linear order can be a coding means for a number of functions, depending on which lexical categories are in its scope. Linear order can also be a default characteristic of a construction and not carry any function, as is the case with verbs in strictly verb-final or verb-initial languages. The default linear order differs from linear order as a coding means in that the configuration alone does not indicate the function of the components.

In the present section, both characteristics of linear order are discussed with respect to relations between verbs and noun phrases and relationships between nouns or noun phrases.

In Cushitic, Omotic, Akkadian, North Eastern Neo-Aramaic (NENA), and some Ethiosemitic languages, such as Tigrinya and Amharic, the verb is in the clause-final position. The position before the verb alone is not a coding means unless the verb has two arguments. In that case, the position before the verb is a coding means for the object. Thus in NENA, Amharic, and Tigrinya, two nouns can occur in a sequence without any additional marking. Similarly in verb-initial languages (Ancient Hebrew, Classical Arabic, Ge'ez, some Central Chadic languages), the position after the verb alone is not a coding means. If there are two nominal arguments in sequence, their roles are coded by relative order, with the first noun being the subject and the second noun being the object. If only one noun phrase occurs in a verb-initial or a verb-final language, the function of that noun phrase may be deduced from the coding on the verb. There remains, however, the possibility of ambiguity. This is the case in NENA (Geoffrey Khan p.c.) when the verb is in the third-person singular, the preceding noun is singular, and the same gender is coded on both the verb and the noun.

In some Chadic languages, linear order alone codes the relationship between the verb and the noun phrases. The position before the verb codes the subject and the position after the verb codes the object.

The relative order of lexical items can code functions other than relationship between the predicate and nouns. In a number of Afroasiatic languages, the relationship between two nouns can be coded by juxtaposition alone, without any changes on either of the nouns. This is the case in Shinasha (Omotic), where the juxtaposition of two nouns without any additional markers indicates that the first noun is the modifier or the possessor and the second noun is the head or the possessum:

- (41) *maasú mâ*
 woman house
 'the woman's house'
 (Amha, this volume)

8.11 Functions coded within the noun phrase

8.11.1 Introduction

The question addressed here is: what kinds of functions are coded within the noun phrase? While the number of functions coded is the direct consequence of the number of coding means available and their allowed combinations, the meanings actually coded are not predictable.

The domain of modification may include modification by adjectives and modification by nouns. Within each domain there may be further sub-domains, depending on what other coding means are used, such as word order, adpositions, state of the noun, case marking, and determiners. The domain of modification may have other sub-domains such as modification by other nouns, by numerals, by quantifiers, or it may have no sub-domains, in which case all modification has the same form. Major domains attested in Afroasiatic languages are general modification; alienable versus inalienable possession; and kinship versus non-kinship terms. The functions of some attested formal distinctions have yet to be discovered.

8.11.2 Modification through head-marking

In some languages, e.g. Hebrew and Arabic, when a modifying construction consists of just two nouns, the head of the modifying construction occurs in the construct state. The modifier in Arabic occurs in the genitive case. In Hebrew, the modifier is unmarked. In Modern Standard Arabic, the construct state alone is used with body parts, with kinship terms, and in lexicalized compounds:

(42) *izr el-walad*

leg DEF-boy

'boy's leg'

ma l-ward

water DEF-rose

'rose water'

(Kaye and Rosenhouse 1997: 299)

Possessive constructions in Tachelhiyt (Berber) are coded through the preposition *n* followed by the noun in the annexed state. The head noun can be in either the absolute or the annexed state depending on its role in the clause. In isolation, the head of the construction is in the absolute state. If it were to be the post-verbal subject, the head of the construction would be in the annexed state, and the modifier would be in the annexed state (Amina Mettouchi p.c.):

(43) *ikhf n u-drar*

head.ABS of ANN-mountain

'The summit of the mountain'

(Tachelhiyt, Mettouchi p.c.)

8.11.3 Alienable and inalienable modification

The term 'alienable and inalienable modification' is preferred to 'alienable and inalienable possession', as the former involves relationships broader than possession.

In a number of Chadic languages, there exist at least two types of modifying constructions with nouns as modifiers. One is through juxtaposition alone, and the other is through the combination of linear order and various morphological or syntactic markers. Juxtaposition alone codes a closer connection between the head and the modifier, often involving just the attributes of the referent and some kinship relations, e.g. ‘father of’, ‘mother of’, ‘husband of’. In Lele, inalienable attributes, kinship terms, and body parts are coded through a construction whereby the modifier is followed by the head, and the head has a possessive pronoun coding the gender and number of the modifier:

- (44a) *kírwé òngàw-rò*
 leopard ferocity-3F
 ‘the ferocity of the leopard’
- (44b) *gùmnó òngàwr-iy*
 buffalo ferocity-3M
 ‘the buffalo’s ferocity’
- (44c) *kùmbàlo gàn-dì*
 chief leg-3M
 ‘the leg of the chief’

Alienable attributes are coded through a construction consisting of head–modifier and the genitive masculine demonstrative *k-* or feminine *t-* + possessive pronoun. Whether the masculine or feminine form is used depends on the gender and number of the modifier:

- (45) *kùlbá cànìgé kè-y*
 cow Canige GEN-3M
 ‘cow of Canige’
 (Lele, Frajzyngier 2001)

8.11.4 Kinship modification as a separate domain

In some languages, kinship modification is distinct from other types of nominal modification, including inalienable modification. In Tachelhiyt (Berber), kinship relations are coded by the suffix *s* added to the head noun. This suffix does not code any other relation:

- (46) *illi-s n u-gllid*
 daughter-kin of ANN-king
 ‘the king’s daughter’
 (Tachelhiyt, Amina Mettouchi p.c.)

In Wandala, Central Chadic, the kinship-modifying construction has the head with the genitive marker and a possessive pronoun followed by the preposition *gə̀* and the modifier. All other modifying constructions, whether alienable or inalienable, use the marker *á*, which follows the head:

- (47) *d-á-r* *gə̀ gdzà gyálè*
 father-GEN-3SG TO small girl
 'father of the girl'

In Omotic, a modifying relationship between two nouns, including the possessive relationship, is coded through linear order, where the first noun is the modifier/possessor and the second, the head, is the possessum. Shinasha is different from other Omotic languages in that it can have three structures: modifier head; modifier-marker head; and head modifier-marker. In the last two structures, the marker codes the gender of the head. There is no information with respect to the functional differences among the three structures.

8.11.5 Modification through adjectives

In some languages, adjectives follow the head. In Classical Arabic (verb-initial), adjectives code the feature gender, number, case, and definiteness of the head noun:

- (48) *ja:run* *ḥasanun*
 neighbor:M good:M
 'good neighbor'
 (Fischer 1997: 213)

In Berber, adjectives are a sub-class of nouns. Unlike other nouns, however, adjectives as modifiers occur in the absolute rather than in the annexed state (Mettouchi p.c.).

In some languages, modifiers, including adjectives, precede the noun. This happens in verb-final languages, e.g. Harari (Semitic, Wagner 1997: 502) and Amharic:

- (49) *addis mākina*
 new car
 'new car'
 (Amharic, Hudson 1997: 481)

The position of the adjectival modifier may be determined by the categoriality of the modifier. In Somali and Afar, adjectival modifiers are verbs and follow the head noun (Mous, this volume).

Some Chadic languages have two means of modifying a noun by an adjective. In Hausa, an adjectival modifier can precede a modified noun, and there is a determiner

(called a ‘linker’ in Newman 2000) between the adjective and the noun. The determiner codes the gender or plural number of the modified noun.

- (50) *shûdḏa-n riig-unàa*
 blue-PL gown-PL
 ‘blue gowns’
 (Newman 2000: 371)

Modification by an adjective may also involve the adjective following the noun without any determiner:

- (51) *kwaali bàbba = bàbba-n kwaali*
 carton large = large-M carton
 ‘large carton’
 (Newman 2000: 374)

The functional difference between the two constructions has yet to be described.

8.11.6 Modification with numerals

With respect to numerals, the first question is whether in the modifying construction the numeral is the head or the modifier. The second question is what kind of coding means is used in the modifying construction; and the third is whether the noun in the modifying construction with a numeral larger than 1 must be in the plural form.

In some Afroasiatic languages, numerals in a modifying construction behave like heads (like the numerals ‘five’ and larger in Russian). This is the case in Somali (Cushitic):

- (52) *dádká áfartóod*
 ‘four of the people’ (*áfar* ‘four’)

labá bilóod
 ‘two months’
 (Saeed 2007: 559)

In Egyptian, Northern Berber, Highland East Cushitic, and most Omotic languages, numerals precede the nouns they modify. In other Berber languages and in some Cushitic languages, numerals may either precede or follow the nouns. The functional difference between the two word orders in the same language has yet to be discovered and described.

In Chadic, numerals follow the nouns:

- (53) *hùlaa ḏaya*
 cap one
 ‘one cap’
 (Hausa, Newman 2000: 370)

In some languages with nominal plurals, a noun modified by a numeral larger than 1 must be in the plural. In other languages with nominal plurals, even [+human] nouns can be singular when followed by a numeral larger than 1:

- (54) *màmú sà̀n m̀ghám tá klá-f-tá m̀rà̀kw xis*
 exist certain chief COM take-UP-REF wife two
 ‘There was a chief who married two wives.’
 (Hdi, Frajzyngier with Shay 2002)

Some languages, e.g. Hausa, have morphemes (called ‘enumerators’ in Newman (2000)) whose function resembles that of numeral classifiers in Southeast Asian languages. In Hausa, such morphemes are *gùdaa* ‘unit’ for inanimate nouns, and personal pronouns for humans. This morpheme comes between the noun and the numeral. Although most often it is used with plural nouns, it can also be used with singular nouns:

- (55) *kujèëraa gùdaa ðaya*
 chair unit one
 ‘one chair’
 (Newman 2000: 381)

8.11.7 Determiners

The Afroasiatic phylum is characterized by a large number of determiners. In some languages, anaphors are phonologically distinct from deictics; in others, the same marker can have both deictic and anaphoric functions. In Semitic and Chadic languages, determiners of various types can co-occur with one noun, and they may occur both before and after the noun they determine.

Two Semitic languages, Classical Arabic and Akkadian, have determiners referred to as ‘nunation’ and ‘mimation’ because the suffixes involved have either an alveolar or a labial nasal. Kuryłowicz (1972: 132ff.) discusses at length the functional changes that nunation has undergone in Classical Arabic, from what may have been a definite marker to an indefinite marker. Contemporary analyses ascribe to these markers the function of coding free state as opposed to construct state. The distribution of the markers with different classes of nouns and their co-occurrence with other markers, especially the marker *al* (often referred to as ‘definite marker’), constitutes an interesting object of study (see also David Cohen (2005) and Gragg and Hoberman (this volume)).

In contemporary Hebrew, a noun may be preceded by the definite marker and followed by the definite marker and a deictic marker (Berman 1997: 325):

- (56) *ha-kubiyot ha-gdolot ha-'éle*
 DEF-blocks DEF-big:F DEF-these
 'these big blocks'
 (Berman 1997: 326)

In Ethiosemitic languages, determiners may both precede and follow the noun:

- (57) *'za kätäma zi'a*
 DEM town DEM
 'this town here'
 (Tigrinya, Leslau 1941: 59)

In some Chadic languages, determiners precede the noun they modify; in others, they follow the noun they modify; and in still others, the same determiner may both precede and follow the noun it modifies. In Hdi (Central Chadic) determiners of different kinds can occur before and after the noun, in various combinations, including the repetition of the same determiner before and after the noun:

- (58) *yà yá mndú yá*
 DEM DEM man DEM
 'that man'
- nà ná kdix ná ná, kdix-á xiyá yà*
 DEM DEM donkey DEM DEM donkey-GEN corn COP
 'This donkey here is a donkey of corn.'
 (Frajzyngier with Shay 2002)

It appears that the system of split determiners may have originated in the different positions' coding of different functions. More specifically, the position after the noun might have been the erstwhile position for deictic determination and the position before the noun that for previous mention.

In Egyptian, there was an evolution from the order noun–determiner to the order determiner–noun.

In Cushitic, determiners follow the noun, and in some languages they are suffixed to it. In Omotiic, determiners occur in the phrase-final position.

- (59) *maasú moo-ní*
 woman house-DET
 'the woman's house'
 (Shinasha (Omotiic), Amha, this volume)

Determiners function within the domain of reference, i.e. in narrowing the reference of a noun. In addition to deictic and anaphoric reference, this domain involves distance

with respect to some reference point. For deictics, the point of reference may be the speaker, the listener, or a third point, as described for Hausa in Jagger (1994). For anaphors, the distance involves proximate or remote previous mention.

The sub-domain of previous mention is distinct from definiteness. The coding of definiteness instructs the listener to recover the identity of the referent from previous mention, from the listener's knowledge, or from the presence of the referent in the environment of speech. Definiteness can also indicate that the listener has to deduce the identity of the referent through extrapolation from a previous discourse. In the following example the subject 'the four of them' and the object 'the woman' are marked by the deduced reference marker:

- (60) *tàtə̀ nfáɗ tən̩ í mbál wàl tən̩*
 3PL four DED 3PL like woman DED
 'The four of them liked the woman.'
 (Mina, Frajzyngier *et al.* 2005)

The category 'previous mention' is specifically limited to previous mention in discourse and does not involve the categories 'known' or 'present in the environment of speech'. In Tigrinya (Ethiosemitic) and in many Chadic languages, markers referred to as 'definite' code previous mention rather than an instruction to the hearer to identify the referent (Leslau 1941; Newman 2000; Frajzyngier *et al.* 2005).

Indefinite markers are reported less frequently. The definiteness of nouns in Omotic is marked through different forms of nominative case marking or through the masculine or feminine gender markers that occur only with definite nouns. Indefinite is said to be the unmarked category in Omotic. A similar situation obtains in most Chadic languages. The rare indefinite coding in Chadic has been observed in Hona (Central Chadic), in which the nouns mentioned in discourse for the first time are marked by the suffix *rà*: *lú-rà* 'a shirt' and *lú-ɗá* 'the shirt'.

In many Afroasiatic languages, indefiniteness is coded by the use of the numeral 1, a source of indefinite markers in many languages from different families. For such a use in Arabic, see Kaye (1997: 299).

Some Chadic languages have grammaticalized the verb of existence to code a referential but unspecified entity. In Wandala (Central Chadic), the verb of existence is *áŋkwà*:

- (61) *áŋkwà gɗà dáwalè á dè gà-tà gyáalè*
 exist young boy 3SG go ask in marriage-T girl
 'A boy went to ask a girl in marriage.'
 (Frajzyngier field notes; T = Target)

8.12 Non-verbal predications

‘Non-verbal predication’ is a cover term that includes a variety of predications whose only common characteristic is that they do not have a verb. Some call such clauses ‘copular sentences’, presumably because there are languages where non-verbal predications require a copula. Some Afroasiatic languages have only one type of non-verbal predication; others have several types. Non-verbal predications code a variety of functions across Afroasiatic languages. Verbless clauses are used to code locative stative predications (some Chadic languages); equational predications (Semitic, Chadic, Cushitic, Omotic); and existential predications (some Semitic and some Chadic languages).

The important typological questions with respect to the form are whether verbless predications use a copula or another non-verbal predicate; what the types of non-verbal predicates are; whether the subject precedes the predicate or the reverse; and the position of the non-verbal predicate.

In some Semitic languages, e.g. in Hebrew and Arabic, copulas are derived from pronouns (D. Cohen 1975 (2003 [1984])). A similar situation obtains in Gidar (Frajzyngier 2008).

Berber appears to have two types of non-verbal predication. One has the form Subject-Predicative particle-Predicate. In Kabyle, the noun that follows the predicative particle is in the absolute state:

(62) *a-xxam d a-mqqrان*

EL:M-house PRED ABS:M-big

‘The house is big.’

(Kabyle, Nait-Zerrad 2001b: 127; see Kossmann, this volume)

The nominal predicate includes both substantives and property concepts. This construction is used for the present, actual state. Another construction, with the verb ‘to be’, which is different from the predicative particle, is used in imperatives and other non-realized states (Kossmann, this volume).

In Cushitic languages, verbless predication involves only equative (equational) clauses. Locative and existential predications have dedicated verbs. In equational predication that may include both an attributive and a nominal predicate, the subject precedes the predicate, i.e., the order is the same as in the verbal clause:

(63) *xuŋ bishaan kursháashaa*

this water dirty

‘This is dirty water.’

(Oromo, Owens 1985a, as cited in Mous, this volume)

Some Omotic languages, i.e. Zayse, Gamo, Zargulla, and Koorete, have a copula in non-verbal predication. In other Omotic languages, non-verbal predication does not require a copula. In these languages, the copula is used to mark the focus on the predicate and in clauses with past and future tenses – both phenomena widely attested in other languages. Across languages, the use or non-use of copulas in equational clauses correlates with the form of the modifying construction. If the modifying construction is coded by juxtaposition alone, the equational clause has a copula. If the modifying construction has some kind of a marker, e.g. a genitive marker or a preposition, the equational clause is coded through juxtaposition (Frajzyngier *et al.* 2002).

The order of the subject and predicate in equational clauses correlates with the order of the subject and predicate in verbal clauses. In Hausa (West Chadic), in which the order of verbal clauses is subject – predicate, the order of equational clause is also subject – predicate (Newman 2000: 166ff.). In Hdi, where the order in verbal clauses is verb–subject, the order in equational clauses is predicate–subject (Frajzyngier with Shay 2002).

8.13 The coding of grammatical relations

8.13.1 State of the art

The study of grammatical relations in Afroasiatic languages has been heavily dominated by studies of case marking. Most often, it has been approached from the perspective and the aims of historical linguistics, i.e. answering the question of what can be reconstructed for Proto-Afroasiatic or for individual languages, language families, or the phylum (Sasse 1984a; Zaborski 1990; Owens 1998; Blažek 2006). The traditional assumption has been that Proto-Afroasiatic had the nominative, the accusative, and the genitive case. Sasse (1984a) postulates that Proto-Afroasiatic had an absolutive case. Diakonoff (1965 and 1988) postulates that Proto-Afroasiatic was ergative. Owens (1998 and 2006) questions the existence of case marking in Afroasiatic and proposes that Arabic, in its earliest forms, had both case and caseless forms. Tosco (1994a), a typologically oriented study, distinguishes, for the Ethiopian language area, between languages that mark the subject only, languages that mark the object only, and languages that mark both the subject and the object through case inflection. Like other studies, Tosco's is focused on case marking only, but he explicitly states that nouns are case marked when they are definite or in focus. Mous (this volume) states that the coding of the distinction between the subject and object is not a central element of Cushitic grammars. The significance of this fact and of the way the arguments are coded in Afroasiatic languages is that the distinction between subject and object is not an obligatory element in the structure of the clause in all languages.

As stated earlier, Egyptian, some Berber (Kabyle), some Semitic (Biblical Hebrew, Classical Arabic, Ge'ez), and some Central Chadic languages are verb-initial. Omotic, Cushitic, some southern Ethiosemitic languages (Amharic, Tigrinya), NENA, and Akkadian are verb-final. The clause-final position of the verb in Semitic languages is usually considered to be a product of language contact. For Ethiosemitic languages, the cause is the contact with Cushitic and Omotic languages; for Akkadian, it is the contact with Sumerian; and for NENA, it is the contact with Kurdish and Turkish. Modern Hebrew, all spoken Arabic varieties, West Chadic, East Chadic, and some Central Chadic languages are verb-medial. At least one language, Hona (Central Chadic) has two default word orders, verb-initial in one aspect, and verb-medial in another. The existing grammars rarely talk about the effects of word order on the coding of grammatical relations.

8.13.2 The present approach

The aim of the present section is an examination of the various means of coding grammatical relations across the phylum, with the goal of answering the following questions:

- (1) What kinds of coding possibilities are offered by different positions of the verb in Afroasiatic?
- (2) When the position of the verb in the clause is not used as a coding means, what means are used to code grammatical relations?

The present study takes the default position of the verb in the pragmatically unmarked clause as a starting point and examines correlations between the default position of the verb and other means of coding grammatical relations, which may include the following: lexical categories and derivational means; phonological means; inflectional means; serial verb constructions; and a large variety of free grammatical morphemes (Frajzyngier and Shay 2003).

The potential coding positions with respect to the verb – i.e. the positions that may serve as a means of coding grammatical relations – are as follows (underlines indicate potential coding positions):

- V___ : Verb-initial (one potential coding position)
- ___V : Verb-final (one potential coding position)
- ___V___ : Verb-medial (two potential coding positions)

The mere position of the verb in a given construction is not, in itself, an indicator of whether the position to the left or to the right of the verb is a coding means for grammatical relations. Whether position with respect to the verb is a coding means for

grammatical relations is a question that is usually not explicitly addressed in descriptive grammars. One of the tests for whether the position before or after the verb is a coding means is whether or not one can insert another element between the verb and the preceding or following noun. In SVO (verb-medial) predications in Chadic languages on which I have had the opportunity to work personally (Gidar, Pero, Mupun, Lele), inherent adverbs and prepositional phrases occur at the beginning or at the end of the clause, and neither can be inserted between the subject and the predicate or between the predicate and the object. In such languages, the position before the verb and the position after the verb appear to be coding means for grammatical relations:

(64a) *aɓuon dɛ gurum naa nawar be se ma*
 after REL person see small idol CONS then (Hausa) also (Hausa)
 ‘After a person saw a small idol, then . . .’

(64b) *ɓarpus can nɔ be kɛn fua mo cak dɔben*
 day circumcision DEF CONS kin 2M PL gather foodstuff
 ‘On the day of the circumcision your kin will gather foodstuffs.’
 (Mupun, Frajzyngier 1993)

(64c) *gùdá kil dú kàsà cáaní ná kólí*
 today sell 3F sorghum away ASSC all
 ‘She sold out of sorghum today.’
 (Lele, Frajzyngier 2001)

Thus, for each language under examination, it is necessary to determine whether position with respect to the verb is, in fact, a coding means, and, if so, for what function. The term ‘position’ can be extended to refer to a position immediately preceding or immediately following any designated reference point. The term ‘relative order’ refers to the relative order of lexical items belonging to the same category as a coding means. The term ‘default position’ or ‘default order’ refers to the position or order from which other orders are derived for the purpose of coding specific semantic or pragmatic functions.

8.13.3 Major findings

An examination of means of coding grammatical relations in Afroasiatic languages reveals the following.

- (1) The default position of the verb in a given type of a predication is a predictor of the presence of other coding means of grammatical relations, such as case marking, adpositions, or inflectional coding on the verb.

- (2) Case marking, adpositions, and marking on the verb code grammatical relations in Afroasiatic languages *only* in predications in which linear order is not a coding means for grammatical relations. These are predications in which the default position of the verb is either clause-initial or clause-final.
- (3) In languages in which the word order SVO is a means of coding grammatical relations – i.e., where the positions before and after the verb are coding means – neither case marking nor adpositions are used to code the grammatical relations ‘subject’ or ‘object’.
- (4) In languages in which the default position of the verb is clause-initial or clause-final but that also have SVO predications for certain functions, the positions before and after the verb do not code grammatical relations.

The remainder of this section describes verb-initial, verb-final, and verb-medial predications as attested in Afroasiatic languages and describes other means of coding grammatical relations that are associated with the various positions of the verb.

8.13.4 Verb-initial predications

Verb-initial predications deploy one or more of the following coding means: coding on the verb; relative order; case marking; and prepositions.

8.13.4.1 *V NP, with subject or object coded on the verb*

In a V NP predication, only one noun phrase can follow the verb. Inflectional coding on the verb indicates the grammatical and semantic role of the single noun phrase. This is the case in Wandala (Central Chadic). This supports the hypothesis that, in the absence of linear order, inflectional coding on the verb may indicate the relationship between the verb and the noun phrase.

8.13.4.2 *V NP NP, with inflectional coding of subject*

In a V NP NP predication without any additional means of coding grammatical relations, the relative order of arguments allows the proper interpretation of their roles. The role of the first argument is interpreted as the subject and the role of the second argument is interpreted as object (Egyptian, Biblical Hebrew):

- (65a) *h3b h3m.t z3-s*
 send(PERF) woman son-her
 ‘The woman sent her son.’

- (65b) *jst r-f zbj.n ḥm-f mš^c r t3-ṯmḥ.w*
 meanwhile to-it send.PRET majesty-him army to land-Libyans
z3-f smsw m ḥrj jry
 son-him elder as superior thereof
 ‘Meanwhile, His Majesty had sent off to the land of the Libyans an army
 whose leader was his elder son.’
 (Loprieno and Müller, this volume)

If there is no nominal subject, the subject is marked by a pronoun suffixed to the verb. When a noun follows a verb with a subject pronoun, the noun is interpreted as the object. If one of the arguments were to be fronted, its grammatical relation would be computed from the presence of the subject pronoun on the verb, and from the presence of an argument following the verb.

8.13.4.3 *V NP NP[case] or V-S Prep NP*

In the verb-initial Ge’ez (Ethiosemitic), there are two means of distinguishing between the arguments of the verb. In one, the noun phrase that follows the verb is the subject, and the second noun phrase is marked by the accusative case marker *ä*:

- (66a) *särhä ṅus bet-ä*
 build king house-ACC
 ‘The/a king built a house.’

The second type of construction, used with definite objects, has the verb with the object suffix, and the nominal object preceded by the dative preposition *lä*:

- (66b) *särhä+hu lä bet*
 build+3SG to house
 ‘He made the house.’ (lit. ‘he built it to house’)
 (Gragg 1997: 249)

8.13.4.4 *V NP[case] NP[case]*

This is the situation in Classical Arabic. Arabic is usually considered to have default verb-initial order, as this appears to be pragmatically the least marked. However, Blachère and Gaudefroy-Demombynes (1975) provides examples in which other elements follow the verb and precede the subject (1975: 301–2) and also provides many examples in which the subject precedes the verb (1975: 299–300). These examples clearly demonstrate that the position after the verb is not a coding means for the category subject. There is considerable variation in word order in Classical Arabic, which correlates with having both the subject and object marked by case (see also Caubet

(1993: 4–18) for an extensive discussion of word order in Moroccan Arabic, with references to Classical Arabic). The existing literature indicates that word order in Classical Arabic and many contemporary dialects of Arabic serves a variety of pragmatic functions, some of which are thoroughly described in Caubet (1993). In contemporary spoken Arabic varieties, there is no case marking (cf. Owens 1998) and the word order when two arguments are involved is predominantly SVO. When there is only one argument involved, the subject, the word order can be either SV or VS. The distinction between the two orders codes different pragmatic functions (Owens *et al.* 2009).

8.13.4.5 *Verb-(S) Prep NP*

In Hdi (Central Chadic), linear order is not available as a means of coding grammatical relations, which are instead coded by verbal inflection and prepositions. Hdi codes the person and number of the subject through suffixes to the verb. The following constructions are available: V S or V S *tá* O. If the object follows the overt subject, it is marked by the preposition *tá* (all examples from Frajzyngier with Shay (2002)):

- (67a) *ngá dà-gá-ghà-tà índà grá-xà-ní tá ghzú*
 NORM COOK-INN-D:PVG-REF:SUBJ all friend-PL-3SG OBJ beer
 ‘All of his friends should cook beer and bring it there.’

The preposition *tá* is also used to code the object when the subject is an independent pronoun:

- (67b) *tsghà-dá-f xáxàñ tá sàni lá-ghà-ní mbàf ká kà*
 put up-ALL-UP 3PL OBJ one go-D:PVG-3SG then COMP SEQ
tsghà-dá-f-tá sàni h́íbí
 send-ALL-UP-REF one bag
 ‘After they sent one bag, then they sent another.’

Cognate objects are also marked by the preposition *tá*, indicating that they are treated like all other nominal objects:

- (67c) *đg-áy-tán tá đgú yá*
 thresh-PO-3PL OBJ threshing DEM
 ‘While they were threshing . . .’

In the perfective aspect, the third-person singular subject is unmarked. If the verb has no nominal or pronominal subject, the high tone on the referential marker *tá* indicates that the noun phrase that follows the transitive verb is the object:

- (67d) *tántán mbàɗ ká kà xgà-n-tá vázák*
 first then COMP SEQ call-3-REF rooster
 ‘First he invited Rooster.’

When a noun phrase precedes the verb, the grammatical relation ‘subject’ is computed from the coding of the remaining argument. If the argument that follows the verb is marked as the object, then the argument that precedes the verb is interpreted as the subject. In the following example, the high tone on the referential marker indicates that the noun phrase that follows it is the object. Hence, the noun phrase that precedes the verb is interpreted as subject:

- (67e) *mbàɗ ká pákává ghívi kà xvá-tá xvá*
 then COMP hyena SEQ farm-REF farm
 ‘Hyena had already farmed.’ (i.e. finished farming)

The preposition *tá* in Hdi is also the focus marker. The formal similarity between the focus marker and the object marker is not accidental, as evidenced by the fact that a similar phenomenon has been observed in other Afroasiatic languages.

In Biblical Hebrew, as in Hdi, the person, number, and gender of the subject were coded on the verb. The usual analysis is that Hebrew has lost the case-marking system reconstructed for Proto-Semitic. In Biblical Hebrew, the subject noun was not marked for case. The second argument, also not marked for case, followed the subject. The structures were V NP or V NP NP. The coding of grammatical relations of the two noun phrases following the verb was assured by the relative word order. If the second argument (object) was determined or definite, it was often, but not always, preceded by the preposition *et*, resulting in the structure V NP *et* NP, analogous to the construction V NP *tá* NP in Hdi.

The preposition *et*, like preposition *tá* in Hdi, appears also to code focus on the noun (Joüon 1947: 370). Joüon (1947: 370) states that this preposition could also precede nominal subjects, evidence that the function of *et* is not to code the grammatical role of the object.

8.13.4.6 *Verb-initial order and state of the noun: grammatical relations as a by-product of a more general coding means: the case of Kabyle*

Kabyle, a verb-initial Berber language, does not distinguish between the grammatical relations ‘subject’ and ‘object’ by any of the means typically associated with this function. The interpretation of grammatical relations of noun phrases is made possible by the coding on the verb and by a much broader function that has applications in

or predication is whether the position before the verb is a coding means and, if so, for what function. This section shows that the position before the verb is not a coding means for grammatical relations in verb-final Afroasiatic languages. Consequently, in such languages there is no position that is a coding means for grammatical relations.

The study also shows that, in verb-final languages, nominal arguments are not coded for their grammatical roles unless they meet certain conditions. Conditions associated with overt marking of the subject and object include pragmatic properties such as determination/definiteness, topicalization, and focus. If the single noun in verb-final languages is not determined in the sense described above, its grammatical relation does not have to be marked. This indicates that the coding of grammatical relations of nouns in Afroasiatic verb-final languages is not a domain that must always be marked in the language.

Most Afroasiatic languages with the verb in clause-final position are spoken in Ethiopia. These are the Cushitic and Omotic languages and some Ethiosemitic languages, including Amharic. In all of these languages the verb codes the person, number, and gender of the subject. In addition to Ethiosemitic, two other Semitic languages came to have the verb in clause-final position through language contact: Eastern Semitic Akkadian, through contact with Sumerian, and North-Eastern Neo-Aramaic, through contact with Kurdish (Khan 2007). With respect to the Ethiopian language area, Tosco (1994a) notes that either the subject or the object can be case-marked. He notes, moreover, that neither subject- nor object-marking though grammatical morphemes is obligatory. This is true of Kafa (Omotic), where the subject, the object, or both can be overtly marked for case. Below is a discussion of the coding of the second argument, ‘object’, followed by a discussion of coding of the subject. The aim of both discussions is to provide evidence that the coding of these grammatical relations in verb-final languages is not obligatory. When it is called for, it is realized through inflectional marking on the noun, through adpositions, or through coding on selectors, a term to be explained later in this section.

8.13.5.1 *Case marking on two arguments*

Kafa has two markers that can be considered case markers: the suffix *n*, which marks the definite object, and the suffix *i*, which marks the subject function for proper names.

Pronouns in Kafa, which are inherently determined, have to be morphologically marked for the object function (all examples from Frajzyngier’s preliminary notes on Kafa):

- (70a) *yac biyin cinee mitaanè*
 tomorrow 3M:ACC see AUX:3FSG
 ‘I will see him tomorrow.’

If an object noun has been mentioned in preceding discourse, it is marked for the object function even if it is not overtly marked by a determiner:

- (70b) *áab-òc àší-c mén bùllè máyò-n gèddihéetè*
 time-LOC people-DAT that all food-ACC serve:IMPF:3PL
 ‘They serve all that food to the workers.’
- (70c) *kâfi-dàg-òc dáføo-n áabìcì àšò dáfè bèetò*
 Kafa-IN-LOC communal work-ACC how people work AUX
gátà ébì-cì llòc géttè mò:táa-nè
 COMP this-DAT next say FUT:1SG-COP
 ‘Now I am going to tell you how people do communal work among Kafa.’

Unlike in languages with obligatory inflectional systems, the object marker can be omitted when the noun is not definite:

- (70d) *kâfi-dàg-òc dáføo áabìcì àšò dáfè bèetò gátà*
 Kafa-IN-LOC communal work how people work AUX COMP
ébì-cì llòc géttè mò:táa-nè
 this-DAT next say FUT:1SG-COP
 ‘Now I am going to tell you how people do communal work among Kafa.’
- (71) *kètó tòkí hàgíyèté*
 house together build (IMPF):3PL
 ‘They build a house together’,
máayò tòkí šòkìyètè
 crops together sow šòohó [plant]
 ‘they sow the grain together’,
kètó tòkí dàcyèté
 house together roof:IMPF:3PL
 ‘they roof the house together’.

8.13.5.2 *Inflectional marking of the object in verb-final languages*

In verb-final languages belonging to the three families spoken in the Ethiopian language area, the grammatical relation of the object is coded only when the object is definite or has been previously mentioned. A previously mentioned object may have inflectional

coding even if it immediately precedes the verb, which indicates that the position preceding the verb is not a coding means for the object function.

In Amharic, the object is marked (by the accusative suffix *n*) under several conditions. One condition is when the object is also marked as definite (as in 72b, c, as opposed to 72a):

- (72a) *wəšša-w ləǧ nākkäsä*
 dog-DEF child bit:3MSG.PRF
 ‘The dog bit a child.’
 (Leslau 1968: 68, glosses added)
- (72b) *wəšša-w ləǧ-u-n nākkäsä*
 dog-DEF child-DEF-ACC bit:3MSG.PRF
 ‘The dog bit the child.’
 (Leslau 1968: 67)
- (72c) *bärr-u-n käffätä*
 door-DEF-OBJ open:3MSG.PRF
 ‘He opened the door.’
 (Leslau 1968: 68)

8.13.5.3 *Inflectional marking of subject and/or object in verb-final languages*

In Kafa (Omoti), the object noun is marked by the suffix *n* when the object is definite, regardless of its position in the clause. Conversely, the presence of the accusative marker codes the definiteness of the object:

- (72d) *büşé énmíšò-n bóonòoší-c ímmétèn*
 girl goat-ACC 3PL-DAT give:PAST:3F:SG
 ‘The girl gave them the goat.’
büşé énmíšòo bóonòoší-c ímmétèn
 girl goat 3PL-DAT give:PAST:3F:SG
 ‘The girl gave them a goat.’
 (Frajzyngier field notes)

The morphological coding of the noun for the object function may have the focusing function, as implied by some translations in Cohen (1970 [1937]):

- (73a) *abbat-ye ba-tkəlt wust gommä-n zärra*
 father-1SG PREP-garden in cabbage-OBJ plant
 ‘My father planted cabbage [not other vegetables] in the garden.’

An object that is fronted for a pragmatic function is marked by the marker *n* even if it is modified by the indefinite marker (the object marker is suffixed to the indefinite marker).

- (73b) *andə-n ləǵ wəšša-w näkkäsä*
 one-OBJ child dog-DEF bite:3MSG.PRF
 ‘The dog bit a child.’
 (elicited, Frajzyngier and Shay 2003)

An important piece of evidence that the position before the verb is not a coding means for the relationship ‘object’ is that the position may be occupied by the subject or by an adverb:

- (74a) *kàfi-dàg-òc dáfòo-n áabìcì àšò dáfè bèètò*
 Kafa-IN-LOC communal work-ACC how people work AUX
gàtá èbì-cì llòc géttè mò:táa-nè
 COMP this-DAT next say FUT:1SG-COP
 ‘Now I am going to tell you how people do communal work among Kafa.’
- (74b) *gìmbó gàatà tòkí gècyétè*
 pole also together raise:IMPF:3PL
 ‘If there is a pole, they raise it together.’
 (Frajzyngier notes on Kafa)

Proper-name subjects in Kafa are marked by the suffix *i*, similar to the marking of subjects in Cushitic languages (Tosco 1994b). Non-human subjects are unmarked. This indicates that the marker *i* has some function other than just coding the distinction between the subject and object:

- (75a) *tàmàrì nà šifàrì nà tòk-í*
 Tamara:NOM ASSC Shiferaw:NOM ASSC together-PL
dénvèr hàmmítètè
 Denver went:3PL
 ‘Tamara and Shiferaw went to Denver together.’

8.13.5.4 *Adpositional marking of the object in a verb-final language*

Tigrinya, an Ethiosemitic language, differs from Amharic in that the object is marked by a preposition rather than a postposition. There appears to be a consensus (see Tosco 1994a) that the preposition *n* as a direct object marker derives from the indirect object marker. Even though the marker in Tigrinya belongs to a different syntactic category

from the direct object marker in Amharic, it is used in somewhat similar conditions – i.e. it is used if the noun is definite, determined, or modified in some other way. In NENA, which is also verb-final, the direct object may be coded by the preposition *el*, a cognate of the Hebrew *et*. The object is marked by the preposition under conditions similar to those in Hebrew, Amharic, and Tigrinya.

In Dahalo (Cushitic), when the object is moved into the position after the verb, it must be marked by a postposition (Tosco 1991).

8.13.5.5 *Inflectional marking of the subject but not the object*

In the construction NP (NP) V, one does not know the function of the noun phrases unless all arguments that can occur with the verb are present and occur in a specific order. The first condition is seldom present in natural discourse, and the second condition is not true for Afroasiatic verb-final languages. In some Cushitic languages, for example, noun phrases preceding the verb can occur in any order (for an explicit statement to this effect with respect to Dhaasanac, see Tosco (2001: 258)). There is thus a functional motivation for marking at least one noun phrase for its role. While some Afroasiatic languages mark only the object and only under specific conditions (e.g. Amharic), and others mark both the subject and object (also under specific conditions), there are also languages that mark only the subject, again under specific conditions. The existing literature has no explanation as to which factors determine whether the subject or the object is morphologically marked in verb-final languages.

The existence of case marking on the subject and absence of case marking on the object, a relatively rare phenomenon in world languages (see Comrie 2005), is a subject of lively discussion in current literature (cf. König 2006, 2008; Kießling 2007). Most of the languages in which the subject is morphologically marked are spoken in East Africa. Although Comrie (2005) and König (2006 and 2008) include Berber among languages in which the subject is marked, Mettouchi and Frajzyngier (ms.) shows that such an analysis is unjustified for Kabyle and that the markers involved are not subject markers in any sense of the term ‘subject’.

Subject markers occur only on some nouns and in some types of constructions. Tosco (1994a) argues that these are not nominative case markers in the usual understanding of the term ‘nominative’, as nouns so marked do not share the distributional properties of nouns marked nominative in languages with nominal inflection. Tosco (1994a) derives subject markers in the Ethiopian language area either from definite markers or from topicalizers.

8.13.5.6 *Case marking on all arguments*

One Afroasiatic verb-final language, Akkadian, has both subject and object marked by case. Unlike in languages from the Ethiopian Language Area, case marking in Akkadian

was obligatory (Guy Deutscher p.c.). The interesting question is why Akkadian has both cases marked as the norm while most other verb-final languages code only one argument and only in specific pragmatic functions. The case markers of Akkadian are phonologically similar to the case markers of Classical Arabic. Because of this similarity they are considered to be a retention from an earlier Proto-Semitic system. But given the fact that only two languages have this case system (Classical Arabic and Akkadian), and given the fact that in Classical Arabic there are caseless forms (see Owens 1998), the hypothesis that Akkadian represents the Proto-Semitic case system may be revisited. The verb-final order in Akkadian emerged as a result of language contact (Huehnergard and Woods 2008).

8.13.5.7 *Separate coding of grammatical relations*

One of the outstanding features of Cushitic languages is the coding of grammatical relations outside of the arguments and outside of the verb (Mous, this volume). The indicators of the grammatical roles of morphemes are combined in single blocks, called ‘selectors’ by Mous, that may also include tense, aspect, and mood markers:

- (75b) *kúu lo-s-o ħab-it Juma*
 2SG.M OPT-DAT-O.M tell-2SG Juma
 ‘You should tell Juma.’
 (Alagwa; Mous, to appear)

The reasons why some languages code grammatical relations on selectors rather than on nouns or verbs remain to be discovered. As a morphological phenomenon, they resemble the coding of argument structure on the verbs.

8.13.6 Clause-medial position of the verb

Some languages, including a number of Chadic, Semitic, and Berber languages, have pragmatically neutral predications with the verb in clause-medial position:

- (76) *bàtúurè mǐjè n-lú mày tú kò nò wíinà*
 white man DEM SEQ-put chieftaincy PREP head GEN Wiina
nínyà bíláamè
 man Pilaame
 ‘The white man has selected Wiina, a man of the Pilaame clan, to be the chief.’
 (Pero, Frajzyngier 1989b)

In Berber languages that have lost the distinction between the absolute and annexed states, the positions before and after the verb have become the main means to distinguish between the subject and object:

- (77) *â-les i-ğă t-a-ğella day*
 ABS-man 3MSG-put:PFV F-ABS-dough.ABS in
t-ěmsé [absolute: těmsé]
 F-fire.ANN
 ‘The man put the dough into the fire.’
 (Tuareg, Foucauld 1984: 174)

As shown in section 13.2, the default verb-medial order in Lele codes the grammatical roles of both subject and object, as evidenced by the fact that no other element can be inserted between the subject and the verb or between the verb and the object.

Some languages in which the default position of the verb is clause-initial or clause-final have constructions in which the verb occurs in clause-medial position. Such constructions are a coding means for pragmatic functions rather than for the coding of grammatical relations. In other words, in some languages, verb-medial order is a coding means for grammatical relations, and in some languages it is not. In Hdi, focus on subject is coded by placing the subject in clause-initial position. The object that follows the clause-medial verb is still coded by the preposition *tá* or by high tone on the preceding verb or on the referential marker *ta* rather than by the position after the verb. This is evidence that the position after the verb is not a means of coding the object:

- (78a) *í'í dzà'á ghùnà-ghá tá kághá*
 1SG FUT send-D:PVG OBJ 2SG
 ‘It is I who will send you.’ (Frajzyngier with Shay 2002)
- (78b) *tàlá zàŋwá tsá yá tá màrà-n-tá xl̩-g-í-n-tá*
 exorcise demon DEF DEM COM show-3-REF gather-INN-AWAY-3-REF
índà ghwáďàk-á skwì mà xgá yá
 all bad-GEN thing PREP home DEM
 ‘It is *tàlá zàŋwá* that shows that one has chased away all the bad things from the compound.’
- (78c) *yàghí tá xágá mndú ngá dzà'á vagh mù vwàx-á*
 squirrel COM invite:PL people FOR go spend day PREP field-GEN
mídz-á-ní
 mother-in-law-GEN-3SG
 ‘It is Squirrel who invited people for the common work in the field of his mother-in-law.’
 (elicited)

8.13.7 Languages with verb-initial and verb-medial default positions

Some languages have two default positions of the verb. This is the case in Hona, where in one aspect, provisionally labelled ‘perfective’, the verb occurs in clause-initial position, and in another aspect, provisionally labelled ‘imperfective’, the verb occurs in clause-medial position. The significance of languages that have two default word orders is that there are two different means of coding grammatical relations. When the verb occurs in clause-initial position, the nominal subject is unmarked (all data from Frajzyngier field notes and Jordan field notes):

- (79a) *tsáp lùn-ná-ɗ*
 wash shirt-1SG-ALL
 ‘My shirt is washed.’ (Although the translation has the passive form, Hona, like other Chadic languages, has no category ‘passive’)
- fàn wá-nà*
 wash child-1SG
 ‘My child washed.’

The second argument, the object, follows the subject. If the object is determined, the verb has the object marker *an*, glossed here as ANAPH. The distinction between the nominal subject and the nominal object is coded by the relative order:

- (79b) *fan-an ní-nà wá-nà*
 bathe-ANAPH wife-1SG child-1SG
 ‘My wife bathed my child.’

If the subject is placed in clause-initial position for a pragmatic function, the verb must have a pronoun cross-referencing the subject. Otherwise, the grammatical relation of the fronted noun phrase would remain opaque:

- (80a) *wá-nà fan-ɗ*
 child-1SG wash-3SG
 ‘My child washed.’
- (80b) *núu-nà fàn-àn-ɗ wá-nà*
 wife-1SG wash-ANAPH-3SG child-1SG
 ‘My wife washed my child.’

In the progressive aspect, in which the default order is verb-medial, the object function of the noun phrase is coded solely by the position following the verb:

- (81) *nèn á tèn wùr'é*
 3SG PROG build house
 'He will build his house.'

8.13.8 Findings regarding formal means in Afroasiatic languages

The absence of position with respect to the verb as a coding means for grammatical relations is a predictor of the use of the case marking, adpositions, and marking on the verb. Position as a coding means is not available in verb-initial languages (some Semitic, some Chadic, Egyptian, some Berber languages) or in verb-final languages (Cushitic, Omotic, some Ethiosemitic, Akkadian, and NENA).

- Some predications code grammatical relations of noun phrases through morphological means only when these noun phrases are determined, a category that includes proper names, nouns modified by determiners, or nouns previously mentioned in discourse (see also Comrie 1989). Otherwise, these relations are marked by relative order.
- The clause-medial position of the verb may or may not be a coding means for grammatical relations, depending on the language and the type of predication involved. When the clause-medial position of the verb is not a coding means, this is a predictor of the presence of other coding means.

8.14 Semantic relations between the predicate and noun phrases

8.14.1 Introduction

The term 'semantic relations' refers to the roles of arguments within the event as coded by the grammatical system of the language. Specifically, it does not refer to semantic roles as an outcome of the analysis of the event itself. Some languages from all Afroasiatic families code semantic relations between arguments and the verb through inflectional marking on the verb. Some inflectional markers change the default semantic roles of subjects: causative, passive, and reflexive markers have been attested in Semitic, Egyptian, Berber, Cushitic, and Omotic languages.² Interestingly, Chadic languages do not have passive/reflexive morphology. A variety of semantic relations between the verb and noun phrases are coded by adpositions. Recent work on Afroasiatic languages has uncovered the coding of other semantic relations by means of verbal inflection: subject control in NENA (Khan 2007; Frajzyngier in press), affectedness of the subject, affectedness of the object, and non-affectedness of the object (Hausa, Frajzyngier and Munkaila 2004).

The verbal markers of the passive, causative, and reflexive are cognates across Berber, Semitic, Egyptian, and Cushitic languages, but have no functional or phonological correspondents in Chadic languages. The presence of these markers sharing a phonological form indicates that they may have been a part of the Proto-Afroasiatic grammatical system.

In Wandala, the grammatical role ‘subject’ is coded by pronouns preceding the verb or by subject pronouns suffixed to the verb. The grammatical and semantic role of the noun phrase following the verb is coded by different means depending on the properties of individual verbs. The semantic role coded by a given marker may depend on the inherent properties of the verb. The range of functions of inflectional markers on the verb is similar to the functions of adpositions. The important aspect of the coding on the verb is that the distinctions coded are semantic and that the grammatical relations ‘subject’ and ‘object’ are subsumed by these distinctions. Since such systems are not widely known, I provide illustrations of the major types. The root ending, which for most verbs means consonantal ending, of inherently transitive verbs in the perfective aspect indicates that the following NP is the object:

- (82) à b̀àl l̀àrúusà
 3SG announce marriage
 ‘He announced the marriage.’

Goal marker *á* on such verbs indicates that the following noun phrase is the controlling subject:

- (83) à b̀àl-á žílé
 3SG announce-GO man
 ‘the man announced’

In the imperfective aspect, the ending *à* indicates that the following noun phrase is the object:

- (84) yá/á b̀àl̀à l̀àrúusà
 1SG/3SG announce marriage
 ‘I/he announce(s) the marriage.’

An object marker with the ending *à* on the verb in the imperfective aspect indicates that the following noun phrase is the subject:

- (85) à b̀àl̀à-n-à žílé
 3SG announce-3SG-CN man
 ‘the man announces’

There is a class of transitive verbs whose objects are not affected. This class includes verbs of perception and volitional verbs. These verbs code the ensuing noun phrase as object through the ending *á* on the verb:

- (86) *ŋá kàtá kèllù*
 1EXCL want Kellu
 ‘We wanted Kellu.’

The object marker *n* and the vowel *á* indicate that the ensuing noun phrase is the subject:

- (87) *à kàtá-n-á kèllù mbákyà*
 3SG want-3SG-GO Kellu last year
 ‘Kellu wanted him last year.’

There is a class of inherently intransitive verbs. The low tone ending *à* indicates that the ensuing noun phrase is the affected subject, and the high tone vowel *á* indicates that the subject is controlling and not affected:

- (88) *à kyà gàhè*
 3G break pot
 ‘A pot broke.’

à kyá gàhè
 3G break:GO pot
 ‘He broke a pot.’

Khan (2007) describes inflectional marking on the verb through the suffix *-le* in NENA. He categorizes this marking as having ergative characteristics. The examples he provides indicate that the marker codes subject control, a semantic property shared by ergative case:

- (89) *xille* ‘He ate.’
xəl ‘It was eaten.’
átele ‘He drank.’
á'te ‘It was drunk.’

8.14.2 Causative

Many Afroasiatic languages have an inflectional marker on the verb referred to as ‘causative’, which has the fundamental function of adding a controller to the event, or the feature [control] to the properties of the default subject. The controller does not have to be a direct participant in the event described by the verb:

bego ‘see’ *beqqiyo* ‘show’
 (Kafa (Omoti), Cerulli 1951: 218)

s'ap- ‘become wet’ *s'ap-s-* ‘make wet’
 (Bench (Omoti), Amha, this volume)

Although the net outcome of the addition of a causative suffix to the verb is an increase in the number of the participants ('valency increase' in Dixon and Aikhenvald (2000)), valency increase may be a by-product of the primary function of changing the semantic role of the subject:

- (90) *nts s-^cnḥ rn-j*
 she(FOCUS) CAUS.-live(PART) name-me
 'She is the one who makes my name live.'
 (Egyptian, Loprieno and Müller, this volume)
- (91) *nama sún intalaa-f xennáa xann-isiis-e*
 man that girl-dat present give-CAUS-past
 'He made that man give the girl a present.'
 (Oromo (Cushitic), Owens 1985a: 98–102, as quoted in Mous, this volume)
- (92) *wässädä* 'he took' *as-wässädä* 'he caused to take'
 (Amharic, Leslau 1968: 431)

In four out of the six Afroasiatic families, there exists a verbal affix *s* that codes the causative function. Greenberg (1966) considered the causative marker *s* to be one of the pieces of morphological evidence for the genetic unity of the Afroasiatic phylum.

Somali (Cushitic) has two causative forms. The form *is* (sometimes realized as *i*) derives transitive verbs from intransitive: *búuxi* 'fill' (transitive), from *búux* 'fill up' (intransitive). The form *sii* introduces an additional controller of the event that is not a participant in the event described by the verb:

- (93a) *carrúur-tii wáy cuneen bariis-kii*
 children-the DM-they eat:3PL:PAST rice-the
 'The children ate the rice.'
- (93b) *Faadúmo ayàa carrúur-tii cun-síi-say bariis-kii*
 Fatima FOC children-the eat-CAUS-3SGF:PAST rice-the
 'Fatima caused the children to eat rice / fed the children rice.'
 (Saeed 2007: 570–1)

In addition to *s*, there are other means to code the causative in Semitic, Chadic, and Omotic languages. The fact that languages from five branches out of six code a similar function through affixation to the verb of a phonologically similar marker is a good indication that the coding of this function on the verb is a typological characteristic of the Afroasiatic phylum. Another means of coding the causative function is the addition of the third-person object marker to the verb. In Hdi, the addition of an object pronoun to an intransitive verb makes the verb causative:

- (94) *ʔà-ná-ʔà tá zóm*
 fall-DEM-fall OBJ snake
 ‘He made the snake fall.’
ʔ-ixà-ʔà
 fall-1SG-fall
 ‘He made me fall.’

Compare the intransitive:

- (95) *ʔà-ʔà tà xáḏīk*
 fall-fall OBJ ground
 ‘He fell down.’
 (Frajzyngier with Shay 2002)

The evidence that the primary function of the form involves the change of the semantic role of the subject rather than an increase in the valency of the verb is provided by the use of the form with verbs of perception. Such a use results in a change from a non-controlled predication to a controlled predication, with the number of arguments (‘valency’) remaining the same:

- (96) *ṅghá-ná-ṅghá tá mghám*
 see-DEM-see OBJ chief
 ‘He visited a chief.’

Cf.:

- (97) *ṅghà-n-ṅghà tá mghám*
 see-3-see OBJ chief
 ‘He saw a chief.’
 (Hdi, Frajzyngier with Shay 2002)

8.14.3 Factitive and causative

A characteristic feature of some Afroasiatic languages is that they make a distinction between the causative in the sense of ‘making x do y’, and the factitive, which is not usually employed with dynamic, transitive verbs. One function of the factitive is to cause a state to occur or to derive verbs from nouns. This function shares with the causative the addition of a controller that does not have to be a participant in the event. In some languages, there is no opposition between factitive and causative, and the factitive as defined appears to be the main function of the form, as is the case in Berber. Note that the marker of the factitive in Berber appears to be cognate with the causative marker of other Afroasiatic languages.

awal ‘word’ *ssiwəl* ‘to speak’

(Berber, Kossmann 2007: 441)

In Somali there is a contrast between the factitive form and the two causative forms. The factitive derives verbs from nouns through the suffix *ayn* or *ays* (Saeed 2007: 568).

8.14.4 Passive

The defining feature of the category ‘passive’ is that the verb has a marker to indicate that its subject is affected rather than controlling and, moreover, that the event has another controller. Which pragmatic functions such constructions are used for is a matter of lively debate, and it may well be that such constructions have different functions in different languages.

The category ‘passive’ is postulated for some Berber languages and for Egyptian, Semitic, Cushitic, and Omotic. Even though a single category is postulated for a variety of languages, this does not necessarily mean that the category codes the same function across languages. One piece of evidence that ‘passive’ does not code the same function across Afroasiatic languages is provided by the fact that in Berber, Egyptian, Cushitic, and Omotic, linguists have postulated several types of passives in individual languages.

Kossmann (this volume) states that the function of ‘passive’ is ‘to make transitive verbs intransitive’. This explanation is fully in line with the widely assumed valency-changing function of the passive. It correlates with the fact that, in most Berber languages, one cannot add an agent phrase to a verb with a passive suffix. That function may, however, be merely a by-product of the primary function of the passive, that of indicating that the subject of the clause is affected and not controlling. In Figuig Berber, there are two passive markers: *ttwa-*, which implies the presence of an agent of the event, and *tt(u)*, which does not (Kossmann, this volume). There are two passive markers in Kabyle as well. Both code the affectedness of the subject. One codes the presence of an agent in the event, but the other has no such implication (conclusions based on Amina Mettouchi p.c.). The passive in Kabyle appears to be unrelated to any pragmatic function, in particular to topicalization, which is coded by the position of the argument in the clause (Mettouchi p.c.).

Old Egyptian had two or three types of passives. Reintges (1997) states that two of them, the one marked by *-w* and the other by *-ti*, are in free variation in root (main) clauses and in clauses without a complementizer. In clauses with a complementizer, the form *-w* rather than *-ti* is used. Examples given in Reintges appear to indicate that the function of the passive form of the verb was to indicate that the subject of the clause was affected, not controlling.

In Cushitic languages that have passive and middle forms, the passive forms imply the presence of an agent in the event. The middle forms code the event from the point of view of the subject and do not imply the presence of an agent. Middle forms in Cushitic languages include events to the benefit and the detriment of the subject. There are some languages, however, such as Rendille, which have two passive forms, one implying the presence of an agent, and the other with no such implication (Mous, this volume). Somali has a form *am* that is added to previously causativized verbs to remove the causer:

- (98) *Cali albàab-kî bùu fur-ay*
 Ali door-the FOC+he open-past
 ‘Ali opened the door.’
albàab-kî wàa fur-m-ay [furnay]
 door-the DM open-PASS-PAST
 ‘The door was opened / the door opened.’
 (Saeed 2007: 569)

In some Omotic languages, e.g. Kafa, there are at least two constructions referred to as ‘passive’. The functional differences between the two forms have yet to be described.

8.14.5 Reflexive and middle or the point of view of the subject

The term ‘reflexive’ is used widely in many Afroasiatic grammars with the same broad scope as in grammars of other languages. Sometimes it refers to a specific form and sometimes to a function. In some languages, e.g. Semitic, Berber, and Egyptian, the reflexive marker is a prefix, while in Cushitic and Omotic it is a suffix. Chadic languages do not have a verbal affix whose function completely overlaps with the reflexive forms of other Afroasiatic languages. They do have, however, an array of grammatical forms, some coding coreferentiality of arguments and others coding the point of view of the subject.

In Ancient Hebrew the form derived with the prefix *ni-* (the stem called *niph'al*) coded the point of view of the subject (called ‘reflexive’ in Rendsburg (2007)):

- qaadaš* ‘be holy’ / ‘be set apart’ *niqdaš* ‘reveal oneself as holy’
 (Rendsburg 2007: 99) (*aa* represents long vowel)

In languages that also have the passive construction, the ‘reflexives’ or ‘middles’ share with the passive the point of view of the subject but differ from the passive in that the latter, but not the reflexive, implies the presence of a controller other than the subject.

This is the case in some Berber forms, Cushitic, and possibly Egyptian. In Berber, the nasal prefix to the verb derives intransitive verbs. Judging from the examples in Kossmann (2007), the subject may or may not be in control, but the event is not directed at another participant:

nəx ‘to kill’ *mməx* ‘to fight’ (Figuig)
ann ‘to kill’ *mmənn* ‘to be killed’
 (Ghadamès, Kossmann 2007: 441)

The prefix *tt* derives the forms with ‘unknown or irrelevant agent’:

(99) *i-ttwasək* *lhid*
 3SG:M-be.built wall
 ‘The wall has been built (by someone).’
 (Figuig, Kossmann 2007: 441)

In Somali (Cushitic), the ‘middle voice’ derives intransitive verbs from inherently causative verbs or from verbs with one of the causative suffixes:

laabó ‘turn oneself back’ / ‘head back’ from *làab* ‘bend, fold’
hub-s-ó ‘make sure of for oneself’ / ‘ascertain’ from *húb-i* ‘make sure of’
 / ‘verify’ (Saeed 2007: 572)

In Omotic, there is only one form coding the point of view of the subject, and it does not imply anything about the potential presence of the agent.

The forms referred to as ‘reflexive’ or ‘middle’ have one aspectual characteristic in common in that they are non-stative. This characteristic is in contrast with the passive forms, which are often stative.

For languages that have a single reflexive marker, it appears that its function is to code the point of view of the subject with no implication of the presence of an external agent. The marker directs the listener to consider how the event relates to the subject or how it affects the subject, or it may represent the state of the subject without necessarily implying subject control (Frajzyngier 2000). This fundamental function results in a number of implicatures depending on the properties of verbs and complements. Such implicatures then lead to more narrow interpretations of the function.

Omotic languages are reported to have one morpheme that codes the passive, reflexive, and middle. This characterization indicates that, under the present interpretation, the morpheme in question codes the point of view of the subject without any implication with respect to the controller of the event.

The function of the point of view of the subject in Chadic is coded by several forms: one is the inflectional coding on the verb, attested in Hausa (West) and Hdi (Central), and the other is through the forms referred to as Intransitive Copy Pronouns.

The coding of the point of view of the subject through inflectional means can be applied to intransitive and transitive verbs. Here are examples from Hdi (Central Chadic) illustrating the point of view of the subject (glossed as SO) with a transitive verb:

- (100) *z-ú-zà*
eat-so-eat
'He ate everything.'
dr-ú-drá xàsúù
burn-so-burn wood
'The wood burned.'
(Frajzyngier with Shay 2002)

Compare now the verb without the point of view of the subject:

- (101) *wá tá drá-tá xàsú'ù-wà-dà*
who COM burn-REF wood-GEN-1SG
'Who burned my wood?'

Intransitive Copy Pronouns (ICPs) (Newman's term (1971)) have been observed in West and Central Chadic languages. Their function has been subject to different interpretations (Tuller 1997). The Intransitive Copy Pronouns can co-occur with subject pronouns:

- (102) *nì-wát-nà pílià nì-n-dí-ée-nò*
1SG-come-COMPL Filiya 1SG-SEQ-settle-PRE.PRO-1SG(ICP)
'I came to Filiya and settled.'
mìni kúdí-jì-ée-mù
1PL resist-PL-PRE.PRO-1PL(ICP)
'We will resist.'
(Pero, Frajzyngier 1989b)

The pronouns occur only with intransitive verbs, but in most languages not with all intransitive verbs. In most cases, they are not obligatory. The inceptive function postulated in Frajzyngier (1977a) is only one aspect of the function of the ICPs. The other, and most likely primary, function of these forms is to code the event from the point of view of the subject, answering the question 'what happened to the subject?' rather than 'what does the subject do?' The function of the point of view of the subject for Intransitive Copy Pronouns was already postulated in Jungraitmayr (1970), albeit under the label 'reflexive/middle'.

The evidence that the inflectional coding of the point of view of the subject through vocalic changes on the verb and the Intransitive Copy Pronouns code the same function

is provided by the fundamental findings of a typological investigation. In languages with inflectional coding of the point of view of the subject there are no Intransitive Copy Pronouns. Hence, inflectional coding of the point of view of the subject and Intransitive Copy Pronouns are complementary. In languages in which there is extensive use of the ICPs, there is no inflectional coding on the verb. Hausa (West Chadic) has both inflectional coding on the verb and Intransitive Copy Pronouns. But the ICPs occur only with two verbs, *jee* 'go' and *zoo* 'come' (Tuller 1997: 215). Hence, the Hausa exception does not contradict the hypothesis that ICPs are in complementation with the inflectional coding of the point of view of the subject.

Thus, Chadic languages code the point of view of the subject through forms unrelated to the ones that code the same function in other Afroasiatic languages. The coding of the point of view of the subject in Chadic languages is one of the factors that explain why there are no passive forms in Chadic. The coding of the point of view of the subject combined with the goal orientation (to be described later) preempts the motivation for the existence of the passive.

8.14.6 Coreferentiality of arguments

Coreferentiality as used in the present section refers to the coreferentiality of arguments within the same clause. In many languages, coreferentiality is unrelated to the point of view of the subject, as is the case in Berber (Kossmann, this volume), in some Semitic languages, and in many Chadic languages. In these languages, coreferentiality is coded through the use of a term for body parts, e.g. 'head', 'body', 'soul', 'bone', 'self', followed by possessive pronouns. This is the case in the majority of Chadic languages.

In Berber, coreferentiality is coded by the form *iman* 'soul'/'self' (Kossmann, this volume). In Semitic languages, coreferentiality is coded through the lexical items corresponding to 'head', 'bone', and 'soul':

- (103) *ras-u-n* *godda-w*
 self-his-DEF injured(he)-it
 'He injured himself.'
 (Amharic, Hudson 1997: 463; *ras* 'head')

A coreferentiality interpretation may also be a by-product of the point-of-view-of-the-subject coding when it is combined with an inherently transitive verb. This is the case in many Cushitic languages as described in Mous (this volume, where the reflexive form is sometimes referred to as 'autobenefactive'). For intransitive verbs, however, coreferentiality is ruled out, and the point of view of the subject appears to be the main function of the form.

In some Afroasiatic languages there actually exist dedicated coreferentiality pronouns (Mupun, West Chadic).

8.14.7 Reciprocal

In many languages, the reciprocal function is an outcome of the following: (1) the point of view of the subject and the plurality of the participants; or (2) the coreferentiality of the participants with plural possessive pronouns combined with the point of view of the subject. In other languages, the reciprocal is an entailment from the function coding the simultaneous activity of the participants. Some languages have dedicated reciprocal markers unrelated to either the coreferentiality markers or the point-of-view-of-the-subject markers.

In Harari (Ethiosemitic) the reciprocal is derived through a phrase that makes use of the coreferentiality marker *at't'i* (*t'* being an ejective stop) and the preposition *b* 'by': *at't'i ba't'i* 'one another' (Wagner 1997: 492).

In Tigré (Ethiosemitic), the reciprocal is coded by the dedicated reciprocal marker *nosnosom*, which appears to be different from the coreferentiality markers *nafs* and *ra'as* 'head' (Raz 1997: 448).

In languages that code the point of view of the subject, when the subject is plural, all subjects are affected; hence a reciprocal interpretation is the product of the combination of subject affectedness or point of view of the subject and the plurality of the subject (see Frajzyngier 1999). This is the case in Berber (Kossmann, this volume), some Cushitic languages (Mous, this volume), and Omotic languages. As Amha (this volume) writes, in a number of Omotic languages, including Haro, there is only one form that indicates the passive, reflexive, and reciprocal. The examples in Haro indicate that neither passive nor reciprocal is the function of the form. The point of view of the subject is. And the reciprocal is an entailment of the point of view of the subject combined with the plurality of the subject:

(104a) *'ašó-z-i nám'u lók'a*
 meat-DEF:M-NOM two place:ACC
'é-kes-utt-ín-e
 3MSG-divide-PAS-PAST-AFF:DCL
 'The meat has been divided into two pieces.'

(104b) *kan-idé-z-i wóla 'ú-sa-sas'-utt-ín-e*
 dog-PL-M:DEF-NOM together 3PL-FREQ-bite-PAS-PAST-AFF:DCL
 'The dogs bit each other.' (in the examples, ' is a glottal stop)

In some languages, the reciprocal entailment is obtained from the use of plural subjects with the coding of coreferentiality of the subject and object. This is the

case in Gidar (Central Chadic), in which the coreferentiality is coded through the use of the noun *zǝ* ‘body’ followed by a pronoun that codes the person, number, and gender of the subject. When the subject is plural, the entailment is a reciprocal interpretation:

- (104c) *á-m-ùlà zǝ-m pùmpùm sà*
 FUT-1PL-see body-1PL tomorrow TQ
 ‘Will we see each other tomorrow?’

In Wandala (Central Chadic) the reciprocal interpretation may be obtained from at least two sources. One is the use of the applicative marker, which represents the event from the point of view of the subject combined with the plurality of the subject:

- (105) *yòò cáwmàn kìnì tàrà žílé mùksé sé tá gá-và*
 well before BCKG 3PL man woman then 3PL marry-APPL
 ‘Well, before the man and the woman get married’
 (Frajzyngier, field notes)

The other source of a reciprocal interpretation is from the verbal suffix *mm* (glossed as TOG for ‘together’) whose primary function is to code the common participation of subjects in the event (as opposed to verbal plurality, which is coded by different means):

- (106) *kà màgà-nǝ stàrà á wáyàa jà-myá-mmǝ kǝ nà*
 2SG make-3SG how PRED yesterday meet-1INCL-TOG NEG DEF
 ‘What did you do yesterday, that we did not meet?’

Similarly in Konso (Cushitic) there is a reciprocal object pronoun *ollí* ‘together’ / ‘each other’ (Mous, this volume).

In Beja (Cushitic), Appleyard (2007a) postulates the existence of several reciprocal–collaborative markers whose deployment depends on the class of verbs. One marker is the suffix *-sam*, possibly consisting of the causative marker *s* and the reflexive–passive marker *am*.

tam-sam ‘eat one another’ / ‘eat together’ (Appleyard 2007a: 466)

Another marker is *moo* or *m*:

-moo-gad ‘throw at one another’, *-moo-bas* ‘help to bury, bury someone together’

-m-dalaab ‘help to buy’ / ‘buy something together’ (Appleyard 2007a: 466)

8.14.8 Other semantic relations between the verb and noun phrases

In addition to controller, non-participant, affected, and non-affected, Afroasiatic languages code a number of other semantic relations between verbs and noun phrases.

All languages code the indirect object and associative. The indirect object in Afroasiatic languages codes a participant that is indirectly affected by the event. It should be noted that the indirect affectedness may include both benefactive and adversative effects, as described for Hausa in Newman (2000). The indirect object in Berber and Chadic languages is coded through affixes to the verb:

- (107) *y-ənɣ=as* *θa-mfar-θ=ənni*
 3SG:M-kill:P=3SG:IO EL:F-woman-SG:F=ANAPH
 ‘He killed (to his benefit or detriment) the woman.’
 (Riffian Berber, Kossmann, this volume)

Associative relationships, which cover a very large number of situations in the real world, are most often coded by adpositions, although in some Central Chadic languages there are verbal extensions phonologically similar to the prepositions in those languages, as is the case with the extension *ndá* in Hdi:

- (108) *dúkwá-f-ndá-dúkwá* *mbítsá tà* *pìtsákw-á-ní*
 realize-UP-ASSC-realize Mbítsa PREP hoe-GEN-3SG
 ‘Mbítsa has found out about his hoe.’

A set of adpositions in Berber codes dative, locative, ablative, instrumental, implicative, allative, comitative, and genitive relationships, as described in Kossmann (this volume). In Omotic languages, a noun is coded for the benefactive function through the dative case; for the locative function, through the locative case. Some Omotic and Chadic languages code locative relationships as distinct from spatial relations. Two markers of the semantic role can be added to one noun, as is the case with the locative marker *óc* and the marker *é* ‘from’ in Kafa:

- (109) *gàf-óc-é* *hàmmítè*
 village-LOC-FROM leave:3SG
 ‘he went out of the village’
 (Frajzyngier field notes)

In some Chadic languages, the second argument can be coded as affected or not, or as partially affected, through the affix to the verb, as is the case in Hausa (Frajzyngier and Munkaila 2004). Hdi (Central Chadic) has a partitive extension *á* that codes the partial affectedness of the second argument:

- (110) *xnà-á-xnà tá ʔú wí ndá mángá*
 cut-PART-cut OBJ meat ASSC knife
 ‘he cut a piece of meat with a knife’

Cf.:

xná-xná mbítsá ndá mángá
 cut-cut Mbitsa ASSC knife
 ‘Mbitsa slaughtered it with a knife’
 (Frajzyngier with Shay 2002)

8.14.9 The category ‘goal’

In many Chadic languages and at least some Ethiosemitic languages, there is an affix to the verb whose function is to indicate that the event has a goal (Frajzyngier and Munkaila 2004; Frajzyngier 2005a). In Ethiosemitic there are two candidates to code the category ‘goal’. Tigrinya and Amharic have a ‘conative’ form marked by the vowel *a* after the first root consonant. The function of this form used to be to encode the presence of a goal in the predication (Cohen 1970 [1937]: 208–11; Leslau 1941: 95–6). Leslau follows Cohen’s (1970 [1937]) description of the form as involving effort toward something (Leslau 1941: 95). An example from Amharic illustrates this function:

barräkä ‘bless’ *bärräkä* ‘kneel’
 (Cohen 1970 [1937]: 210)

Examples that Cohen cites have both transitive and intransitive verbs, and translations of some of them do not imply the presence of a goal. The other form is the prefix *a*, which derives transitive verbs from intransitive verbs, such as ‘heal’, ‘melt’, ‘boil’, ‘burn’ (Leslau 1968: 378):

danä ‘heal’ (intr.) *adanë* ‘heal’ (trans.)
 (Leslau 1968: 378)

The infix *a* after the first consonant derives dynamic verbs from stative verbs:

qällämä ‘be colored’ *qallämä* ‘color’
 (Leslau 1968: 378)

Jungrathmayr (1969) was the first to propose the existence of the category ‘goal’ in a Chadic language, with his publication of ‘Der Applikativ- oder Zielstamm im Ron’. In Chadic languages the goal is coded by the suffix *a* added to transitive and intransitive verbs. An inherently transitive verb without a goal marker simply denotes an event. A transitive verb with a goal marker denotes an event directed at an object:

- (111a) *yaa carà maashii*
 3M.PRF throw spear
 ‘He threw the spear [probably on the ground].’
- (111b) *yaa caràa maashii samà*
 3M.PRF throw:GO spear sky
 ‘He threw the spear into the sky.’
 (Hausa, Frajzyngier and Munkaila 2004)

The presence of the goal marker in Chadic implies the subject’s control over the event.

8.14.10 Conclusions regarding semantic relationships

The default semantic roles of subjects in Afroasiatic languages as determined by the unmarked forms of verbs can be changed by the causative, passive, and reflexive/middle inflectional markers. The causative marker added to stative verbs changes the event into a dynamic one. The causative marker added to transitive verbs indicates that the subject of the clause is the controller of, but not necessarily a direct participant in, the event denoted by the verb. The passive indicates that the subject of the clause is the affected participant in an event that had a controller other than the subject itself. Passive clauses in Afroasiatic appear to be stative. The reflexive/middle codes the event from the point of view of the subject undergoing change; it does not, however, imply the presence of an external controller. Moreover, the event represented by the reflexive/middle form of the verb is non-stative.

Chadic languages differ from other Afroasiatic languages in that they do not have a passive form. They do not have reflexive/middle form either. These languages can represent the event from the point of view of the subject or from the unmarked point of view. The difference between the categories ‘point of view of the subject’ and the ‘passive or reflexive/middle’ is that the same configuration of arguments, e.g. the subject and object of the clause, can be represented either from the point of view of the subject or from the unmarked point of view without any change in grammatical relations.

8.15 Tense and aspect

There has been considerable confusion in some Afroasiatic studies regarding the categories ‘tense’ and ‘aspect’. This confusion is summarized in Hetzron (1997a: xv–xvi), where he repeats the often-quoted statement by Rabin, that ‘Semitic has either aspects that express tenses or tenses that express aspects.’ In order not to contribute further to the confusion, I shall adopt the following canonical definition of the two

categories. The term ‘tense’ refers to a grammatical form coding temporal relations. The term ‘aspect’ refers to a grammatical form that codes the internal state of the event. The methodology to distinguish between the two follows straightforwardly from these canonical definitions. If a language has a tense system and an aspectual system, at least some of the tenses should co-occur with some aspects, and conversely, some aspects should co-occur with some tenses within the same clause. If there is no co-occurrence of the suspected tense and aspect markers, then the language has only one system that does not distinguish between the two categories. This may well have been the case in Egyptian, where the suspected tense and aspect markers could not co-occur. This approach should dispel any ambiguity with respect to the status of a category as tense or aspect. A synthesis of tense and aspectual systems is particularly difficult, given the wide range of terms that are used in various descriptive grammars and the frequent lack of the necessary argumentation in support of the proposed categories. The following general picture obtains:

- (1) Some Afroasiatic languages have rich systems of tenses and aspects.
- (2) Some languages have rich aspectual systems but very limited systems of tenses.
- (3) The existence of Afroasiatic languages with tense systems but no aspectual systems has yet to be confirmed.
- (4) Some languages (Chadic, Egyptian, Ethiosemitic, and Cushitic) have two tense/aspectual systems that are used in different types of clauses (Frajzyngier 2004). As a result, a language may have two perfective aspects, two imperfective aspects, two progressive aspects, two future tenses, and so on.

8.16 Aspect

Most grammars of Afroasiatic languages indicate a basic distinction between the perfective and imperfective aspects. Grammars written in French talk about *accompli* and *inaccompli*. The two sets of terms are not necessarily equivalent. More specifically, the distinction between the perfective and imperfective implies the criterion of boundedness, at least on one side, while the distinction *accompli/inaccompli* implies completeness of the event. The perfective/imperfective opposition has been postulated for Cushitic languages (Mous, this volume), Berber (Kossmann, this volume), Semitic, most Chadic languages, and some Omotic languages.

The inflectional forms of the verb in Classical Arabic distinguished only aspects, the perfective and imperfective (‘perfect’ and ‘imperfect’ in Fischer (1997: 207)).

The same terms may represent different aspectual values across languages. Thus, with respect to the perfective in Figuig (Berber), Kossmann (this volume) states that '[it] is used in two quite different contexts. In the first place, it codes a dynamic event in the past. In the second place it refers to a state (which may, but does not have to, be resultant).' Hence, the perfective in Figuig can be unbounded. The imperfective in Figuig 'is used to code simultaneity of events with the moment of speaking (progressive), or with a moment implied by the linguistic context. It is also used to express nuances such as habitual, iterative, durative, and, with stative verbs, inchoative.' Hence, the imperfective is not always unbounded, as the inchoative can be bounded at the initiation of the event. It appears that the distinguishing feature in Berber as represented by the description of Figuig is completion rather than boundedness, perfective being [+completed] and imperfective being [-completed]. Figuig has also a particle *ad* that can be added to either the imperfective or the aorist, indicating that the event has not been realized. Berber languages also have an aorist, a verbal form whose aspectual value is the same as that of the preceding verb.

The term 'perfective' in Chadic languages is used for the forms that code completion of the event (see Newman (2000) for Hausa), but in some languages, e.g. in Hdi, the category labelled 'perfective' codes bounded, not just completed, events. In Wandala (Central Chadic), one form is used to code completed bounded and unbounded events, e.g. states, similar to the perfective in Berber Figuig. The state may refer to the state of either the subject of an intransitive verb (e.g. 'be seated') or the object of a transitive verb.

In Egyptian, Loprieno and Müller (this volume) postulate a completive, a prospective, an imperfect, and an aorist of habit, presumably corresponding to the habitual aspect of other languages. The prospective appears to refer to non-completed events rather than to unbounded events, which characterize the imperfective. The stative appears to be a completive aspect, coding the state of the subject with intransitive verbs and the state of the object with transitive verbs. For many languages the list of aspectual distinctions includes only those coded on the verb and does not include aspectual distinctions coded by other formal means such as auxiliary verbs and prepositions.

When auxiliary verbs and prepositions are included, the number of aspects coded in individual languages is considerably larger. Thus, in Hdi (Central Chadic), in addition to the imperfective marked by the locative preposition *tà* and the perfective marked through reduplication, there exists a stative aspect, marked by the associative preposition *ndá* preceding the verb, and an aspect coding an on-going event, marked by the locative preposition *tà* preceding the reduplicated form of the verb. In a number of Chadic languages, the aspect referred to as imperfective codes both an on-going event and a habitual event.

Vowel alternation involving low and high vowels within the verbal stem, called ‘apophony’ or *Ablaut* in traditional Semitic linguistics, is often taken to be one of the common characteristics of Afroasiatic languages. David Cohen (2005: 17) calls it ‘*a non-a* apophony’. This contrast codes a variety of functions across languages and even within individual languages. In Semitic languages, it codes aspectual distinctions. In Beja, it codes a distinction between stative and dynamic function or between transitive and intransitive function: *digi* ‘bring’ *digai* ‘return’ (intransitive) (Cohen 2005: 19–20). In Berber, vocalic alternations code a large variety of functions. Similar alternations have been described in Hdi (Central Chadic, Frajzyngier with Shay 2002). Similar phenomena in East Chadic languages have been analysed as representing apophony as well (Jungrauthmayr 1974, 1975, 1978a). Frajzyngier 1981 has demonstrated that different forms in the East Chadic language Mubi are derived not through apophony but through the addition of vocalic suffixes and the associated rules of vowel raising and vowel lowering. Subsequent studies of Migaama (Frajzyngier and Ross 1996 and Frajzyngier 2004), provided further arguments for suffixation rather than apophony. If the functions coded by the *a non-a* alternation are indeed similar, then the derivation in East Chadic may point to the sources of apophony in other Afroasiatic languages.

8.17 Tense

Tense systems in Afroasiatic languages have relatively fewer distinctions than aspect systems. Many languages code the future tense, often through the use of auxiliaries or prepositions preceding the (nominalized) verb.

Egyptian had a preterite tense, which coded a temporal distinction but which was in complementary distribution with the aspectual forms.

Some Omotic languages, e.g. Maale, have a two-way tense distinction, past vs non-past. Other Omotic languages have a three-way distinction, past, present, and future, as is the case in Benchnon. In that language, the three tense forms can occur in different aspects (Breeze (1990), as cited by Amha (this volume)). In Chadic languages, the most frequent tense category is the future, coded by prepositions or auxiliary verbs preceding, or in a few languages following, the main verb. Some languages have past markers that indicate only a specific time in the past rather than the general past. This is the case in Hdi (Frajzyngier with Shay 2002). In that language, the unmarked form of the verb can refer to an event in the past or in the present:

- (112) *mbàd' ká pákáwá ghúvì kà xvá-tá xvá*
 then COMP hyena SEQ farm-REF farm
 ‘Hyena had already farmed.’

The marker *sí* codes reference to a specific point of time in the past. This past tense is not a member of the opposition future–past.

- (113) *ká-xən mántsá, sí ndá gá ká ndá rvíďík*
 COMP-3PL like that PAST ASSC where 2SG ASSC night
 ‘And they said: where were you last night?’

Saeed (2007) postulates for Somali three tenses – past, present, and future – which are in contrast with the aspectual forms. Hudson (2007) postulates a distinction between past and non-past tenses in Highland East Cushitic. Tosco (2007) postulates for Gawwada (Cushitic) three tenses in addition to an aspectual system. In Berber, it appears that one system codes forms that can have either tense or aspectual interpretations (Kossmann 2007).

8.18 Two tense/aspectual systems

In a number of languages, there exist two tense/aspectual systems, so that for each tense or aspect there exists a counterpart with the same temporal or aspectual characteristic. The two systems have different functions within the discourse.

The presence of two tense/aspectual systems in Egyptian and Chadic was discussed in Jungrauthmayr (1994). Cushitic languages (Mous, this volume) and possibly some Omotic languages also have two tense/aspectual systems.

The functions of the two tense/aspect systems have attracted a number of different interpretations. Traditional grammars simply state that there are aspects or tenses used in relative clauses or in focus constructions. Jungrauthmayr (1994) postulated that one system, the one that occurs in relative clauses, is used when one of the elements of the clause is fronted. He labels this system ‘semantically dependent’. Frajzyngier (2004) proposed that the two tense/aspect systems are means for coding the pragmatic status of clauses. One system codes pragmatically independent clauses, i.e. clauses that can be interpreted on their own. The other system codes pragmatically dependent clauses, i.e. clauses that must be interpreted in connection with another clause, whether preceding or following, or in connection with some element in the discourse environment. These clauses include, among others, relative clauses, sequential clauses, and some negative clauses. In all of these contexts, the comment clause cannot be interpreted on its own. In the following example, the first clause is pragmatically independent, and the perfective is coded by reduplication of the verb. The second clause is pragmatically dependent – sequential – and the perfective is coded by the simple form of the verb:

- (114) *skwá-p-skwá vrúà tá gù kà skwá-p-tà ngárgwà tá hlà*
 buy-OUT-buy Vrúà OBJ goat SEQ buy-OUT-REF Ngárgwà OBJ cow
 ‘Vrua sold a goat and then Ngargwa sold a cow’
 (Frajzyngier and Shay 2002)

The pragmatically dependent aspects may occur in an affirmative clause forcing the listener to interpret the proposition in connection with some other proposition. Interestingly, comments on topicalized elements have pragmatically independent tenses and aspects.

Mous (this volume) refers to pragmatically dependent tenses as negative and focused tenses.

8.19 Mood

8.19.1 Introduction

Traditional linguistic terminology often distinguishes between mood, as a means of coding on the verb, and modality, as coding through other means, mainly through auxiliary verbs. In the present approach, these are but different means to code the same functional domains. These domains are most frequently composed of two sub-domains: the epistemic modality, having in its scope the speaker’s attitude toward the truth of the proposition; and the deontic modality, coding the speaker’s wishes with respect to the proposition.

In addition to these two broad domains, some languages code other modalities as well, including empathy with the subject of the clause.

Most Afroasiatic languages code modalities on the verbal forms, especially deontic modality. Modalities can be coded by, in addition to auxiliaries, modal particles and aspectual forms and tense forms.

8.19.2 Epistemic modality

In all Afroasiatic languages, the unmarked value of the simple affirmative clause is the expression of the speaker’s belief in the truth of the proposition (Frajzyngier 1985h). The evidence for this being an unmarked value of the indicative clause is provided by the fact that an expression of a value other than intended truth must be marked by other formal means. Because of this phenomenon (‘natural’ from the Indo-European point of view), there is relatively little space devoted to the epistemic modality coding in individual Afroasiatic grammars and in comparative studies.

Within the domain of epistemic modality, a number of languages code the sub-domains of hedging and doubt about truth. Some of the means frequently used to code

hedging on the truth of the proposition is the verb ‘to say’ and modal adverbs. As reported in Mous (this volume), Hetzron (1978) postulated the category of evidentiality in Awngi (Cushitic).

Leslau (1941: 90) postulated that imperfective forms with different auxiliaries carry different epistemic values in Tigrinya. The imperfective with the auxiliary *əəyyu* codes less than certainty, and the imperfective with the auxiliary *yək’awwəən* codes even stronger doubt about the truth of the proposition.

The epistemic modality as it relates to complementation is discussed later in the chapter.

8.19.3 Deontic modality

The main questions addressed in the present section are how many deontic sub-domains a language codes and how they are coded.

Across the Afroasiatic phylum the verbal forms code one or two deontic modalities: imperative, i.e. orders to the addressee(s); and jussive/subjunctive/optative (various terms are used in descriptions), i.e. forms coding wishes with respect to the first and third person, but in some languages also wishes with respect to the addressee.

Semitic languages typically have two deontic sub-domains, called imperative and jussive:

yaktub ‘let him write’ *uktub* ‘write!’
(Arabic, Kaye 2007a: 221)

In Amharic, the jussive (wishes with respect to the first and third person) is formed with prefixes and suffixes coding person, number, and gender, and the imperative is formed through suffixes:

yəsbär ‘I should break’ *səbär* ‘break!’ (m)
təsbär ‘she should break’ *səbäri* ‘break!’ (f)
yəsbäru ‘they should break’ *səbäru* ‘break!’ (pl)
(Leslau 2007: 353–4)

In some languages, there is only one form of the verb used to express wishes both to the addressee(s) and to the first and third person.

In addition to the specific verbal forms for coding deontic modality, languages use other means, including modal particles, auxiliaries, and infinitive forms of the verb to code obligation, wishes, and other deontic functions.

Berber has three sub-domains within deontic modality: (1) imperative, i.e. orders given to the addressee; (2) cohortative, i.e. wishes expressed with respect to the first

person, formed through the addition of a suffix to the imperative stem; and (3) injunctives, i.e. orders given to the third and sometimes first person, formed through the addition of a suffix to the indicative stem.

Omotic languages have a two-way distinction between orders given to the addressee and wishes with respect to the third person (optative). The imperative and the optative forms of the verb are different from the indicative form.

Chadic languages distinguish between two sub-domains of deontic modality. The imperative is usually coded by a special form of the verb that often distinguishes between singular and plural addressees.

Across Afroasiatic languages, orders given to the addressee are coded by the simplest form of the verb available. Languages from all families code a distinction between orders given to singular and to plural addressees through affixes to the verb. In Berber, the imperative form codes the gender of the addressee.

8.19.4 Negation

The important issues with respect to negative clauses are: whether the negation has a verbal form different from the one in affirmative clauses; the position of the markers of negation within the clause; whether there are one or two markers of negation in the clause; and whether the negation of indicative modality is different from the negation of deontic modality. It turns out that there is considerable variation across Afroasiatic languages with respect to negation.

In Berber, there is an obligatory pre-verbal negative morpheme and an optional post-verbal negative morpheme. Both the perfective and the imperfective stems have negative variants in some varieties of Berber. Some Berber languages lost the negative imperfective. The negative forms of verbal stems, where preserved, have to be used with the negative pre-verbal particle *ul*. For some classes of verbs the affirmative and the negative forms are the same, but for others they are different:

Preterite

AFFIRMATIVE		NEGATIVE
<i>bda</i>	‘begin’	<i>bdi</i>
<i>kkər</i>	‘stand up’	<i>kkir</i>

(Kossmann 2007: 438)

In Egyptian, all aspectual and tense forms had a negative counterpart, coded by a suffix to the verb. Thus, there was a negative aorist, a negative prospective, a negative completive, and a negative preterite. Egyptian also had a negative particle *n*, which occurred at the beginning of the clause. From the data in Loprieno and Müller (this

volume), it appears that the clause-initial negative particle could occur with the affirmative form of the verb.

The number of negative particles per clause in Semitic languages appears to correlate with the position of the verb in the clause. In verb-initial languages, there is one negative particle preceding the verb. In Ancient Hebrew, there are three negative particles: one for the verbal predicate in an indicative clause; another for negation of nominal predicates; and a third one for prohibitive predication (Steiner 1997: 167). In Classical Arabic, the distribution is somewhat different in that the particle *la* is used for the negative imperfective and subjunctive, the particle *lam* negates the past tense, the particle *lan* negates the future tense, and the particle *ma* negates events and activities true at all time (Fischer 1997: 215). In classical Ethiopic, Ge'ez, the negative particle precedes the predicate. There are different negative particles for the verbal and nominal predicate (Gragg 1997: 257–8). In contemporary Ethiosemitic languages, which are all verb-final, negation is coded by one particle preceding the verb and another particle following the verb. In Tigrinya, the particle preceding the verb is 'ay, and the particle that follows the verb is -n (Kogan 1997: 442). In Amharic, the particle that precedes the verb is *al*, and the particle that follows the verb is -*m* (Hudson 1997: 471).

Most Cushitic languages have a special negative form of the verb stem that alone can code negation. Some negative paradigms developed from the combination of the main verb with the auxiliary negative verb meaning 'lack', 'refuse', 'be absent', and 'not to be' (Mous, this volume). Some Cushitic languages mark negation through an affix to selectors. Many languages also have a negative particle that precedes the verb. This particle can be used with the negative form of the verb.

In some Omotic languages, there is only one negative particle, which follows the verb and occurs in the clause-final position. In other languages, there is a negative particle preceding the verb and a negative particle suffixed to the verb. The prohibitive predication in some Omotic languages (Bench) uses affirmative forms of converbs 'stop' and 'remain'. In most other Omotic languages, there is a verbal suffix marking the prohibitive.

In some West and Central Chadic languages, there are two negative markers. The position of the first negative marker correlates with the position of the verb in the clause. In subject-initial languages, the first negative particle precedes the subject pronoun and the verb, and the second negative particle occurs after the verb, often in the clause-final position:

- (115) (ba) mo kɔ se kop kas
 NEG 3PL HABIT eat inheritance NEG
 'They do not inherit.'

The first negative particle *ba* is optional:

- (116) *ko wun pə dem siar siak kas*
 even 2PL PREP like friend RECIP NEG
 ‘Even if you do not like each other . . .’
 (Mupun, Frajzyngier 1993)

In verb-initial languages, the first negative particle immediately follows the verb and the second negative particle occurs in the clause-final position (Hdi):

- (117) *dzàngà-ŋ-á-í tá dzàngá kďá wà*
 learn-TENT-NEG-1SG OBJ learn last year NEG
 ‘I did not try to study last year.’
 (Frajzyngier with Shay 2002)

In some Central Chadic languages, the negative marker is clause-final, but in others it follows the verb and precedes the object (Wandala):

- (118) *dàcí šúl-á-rà šà-n-á-n kə pútà-á*
 then travel-GEN-3SG find-1SG-GO-3SG NEG means-GEN
só ɲánnà
 come:VENT DEF
 ‘And then [with] his travel I didn’t find an occasion to come.’
 (Frajzyngier field notes)

In those Chadic languages that have two tense/aspect systems, the negative particle sometimes co-occurs with the independent tense/aspect, or the dependent tense/aspect as in Hausa completed (see Newman 2000: 357), and sometimes requires its own set of verbal forms, as in the case of Hausa continuous (Newman 2000: 581).

The negative form of the verb correlates with the second negative particle in the sense that, if a language has a dedicated negative form of the verb, it does not have the second negative particle. A major question that emerges from this review of negation is why some Afroasiatic languages have two means to code negation and other languages have only one. The two means to code negation occur in languages with the verb-initial position (Hdi, Central Chadic), the verb-medial position (Hausa and Mupun, West Chadic), and the verb-final position (Ethiosemitic and Cushitic).

8.19.5 Polar questions, i.e. questions about the truth

In all modern Afroasiatic languages, polar questions can be formed through intonation. Loprieno and Müller (this volume) assume this also to have been the case for Egyptian.

Coding of polar questions through intonation is unremarkable, given the near universality of this coding means (Thompson 1998). All Afroasiatic languages also have other means to code polar questions – more specifically, polar question particles. The questions to be considered here are the position of the particle coding the polar question and the origin of this particle.

In Berber, the polar question marker occurs in the clause-initial position. The form of the marker varies across Berber languages. One of these markers is *ma*. A variant of this marker also occurs in content questions.

In verb-initial and verb-medial Semitic languages, polar interrogatives are marked by a particle that occurs at the beginning of the clause. In Ge'ez it is suffixed to the first element of the clause:

- (119) *zānt-ä-nu gābār-ki*
 this-ACC-Q make-2F.SG
 'did you do this?' (Gragg 1997: 257)

In verb-final Ethiosemitic languages, the polar question marker *way* or *ńde* occurs in the clause-final position, as is the case in Amharic (Hudson 1997):

- (120) *Aster təhedaläcc way/ńde*
 Aster FUT:go Q/Q
 'Will Aster go?'
 (Hudson 1997: 481) (*c* stands for the palatal affricate represented in Amharic transliteration by *č*)

In some Cushitic languages, in addition to intonation, a verb may have a 'predicative suffix' (Mous, this volume), a marker that also occurs with adjectives in a predicative function. Hence, the polar question has the logical structure 'is it the case that S?' In other languages, the interrogative particle is identical with the emphatic particle.

In Omotic languages, polar interrogatives are marked by a clause-final suffix to the verb. In Dime, polar questions differ from affirmative clauses in that questions with first and third person subjects have no overt coding of the subject on the verb.

In Chadic languages, the polar question marker occurs in the clause-final position, regardless of the position of the predicate in the clause:

- (121) *xdí ká rà*
 Hdi 2SG Q
 'are you a Hdi person?'
sí mndú dzi'-í rà
 PAST man kill-1SG Q
 'Was it a man I killed?'

8.19.6 Content questions

In some Afroasiatic languages, content questions share some of the coding means with polar questions. In other Afroasiatic languages, content questions have a structure of their own. The languages differ in: the position of the question words (sometimes referred to as *wh*-words); whether in addition to question words there are other interrogative markers; whether the content questions are morphologically or syntactically related to the polar questions; and finally, in the manner the languages code the semantic and syntactic roles of the questioned arguments and predicates.

In Berber, question words may consist of the question word proper or are formed with the particle *m(a)*, one of the polar question markers, followed by a suffix representing the questioned element. The interrogative complex occurs in the clause-initial position, forming a clefting construction with the material that follows. The categories coded in the interrogative complex so formed are human, non-human, and various types of spatial relations:

- (122) *ma i-nna-n awal=ad?*
 [[*m*] *a*] [*i-nna-n awal=ad*]
 who PTC:SG-say:P-PTC:SG word=PROX
 ‘Who has said this word?’
 (Tashelhiyt, Aspinion 1953: 180, as cited in Kossmann, this volume)

In Egyptian, question words were *in situ*, which Loprieno and Müller attribute to the rigid word order. The grammatical and/or semantic role of the questioned constituent was coded by its position with respect to other elements in the clause.

In verb-initial and verb-medial Semitic languages, question words usually occur in the clause-initial position. They can also occur *in situ*. In verb-final Ethiosemitic languages, question words precede the verb but follow the subject and other constituents of the clause:

- (123) *bärr-u-n man käffätä*
 door-DEF-ACC who open:PRF:3SG
 ‘who opened the door?’
 (Amharic, Leslau 1968: 69, glosses added)

Question words in Cushitic languages code the features human, non-human, and locative. They are marked for their syntactic roles through case marking. In most languages, question words occur in the clause-initial position or to the left of the verb, and in some languages they have a topicalization marker. In some languages, content questions are formed through the addition of the form *m-* to the selector:

- (124) *laarí m-a áy-áan*
 today QUES-O.F eat-1PL
 ‘What are we eating today?’
 (Iraqw, Mous 1993: 287, as cited in this volume)

Content questions may have the question word at the end of the clause preceded by a copula, a means also observed in some Chadic languages:

- (125) *hée kúung u axwées (a heemá)*
 man:CON you.M O.M talk:3M (COP who)
 ‘Who is talking to you?’
 (Iraqw, Mous 1993: 283)

Content question words in Omotic languages are marked for gender and number, and take the same case markers as nouns. The content question words occupy the same position as the corresponding non-question words. The verb, which is in the clause-final position, has the interrogative marker added. Hence, the interrogative modality is coded by the form of the verb:

- (126) *oon-a dor-ay*
 who-OBJ choose-2S:IPF:Q
 ‘Who do you choose?’
 (Gamo (Omotic), Hompó 1990, as cited in Amha, this volume)

In many Chadic languages, question words can co-occur with clause-final interrogative particles. In some languages, content questions require their own interrogative particle, different from the interrogative particle in polar questions (Hdi (Central Chadic), Frajzyngier with Shay 2002). In other languages, the clause-final interrogative particle is the same as in polar questions (Lele (East Chadic), Frajzyngier 2001).

Question words in Chadic languages code the distinction between human and non-human participants, place, and manner. Additional distinctions are coded through prepositions. Question words about the subject and object most often occupy the clause-initial position. The grammatical role of the question word is computed from the coding of other elements in the clause, i.e. from the presence of overt subject and object markers further down in the clause, and from the coding on the verb. In Hausa, pronominal subject markers precede the verb:

- (127) *mèe ka zàaḅaa*
 what 2SG:M choose
 ‘What did you choose?’

mèe ya fashèe
 what 3SG:M break
 ‘What broke?’
 (Hausa (West Chadic), Newman 2000: 490)

In Chadic languages that have two tense/aspect systems, content questions deploy the dependent tenses and aspects. This is a logical outcome of the fact that the scope of the question must be interpreted in connection with the rest of the clause.

8.20 **Typology of complex sentences**

The term ‘complex sentence’ refers here to a sentence with more than one predicate, and each predicate coding a different proposition. The coding means involved in complex sentence formation in Afroasiatic languages include: conjunctions, with the notable rarity of a coordinated clausal conjunction; complementizers; sequential markers; converbs; pragmatically dependent aspects and tenses; and phrase-internal and phrase-final forms of lexical items. The richness of the coding means available enables the coding of a large number of functions, and makes the traditional division into coordination and subordination insufficient, as such a division does not capture the functional domains coded. A much more complex system of relations obtains in very many languages. For many languages, the data on complex sentences are relatively modest.

The typological questions with respect to the complex sentence include: what formal types of complex sentences exist in Afroasiatic languages; what functions are coded by the various types; what means are used to code the various types; what phenomena are specific to complex sentences; and how coreference and disjoint reference are coded across a complex sentence.

With one author per language description, a norm for most Cushitic, Omotic, and Chadic languages, the study of complex sentences is often a task to be tackled after all the other aspects of grammar are described. The available data on complex sentences do not provide answers to all of those questions.

8.21 **Pragmatically dependent clauses**

In Egyptian, Cushitic, Omotic, Chadic, and possibly in Berber, there exists the category ‘pragmatically dependent clause’, i.e. a clause that must be interpreted in connection with another proposition or in connection with some situation that is not in the scope of the clause itself. The evidence for the existence of this class of clauses is provided by the formal means shared by these clauses. The formal means involve special tense and aspectual forms as described earlier in this chapter, dedicated complementizers, and distinct subject pronouns.

Typical pragmatically dependent clauses include: comment on focus, because they cannot be interpreted if separated from the focused element; content questions, because they assume the truth of the rest of the proposition; temporal or conditional protasis and apodosis, because they cannot be interpreted without each other; and sequential clauses,

because they must be interpreted in connection with the other clauses in sequence. In some languages, negative clauses are also coded as pragmatically dependent, presumably because a negation can have an affirmative presupposition.

Several families within the Afroasiatic phylum have grammaticalized formal means to indicate that the clause is pragmatically dependent. In Chadic languages, the principal means is the use of dependent aspects and tenses. In Hdi (Central Chadic), pragmatically dependent clauses include content questions, comments on focus (but not comments on topic), relative clauses, and sequential clauses.

In a pragmatically independent clause, the perfective is coded by the reduplicated form of the verb:

- (128) *bá-f-bá tá xgá*
 build-UP-build OBJ house
 'he built a house'

In a comment-on-focus clause, the verb cannot be reduplicated:

- (129) *tsátsí tá bá-f tá xgá*
 3SG COM build-UP OBJ house
 'it is he who built a house'
xgá bá-f-tsí
 house build-UP-3SG
 'it is a house that he built'

In a relative clause, only the simple form can be used:

- (130) *ndá sn-í tsá ndú tá bá-f-tá xgá*
 STAT know-1SG DEF man COM build-UP-REF house:GEN
mghám yá
 chief DEM
 'I know the man who built the house of the chief'

In content questions, only the simple form of the verb can be used:

- (131) *wá tá bá-f tá xgá*
 who COM build-UP OBJ house
 'who built a house?'

Negative clauses often presuppose an affirmative proposition. Thus, only the simple form of the verb can be used:

- (132) *bá-f-á tá xgá wà*
 build-UP-NEG OBJ house NEG
 'he didn't build a house'
 (Frajzyngier with Shay 2002)

In Cushitic, pragmatically dependent clauses are marked by selectors, which occur in questions, negative clauses, and comments-on-focus clauses. In Cushitic, Omotic, and Ethiosemitic, converbs are used in a large number of pragmatically dependent clauses:

- (133) *innú as d'ufé makiináa bité gale*
 he here come:3M:PF:H car buy:3M:PF:H return:3M:PF
 'He came here, bought a car and returned.'
 (Eastern Oromo, Owens 1985a: 215, as cited in Mous, this volume)

These coding means may and often do co-occur with other means indicating a specific semantic property of the clause in addition to its pragmatic status. Thus, a pragmatically dependent aspect may co-occur with the marker of negation or with a specific content question.

The markers of pragmatically dependent clause can occur in affirmative clauses, indicating that a clause has to be interpreted in connection with another clause in discourse, as in the following example from Gidar, where the dependent progressive marker *dàw* forces the interpretation of the clause with the ensuing clause:

- (134) *məblyí dàw gápá à-dí sà-nó-k óffò sá-n bíná*
 chief D.PROG arrive 3M-put DAT-3M-PRF fire DAT-3M roof
 'The chief, upon his arrival, put the fire into the roof.'
 (Frajzyngier 2008).

8.22 Parataxis

The term 'parataxis' refers to a complex sentence consisting of several clauses, each of which can occur independently. The available data do not always indicate whether true parataxis obtains. Prosodic characteristics, seldom indicated in grammars, may actually code that the first or the second clause is a member of the complex sentence. Such clauses may have different prosodic characteristics when they occur in isolation. In languages that have pragmatically dependent and pragmatically independent clauses, both clauses in paratactic constructions are pragmatically independent. Most paratactic constructions in Afroasiatic are asyndetic, i.e. they have no coordinating conjunction between the sentences. The asyndetic constructions have been observed in Berber, Egyptian, and Chadic.

The functions of paratactic constructions overlap only partially with the functions of coordinated clauses in Indo-European languages. Thus, in Chadic, paratactic constructions do not code sequential events, this function being coded by other formal means.

In most Afroasiatic languages, there is no coordinating clausal conjunction. Most languages do not have an ‘adversative’ clausal conjunction, i.e. a conjunction indicating that the proposition in the clause is not a consequence of the preceding proposition. An adversative conjunction has been grammaticalized in Coptic, although it did not exist in Ancient Egyptian. For languages in which coordinating conjunctions have been reported, e.g. Ancient Hebrew, authors stress that the function of these markers was broader than mere coordination. In Ancient Hebrew, the conjunction *wa* appears to have been a marker of the comment-on-topic clause. The fact that the conjunction *wa* can occur at the beginning of the sentence (Steiner 1997: 168) indicates that the conjunction might have been a marker of a pragmatically dependent clause, forcing the interpretation of the clause with another proposition or event. Moreover, the same conjunction is used in temporal clauses, one more indication that it functioned as a marker of pragmatically dependent clauses. The coordinating conjunction *wā* in Ge’ez is not used to code sequential clauses corresponding to ‘and then . . .’ (Gragg 1997: 258).

In contemporary Semitic languages, both verb-initial and verb-final, functions of coordinating conjunctions may include sequential clauses (see Hudson 1997: 481 for Amharic). In some languages, e.g. Berber and a few Chadic languages, associative prepositions or nominal coordinating conjunctions have been grammaticalized to serve as clausal coordinating conjunctions. In some Chadic languages, focus markers have been grammaticalized as coordinating conjunctions. There is also an indication of the grammaticalization of a coordinating conjunction from the verb ‘to go’ (Gidar, Hdi, Mina, Frajzyngier 2005b).

8.23 Sequential clauses

In some Semitic, Cushitic, and Chadic languages, there exist markers indicating the temporal sequence of events. These markers are not specifically coordinating conjunctions that merely instruct the hearer to interpret two propositions as connected. In some languages, the same markers can occur in temporal apodosis clauses and in clauses preceded by the adverb of time.

Converbs in Cushitic, Omotic, and some Ethiosemitic languages indicate that an event is part of a larger event represented by the final verb of the sentence. Clauses containing converbs can be interpreted as sequential clauses:

- (135) *ʔízi mīs' ó tík'-áʔʔo ʔáád-é-ne*
 3MSG:NOM tree:ACC cut-SS:ANT:CNV left-PF-A:DCL
 ‘He left, having cut the wood.’
 (Maale, Amha, this volume)

In Berber, sequential clauses are coded by use of the aorist form, the least marked form of the verb:

- (136) *an n-ddu ar ta-wrir-t=ann n-azzl=d gi-s*
 AD 1PL-go:A until EL:F-hill-SG:F=DIST 1PL-run:A=HITHER on-3SG
 ‘We will go to that hill over there and **run** on it.’
 (Tashelhiyt, Stroemer 2001, as cited by Kossmann, this volume)

There were two tense forms in Egyptian whose function was to code a temporal clause rather than merely a tense. One was the circumstantial present ‘while X is’, and the other was the ‘temporal’, coding a temporal clause in the past, ‘when X did...’ (Loprieno and Müller, this volume).

Many Chadic languages have dedicated sequential markers:

- (137) *mbàd' ká xèn kà xwáyá*
 then COMP 3PL SEQ run
 ‘And they were running.’
 (Hdi, Frajzyngier with Shay 2002)

In those Chadic languages that have two tense/aspect systems, the use of a pragmatically dependent aspect or tense, without any additional markers, may entail the sequentiality of the event. The sequentiality of the event is not, however, the specific function of the pragmatically dependent tenses and aspects.

8.24 Clausal complementation and subordination

8.24.1 The forms and functions

The term ‘complement clause’ is reserved for clauses whose function within a sentence corresponds broadly to that of a nominal argument. The term ‘subordinate clause’ is reserved for clauses whose function within the sentence corresponds to that of an adjunct. The main coding means with respect to the two domains are the nominalization of the clause; complementizers; subordinating particles; converbs; and the matrix coding of the embedded subject.

Some of the questions that need to be answered with respect to complementation and subordination are as follows: What kind of coding means does the given language have with respect to complementation and subordination? What is the clausal order, i.e. does the matrix clause precede or follow the complement or subordinate clause? How many complementizers does the language have and what is the position of the

complementizers within a sentence? How many subordinating particles are there and what is their position within the sentence?

The main questions with respect to the functions are: what functional domains are coded by the coding means? In particular, are modalities of the embedded clauses coded and how are they coded? How is the coreferentiality or switch reference between the subjects of the matrix and of the embedded clauses coded? Are there means to code coreferentiality or switch reference for other arguments of the matrix and the embedded clause?

Descriptive grammars of the majority of Afroasiatic languages often have little to say about the issues involved in complex sentences, and consequently the sections that follow display large gaps.

8.24.2 Order of clauses

In most verb-medial and verb-initial languages, the complement clause follows the matrix clause. There is, however, a variation depending on the type of the verb. In verb-initial Hdi (Central Chadic), complements of the verb of saying precede the matrix verb, while complements of other verbs follow it.

In verb-initial and verb-medial Semitic languages, the complement clause follows the main clause.

In all verb-final languages, e.g. in Cushitic, Omotic, and Ethiosemitic, including Amharic and Tigrinya, the complement and the subordinated clauses usually precede the matrix clause verb. This fact, widely attested in verb-final languages across the world, is the necessary outcome of the obligatory clause-final position of the verb. There are, however, instances when the complement clause follows the matrix verb (I am grateful to an anonymous referee for pointing this out to me).

In Berber, the complement clause follows the matrix clause. Most complement clauses are not preceded by complementizers, although complementizers do exist in some languages.

8.24.3 Subordinating particles

In verb-initial and verb-medial languages, the subordinating particles occur before the subordinated clause:

- (138) *hu lo yodea she hi ozevet*
 3MSG NEG know COMP 3FSG leave
 'he does not know that she is leaving'
 (Modern Hebrew, Berman 1997: 328)

- (139) *dzà'á pʰá-pʰá-xón tá mndú, kàbgà xáxəŋ tá dzà-tá*
 FUT kill-kill-3PL OBJ man because 3PL COM kill-REF
dá-dá ká gawa
 father-1SG COMP Gawa
 ‘‘They will kill us all, because they killed my father,’’ said Gawa.’
 (Hdi, Frajzyngier with Shay 2002)

In verb-final languages, subordinators follow the embedded clause verb:

- (140) *kä-zännäb-ä bāfit bet gābba-n*
 from-rained-it before house entered-we
 ‘Before it rained, we entered the house.’
 (Amharic, G. Hudson 1997: 485)
- (141) *kāfá ášò [error] àšénàó bóonò iritóò-n bóonò kíccè móc-òcé*
 Kafa man man:PL 3PL problem-ACC 3PL solve for-DEP
dáfò tòki dāfē-hétè
 common work together work-PRES:3PL
 ‘Kafa people work together in order to solve their problems.’
 (Kafa (Omoti), Frajzyngier field notes)

8.24.4 Complementizers

Some languages have one complementizer that is used with several types of matrix verbs, while other languages have several complementizers. Modern Hebrew has one complementizer *še* used for a large variety of complement clauses, including relative clauses (Berman 1997: 328). Complementizers have different functions in different languages. In Egyptian, unlike in many other languages, complementizers marked the first predicate of the paragraph or the main clause of the sentence. In other languages, complementizers mark the embedded or subordinated clauses.

In verb-initial or verb-medial languages, complementizers occur at the beginning of the embedded clause. In Hdi (Central Chadic), complement clauses of the verb of saying precede the matrix clause, and they are preceded and followed by a complementizer. In a number of Chadic languages, the matrix clause verb of saying is omitted in natural discourse when the complementizer is used (Frajzyngier 1996a).

There is an interesting variation in verb-final languages. In Amharic, the complement clause, referred to as ‘noun clause’ by Hudson (1997), has the complementizer *əŋdə* ‘that’ in the embedded clause, i.e. in the sentence-initial position:

- (142) *əŋdə-n-mäta yəfälləg-allu*
 that-we-come want-they
 ‘They want us to come.’
 (Amharic (Ethiosemitic), Hudson 1997: 483)

In Kafa, an Omotic language, complementizers occur at the end of the embedded clause, as is the case with the marker *gätà* (or *gäatà*):

- (143) *käfi-däg-òc dáfòo-n áabìcì àšò dáfê bèetò*
 Kafa-IN-LOC communal work-ACC how people work AUX
gätà ébì-cì llòcgéttè mò-táa-nè
 COMP this-DAT next say-FUT:1SG-COP
 ‘Now I am going to tell you how people do communal work among Kafa.’
 (Kafa (Omotic), Frajzyngier field notes, preliminary analysis)

The question of why the complementizer (and subordinator) occurs in the clause-initial position in Amharic, and in Kafa in the clause-final position, remains yet to be explained.

When a language has several complementizers occurring with the same matrix verb, or when the use of the complementizer is optional, these distinctions are exploited to code various semantic functions. Such a situation occurs in Berber, but it appears that the functional distinction between the use and the absence of the complementizer has yet to be discovered.

In Lele, an East Chadic language, there are two complementizers, labelled *de dicto* and *de re* in Frajzyngier (2001). The *de dicto* complementizer codes the hypothetical modality of the complement clause. The *de re* complementizer, marked by the form *go* glossed as REF for ‘referential’, codes the realis modality of the complement clause:

- (144) *gòni dà kirbé kò-rò ni ná gèy go léè*
 hyena PREP thought GEN-3F LOC ASSC want REF eat:FUT
tu-ŋ bey ba sée kama-ŋ
 goat-DEF before COM drink:FUT water-DEF
 ‘Hyena in its thoughts wanted to devour Goat before drinking the water.’

The *de dicto* complementizer *na* occurs after verbs of saying and after other verbs to code the hypothetical modality:

- (145) *kàyo yàá bé-y na mání ná [pause] na à*
 squirrel say DAT-3M HYP ANAPH ASSC HYP go:IMPER
jè na ge é
 VENT HYP INDEF go:FUT
 ‘Squirrel said, “If it is like that, then come, let us go.”’
 (Lele (East Chadic), Frajzyngier 2001)

Converbs can code not only sequential clauses but also clausal complements, as illustrated for Iraqw in Mous (this volume):

- (146) *aníng ‘ayto’o a dooár íáá’*
 1SG maize O.F cultivating:F:CON like
 ‘I would like to cultivate maize.’
 (Iraqw, Mous 1993, as cited in Mais, this volume)

Pragmatically dependent tenses and aspects perform a very similar function to that of converbs and subordinating particles in the domain of subordination. In temporal and conditional clauses, the use of a pragmatically dependent tense or aspect without any particle can mark either a temporal or a conditional protasis or apodosis. In the following example from Gidar (Central Chadic), the use of the pragmatically dependent perfective *gàpǝ* ‘arrive’ codes the temporal protasis clause:

- (147) *mòskóy à-gàpǝ àǝ-n à-dà zzá-n sǝ wrá*
 evening 3M-arrive father-3M 3M-D.PROG come-3M from bush
dí-t wàǝ-dé
 ASSC-3PL cow-PL
 ‘When the evening came, his father was coming home from the bush
 with cattle.’
 (Frajzyngier 2008)

8.24.5 Matrix clause coding

Matrix clause coding refers to the subject of the complement clause being coded as the object of the matrix clause. In the generative tradition of English descriptive studies, this phenomenon used to be called ‘subject raising’. Matrix coding is attested in Semitic and Chadic languages (Frajzyngier and Shay 2003). The specific function of such coding depends on the semantic characteristics of the matrix verb. With volitional verbs, matrix coding indicates realis wishes, as opposed to the unmarked value involved with the use of the complementizer:

Realis wish

- (148) *dàdà kátá gǎzá-rà dǎm mbá žílé*
 father want daughter-3SG go house man
 ‘Father wants his daughter to marry.’

Hypothetical wish

- (149) *yò cáamàn kǐnnì nàzù à kátá-n úr wá bà*
 well first of all BCKG what 3SG want-3SG person COMP FOC
gè njà-rí-njà án hèerán klàpì-rè
 PURP remain-3PL-remain ASSC peace (Ar.) healthy-NOM
 ‘First of all, what one would like, is for them to remain in peace and
 good health’
 (Wandala (Central Chadic), Frajzyngier field notes)

With verbs of perception, matrix coding indicates direct perception:

- (150) *yà ná-n á gy-á dáfà*
 1SG see-3SG 3SG cook-GEN food
 ‘I saw her prepare food’

Indirect perception is coded by the absence of the matrix coding of the subject of the embedded clause:

- (151) *yà ná gyá-gì dáfà*
 1SG see cook-cook food
 ‘I saw that she prepared food’

The existence of matrix coding of the subject of the complement clause can be seen in Nigerian Arabic (Owens 1993):

- (152) *ána ‘aaríf-ha t-íji*
 I know-3F 3F-come
 ‘I know that she is coming.’
 (Owens 1993: 160)

8.25 Relative clauses

8.25.1 Introduction

The term ‘relative clause’ refers to a clause that is a comment on a noun. In some Afroasiatic languages, e.g. in Berber and some Chadic languages, the relative clause formation does not differ from the comment-on-focus clauses.

The formal categories of relative clauses are: the head; the comment on the head; the relative order of the head and the comment clause; converbs and other special forms of the verb sometimes limited to relative clauses and sometimes used with other comment clauses; dependent tenses and aspects; relative markers, sometimes called relative pronouns; resumptive pronouns; and determiners.

The functional domains in the relative clause are the existential status and the referential status of the head – i.e. whether the head is definite or indefinite, and the relationship of the head of the relative clause to the predicate.

The head of the relative clause does not have to be an argument of the comment clause.

8.25.2 The order of the head and the relative clause

In verb-initial and verb-medial languages, the head precedes the relative clause. This is the case in Berber, Egyptian, Chadic, and Semitic (except for the verb-final Semitic languages). In verb-final languages, there are two options. In some languages, the head follows the relative clause, which is the case in Amharic and Tigrinya (Ethiosemitic). In Cushitic languages, the relative clause appears to follow the head. In the Omotic languages Aari and Dime, relative clauses may precede or follow the head noun (Amha, this volume). In Kafa (Frajzyngier field notes), and some other Omotic languages (Amha p.c.), the relative clause precedes the head noun.

8.25.3 Relative markers

The term ‘relative markers’ encompasses a variety of markers fulfilling several functions. When relative markers carry the features gender, number, or another characteristic of the head noun, they are referred to as ‘relative pronouns’.

In some Berber languages there is a morpheme called a ‘linker’ by Kossmann (this volume) that connects the head noun to the adjectival modifier or clausal modifier. This linker does not have to be used, as the participial form of the verb serves as the main marker of the relative clause construction:

- (153) *t-waʃun-t* *y-iwy-ən* a-rgaz
 EL:F-girl-SG:F PTC-bring:P-PTC EL:M-man
 ‘the girl that married the man’
 (Figuig, Kossmann 1997: 160 as cited in Kossmann, this volume)

Egyptian had a dedicated set of relative pronouns that coded the features gender and number of the head:

- (154) *mtr.n wj rmt.w km.t nt.w jm hn^c*
 witness.PRET me man.PL Egypt REL.PL there with.him
 ‘Egyptians who were there with him bore witness for me.’
 (Loprieno and Müller, this volume)

In Chadic languages the relative clause has the form NP[Head]-(Determiner)-(Rel)-S-(Determiner). The functions of relative markers in Chadic include the coding of the role of the head of the relative clause and of the existential status of the head. In Gidar (Central Chadic) there are two relative markers. The marker *məz* indicates that the head is unspecified, not known to the addressee, and the other marker indicates that the head is specific, potentially known to the addressee (Frajzyngier 2008):

- (155) *tímè góm háwš-k né-t tà-y əmpər-nə-n wšít-n*
 sheep CONJ goat-F GEN-3PL PROG-3M eat-3M-PL fruit-3M
gónyòm məz à-kày-án
 acacia REL 3M-search-PL
 ‘Sheep and Goat ate the fruit of acacia that they were looking for.’

The marker *á-* indicates that the head of the relative clause is known to the addressee, and is specific:

- (156) *dàsš-k mbàḥá ván tá-w gə̀b̀b̀d̀á kà mdá-gà-n*
 that-day beer DEF PROG-3M boil PURP return-CAUS-3M
árà mbràýín á-n tə̀-g̀d̀d̀ s̀ə̀-tá
 eye evil REL-M 3F-make DAT-3F
 ‘That day, the beer was boiling, in order to make up for part of the evil,
 that she made to her.’
 (Frajzyngier 2008)

In some Chadic languages, there is no relative marker of any kind, and the relative clause is identical with the comment-on-focus clause. This is the case in Hdi, where comment on focus is marked by the particle *tá*:

- (157) *xùtsà, tá yà-gá-p-tá m̀ndŕá lá xùtsà*
 Xutsa COM give birth-INN-OUT-REF clan COLL Xutsa
 ‘It is Xutsa who begot the clan of Xutsa.’
 (Hdi, Frajzyngier with Shay 2002)

8.25.4 Post-relative markers

The category ‘post-relative markers’ has been found in only some Chadic languages. The post-relative markers code the existential and hence the referential status of the

head of the relative clause (Frajzyngier 1996a). The following examples are from Mina:

- (158) *séy hidi m̀è ʒà kəsáf wàcítj à zá wàcítj tá nàŋ*
 so man REL cut grass DEM 3SG COMP DEM GEN 1SG
 ‘The man who cuts grass said, “This is for me.”’

Headless relative clauses do occur. Since their subjects cannot be referential, such clauses do not end in a demonstrative:

- (159) *m̀è rn-á-k kó ʒt́s d̀à nè m̀áŋ skù*
 REL make love-GO-1SG even one exist PREP L.ANAPH NEG
 ‘There is not even one among them who made love to me.’
 (Mina, Frajzyngier *et al.* 2005a)

There appears to be a correlation whereby a language that has only one set of relative markers also has post-relative markers, and the two means code the existential status of the head of the relative clause. Thus Gidar, which has two relative markers coding the referential status of the head preceding the verb, does not have post-relative markers.

In Egyptian, the predicate of the relative clause coded the features of gender and number of the head when the head was definite. If the head of the relative clause was indefinite, the features of the head were not coded on the predicate.

8.25.5 Verbs in relative clauses

In a number of Afroasiatic languages, verbs in a relative clause have a different form from those in the matrix clause. The form used in relative clauses is often the same as that used in other types of pragmatically dependent clauses.

In Berber, the predicate in a relative clause is a participle. There are no resumptive pronouns coding the properties of the head noun.

In Egyptian, the verb in a relative clause has a different form from one in a pragmatically independent clause.

In those Chadic languages that have two tense/aspect systems, relative clauses can have only pragmatically dependent tenses and aspects, as amply documented in Frajzyngier (2008).

In Cushitic languages that have selectors – i.e. Alagwa, Arbore, Boni, Burunge, Dahalo, Dhaasanac, Dirayta, Dullay, Elmolo, Iraqw, Konso, Oromo, Rendille, and Somali – selectors are used in relative clauses, in opposition to pragmatically independent clauses. There are, however, Cushitic languages that do not have selectors.

In Kafa (Omoti), the relative clause requires a special form of the verb, different from the form in the matrix clause:

- (160) *hàrrér yíc hàmmítò tá nùcòo-nè*
 Harrar yesterday go-PRF 1SG friend-COP
 ‘The man who went to Harrar yesterday is my friend.’

Using the perfective in a relative clause produces an ungrammatical utterance:

- (161) **hàrrér yíc hàmmítè tá nùcòo-nè*
 Harrar yesterday go-PRF 1SG friend-COP
 for ‘The man who went to Harrar yesterday is my friend.’
 (Frajzyngier field notes)

Compare a grammatical matrix clause:

- (162) *hàrrér yíc tà nùcò hàmmítè*
 Harrar yesterday 1SG friend went
 ‘Yesterday my friend went to Harrar.’

8.26 Focus

The category ‘focus’ has a rather vague status in linguistic theory, and, as a result, one is never sure in a typological overview whether the category ‘focus’ in one language corresponds to the category ‘focus’ in another language. Characterizations such as ‘prominent’ or ‘salient’ element of the proposition are not of great help in analyses. The category ‘contrastive focus’ is relatively clear: it indicates the contrast of one component of a proposition with other components or with what the speaker considers to be the hearer’s presupposition. The other types of foci are more controversial. Nevertheless, most contemporary descriptive works in Afroasiatic have isolated formal means that are involved in focus marking. These means include: the extraposition of the focused element; a construction corresponding to English clefting often accompanying extraposition; focus particles that either precede or follow the element in focus; the use of dependent tenses or aspects; the use of intonation, stress, and possibly other prosodic features.

Focus on the predicate, described in a number of contemporary individual language studies, often involves the repetition of the nominalized verb, sometimes with its complement, followed by the verb itself. The cognate object constructions noted in a number of Semitic languages (Goldenberg 1971) may well be instantiations of the focus on the predicate. The focus on nominal arguments in contemporary Ethiosemitic languages involves clefting.

In Berber, focus is marked by a clefting construction and by extraposition. The extraposition to the left involves clefting. The extraposition to the right does not involve clefting. The comment on the focused element is identical with the relative clause:

- (163) δ *nəčč ay* *kiδ-əç* *d=y-usi-n*
 PRED I NONDEF with-2SG:M HITHER-PTC-come:P-PTC
 ‘It is I who have come with you.’
 (Eastern Riffian, Kossmann 2000a: 158, as cited in Kossmann this volume)

Focus on constituents marked by prepositions may involve the extraposition of the whole prepositional phrase or of the noun phrase alone with the preposition retained in the comment clause. Focus on the predicate in some Berber languages involves repetition of the verb in the clause-initial position:

- (164) δ *θa-rəwla ay* *d=rəwl-ən*
 PRED EL:F-fleeing NONDEF HITHER=flee:P-3PL:M
 ‘They fled hither’ (lit. ‘it is fleeing that they fled’).
 (Kabyle, Galand 2002a: 344)

In other Berber languages, the focus on the predicate involves intonational means (Kossmann, this volume).

Egyptian had a special set of stressed pronouns used in the focalization of the subject. The language also had a focus particle that preceded the element in focus. Although Egyptian had a two-tense system, it appears that the second tenses were not used in focus constructions, but they were used in topicalization constructions.

In Cushitic languages, focus constitutes a major functional domain. Mous (this volume) mentions a ‘sentence focus’ in addition to focus on nominal and verbal constituents of the clause. The main means to code focus are clefting constructions. Special selectors play an important role in verb or sentence focus constructions. Selectors follow the focused element and may have personal pronouns attached to them:

- (165) *só^ha yú muura*
 meat FOC I cut
 ‘I’ll cut the meat.’
 (Dhaasanac, Tosco 2001, as cited by Mous, this volume)

In addition, languages have focus markers independent of selectors, e.g. *ní* in Oromo, *na* in Alagwa. These particles follow the noun that they mark for focus. Cushitic languages also have a separate system of tenses involved in the coding of focus. In some languages the markers used to code focus on a nominal constituent are different from those used for focus on the predicate.

Focus on the subject in some Omotic languages is coded through extraposition – more specifically, through the placement of the subject before the verb but after the object (recall that the neutral word order in Omotic is SOV). It appears that in Zayse and

Zargulla, East Omoto languages, the placement of the subject pronouns after a noun is a means to code focus (Amha, this volume). In addition, the focus marker and the subject-agreement markers are attached to the noun in focus. In pragmatically neutral clauses, subject pronouns are suffixed to the verb. In addition, comment-on-focus clauses in some Omotic languages have the pragmatically dependent tenses and aspects.

In Chadic languages, focus on the nominal constituents of the clause can be coded by dedicated focus particles that precede the nominal constituents (Wandala); by the use of a copula before the focused element, which may be *in situ*; by special particles that precede the comment-on-focus clause (Hdi); by extraposition to the left or right, as is the case with objects in Mina and with subjects in Pero; by the left extraposition of the focused element followed by a copula, the equivalent of clefting sentences (Hausa, Hdi); by a special set of pronouns (Gidar); and by the pragmatically dependent tenses and aspects in the comment clause in all languages that have two tense/aspect systems. Focus can also be coded by intonation (Hartmann and Zimmermann 2004). In addition, focus on the predicate can be coded by particles that precede the predicate.

In three branches of Afroasiatic – Chadic, Cushitic, and Omotic – the use of the pragmatically dependent tenses and aspect in the comment clause is a means of coding focus on a nominal constituent.

8.27 Topicalization

The term ‘topicalization’ refers to the marking of the topic of a sentence, a clause, a paragraph, or even of a whole narrative. The most widely accepted notion, that the topic is what a sentence, a clause, or a paragraph is about, can be tested by examining whether the remaining discourse is indeed about the proposed topic.

The formal means involved in topicalization include: extraposition, mainly fronting of the topicalized element; the use of determiners; the use of phrase-final forms; the use of pauses (potentially linked with the use of phrase-final forms); the use of dedicated topicalizing particles, different from determiners. Only in Egyptian did topicalization involve the use of dependent tenses. In other languages, topicalization differs from focus in that topicalization uses pragmatically independent tenses and aspects.

In Berber, topicalization involves the placement of the lexical item in the clause-initial position. In addition, the topic is marked by intonation. The structure of the clause with a topicalized element is as follows: Topic [free state] – V – Subject [annexed state] – Object [free state]. Topicalized nouns are in the free rather than the annexed state, which corresponds to the phrase-final position in Chadic languages.

In Egyptian, topicalization was marked by extraposition and the particle *jr* ‘concerning’.

In Cushitic, topicalization is coded by extraposition into the clause-initial position, and by determiners that follow the extraposed noun, as suggested by examples in Mous (this volume).

In Chadic, tenses and aspects in the comment clause are drawn from the pragmatically independent set. This is the main difference between topicalized and focused noun phrases. Comments on focused noun phrases have tenses and aspects drawn from the pragmatically dependent set. The dedicated topicalization markers found in some languages are recent borrowings from non-Chadic languages.

8.28 **Typological alignments within the phylum**

The typological alignments within the families of the Afroasiatic phylum depend on which features one takes into consideration. Here is just a very small selection of alignment with respect to different features.

When one considers the totality of phonological systems, Chadic, Cushitic, and Omotic form one group, because they have tone. Semitic and Berber languages do not have tones.

When one considers the phonological distinction between lexical categories, Semitic, Egyptian, Berber, and some Chadic languages form one group, in which nouns have underlying vowels and verbs do not. In Cushitic and Omotic languages, both verbs and nouns have underlying vowels.

When one considers the position of the verb in a pragmatically neutral clause, Egyptian, Semitic, and some Central Chadic languages constitute one group, which has the verb in the clause-initial position. Some Ethiosemitic languages, such as Ge'ez, may be aligned with Egyptian and Ancient Semitic, which also have the verb in the clause-initial position; other languages, such as Tigrinya and Amharic, may be aligned with Cushitic and Omotic, which are verb-final. Areal influences are responsible for this typological alignment.

With respect to the coding of the relationship between predicates and noun phrases, Semitic and Cushitic languages have an extensive system of case marking, and the other language families do not.

With respect to the structure of noun phrases, Cushitic and Semitic languages have the construct state, whereby the head of the noun phrase undergoes changes. The other language families do not have this phenomenon.

With respect to phonological reduction as a means to code the phrasal boundary, Cushitic and Chadic form one group, in which the final vowel or another segment is reduced to code the phrase-internal position. This phenomenon has not been observed in the other language families.

These different types of alignments are consequences of different properties of grammatical systems. They do not reflect closer or more remote genetic relationships among languages.

8.29 **Theoretical importance**

A typology of a language family differs from a crosslinguistic typology in the types of questions that can and should be asked. The fundamental question is to what degree typological characteristics are determined by the fact that the languages are related. This question can be fleshed out by more precise questions, i.e. which formal and functional characteristics of languages in question are due to retention and which are due to innovation?

Another issue, one more important from the point of view of linguistic theory, concerns the interaction of forms and functions. This issue can be approached with a greater degree of confidence when one is working with the typology of a language family than in a crosslinguistic perspective, because there is a better chance to control for the relevant factors. The investigators can know the forms available in individual languages and the functions they code. Explaining the interaction of forms and functions contributes to one of the main questions in linguistic inquiry, i.e. why the languages are the way they are.

8.30 **Findings regarding the forms**

8.30.1 Phonology

With respect to phonology, all Afroasiatic families are characterized by the presence of at least three series of consonants: stops, continuants, affricates, and an additional series that in various families is characterized by different manners of articulation, such as glottalized consonants, ejectives, or emphatics. The presence of the fourth series is a typological characteristic of each family, and may well represent retention of a fourth distinction from Proto-Afroasiatic.

All families are characterized by a relatively small number of underlying vowels, usually limited to three. The Ethiosemitic languages Amharic and Tigrinya have, however, seven underlying vowels. Even if individual languages contain a large number of phonetic vowels, the central vowels and the mid vowels are often the products of vowel insertion, vowel raising or lowering rules, and the fusion of vowels.

Some Cushitic and Omotic languages and all Chadic languages have tones. There is a correlation between the presence of the tone and the syllable- and word-structure conditions. In Berber, Semitic, and Egyptian, a syllable may have a consonantal coda,

with any consonant filling the slot. In many Chadic languages, obstruents are neutralized to corresponding sonorants in syllabic codas. In Omotic languages, tones correlate with the syllabic structure of the word, with the prevalence of tone in the monosyllabic languages. Hence, the emergence of tone in Chadic and Omotic may be due to the neutralization of the final consonant in Chadic and the loss of a syllable in Omotic.

8.30.2 Morphology

Afroasiatic languages display phonological differentiation between verbs and other lexical categories. In Berber, Egyptian, Semitic, and many Chadic languages, verbs do not have underlying vowels, while nouns do. Even in those Chadic languages for which one might want to postulate underlying vowels, verbs cannot begin with a vowel, while nouns can.

In some languages, the underlying form of the verb consists of consonants only. Vowels, tones, and other consonants contribute grammatical information relating to aspect, tense, mood, voice, spatial relations, and other categories.

The information that is coded on the verb in Berber, Egyptian, Semitic, and Chadic languages is coded on a separate grammatical complex called ‘selectors’ in some Cushitic languages. The complementarity of the coding means for the same categories across the phylum indicates that these categories are a typological characteristic of the phylum.

Egyptian, some Chadic, Omotic, and some Cushitic languages have two tense/aspect systems whose function is to distinguish between two types of clauses, pragmatically independent and pragmatically dependent. The distinction between the two types in many Cushitic languages is coded by different types of selectors. The existence of the two tense/aspect systems may be a typological characteristic of the family. This characteristic exists, however, in other African languages as well.

Languages differ significantly not only across the phylum but also even within individual families with respect to which categories are coded on the verbal piece. These differences correlate – to some degree only – with the linear order in the clause. Verb-final languages tend to have more categories coded on the verbal piece than verb-final and verb-medial languages.

The phonological reduction of the word – in most languages the reduction of the final vowel, but in some languages the reduction of the word-internal vowels – is a coding means to indicate the phrase-internal position. This is the case with the construct state in Semitic and some Cushitic languages, and final- or more rarely internal-vowel reduction in Chadic languages. This phonological means of coding appears to be a typological characteristic of the family.

The gemination of consonants is a coding means recorded in all families of the phylum. It is particularly frequent in the verbal systems. Gemination is used to code a number of functions.

Reduplication of a sequence of segments, sometimes referred to as reduplication of a syllable, has been recorded in languages from different families. It has a number of unrelated functions across the phylum. In the nominal and verbal systems, it codes nominal and verbal plurality. In the verbal system, it can code aspectual distinctions. Applied to different lexical categories, it can derive corresponding adverbs. Both gemination and reduplication can be considered typological characteristics of the phylum.

8.30.3 Linear order in the clause

Some languages are verb-initial, some languages are verb-initial and verb-medial (in different aspects), and some languages are verb-final. This variation in the position of the verb correlates with the way the roles of noun phrases are coded. In verb-initial-only languages, the subject is coded just by the position after the verb. In verb-initial and verb-medial languages, some additional means, e.g. case marking or the coding on the verb, is used to code the roles of arguments.

Serial verb constructions, which are present in some West Chadic languages, appear to be the effect of language contact, as they are similar in their forms and functions to analogical structures in Niger-Congo languages.

8.30.4 Findings regarding functions

What functions languages code is the most unpredictable characteristic of a language. Therefore, finding functions coded across a family may be taken as a typological characteristic of the family.

Some functions and categories are much too widespread to be used as a particular characteristic of the language or language family. Thus, the presence of the categories 'subject' or 'object' is not a distinctive characteristic of the family.

Five out of six families of the phylum code four basic semantic relations of the subject: unmarked, most often the controller of the predication when an object is involved; causative, when the subject is the controller of the event but not the participant in the event denoted by the verb; passive, coding the event from the point of view of the subject that is not the controller of the event, and an event that has an external controller; and 'reflexive', coding the event from the point of view of the subject, when there is no external controller. The presence of this quartet of functions can be considered a typological characteristic of the phylum. Neither the passive nor the reflexive is present in any Chadic language. Instead, the family has the point of view of the subject, which

may be a controller or not, and may have the second argument or not. Thus, Chadic languages differ typologically from the other languages of the phylum.

Most Afroasiatic languages code the coreferentiality of the subject and another argument through means other than the ones involved in the coding of the point of view ('reflexive').

Within the system of reference, Afroasiatic languages seem to code previous mention rather than definiteness. Definiteness directs the listener to identify the referent by all possible means, including the listener's knowledge, unique presence in the environment, and previous mention. This distinction has important repercussions for the syntactic structures, as the previous-mention markers can occur with proper names of people, toponyms, and so on.

8.30.5 Interaction of forms and functions

Conclusions concerning the interaction of forms and functions are of some interest with respect to the general structural properties of the language.

The coding of the phrase-internal and phrase-final position through phonological reduction for the former and the unreduced or even augmented forms for the latter, attested in Semitic, Cushitic, and Chadic, enables the listener to divide the utterance into syntactic units and thereby understand the internal structure of the utterance. This formal means occurs mainly in verb-initial and verb-final languages.

Neither verb-initial nor verb-final Afroasiatic languages code grammatical relations by position. When a verb occurs with one argument only, the role of this argument is computed from the coding on the verb, but it may still be ambiguous. When there are two arguments in the clause, their grammatical roles may be coded by relative order, with the first argument representing the subject and the second argument representing the object. Semitic, Cushitic, and Omotic languages have inflectional case marking. Other than in two Semitic languages, Classical Arabic and Akkadian, the case marking of nouns in Afroasiatic languages differs significantly from the case marking in Indo-European languages. In Afroasiatic languages that have case, nouns are marked for case when they are determined or definite, when they have been previously mentioned, or when they are in focus. Similarly, the coding of the object through preposition in Tigrinya, Hebrew, and NENA is deployed mainly when the objects are determined. The annexed state of nouns in Berber languages allows the listener to compute the grammatical role of nouns following the verb. In languages in which verb-medial is the only default order, such as most West Chadic and East Chadic languages, the grammatical relations of the subject and second argument are coded solely by the position before the verb and the position after the verb, respectively.

NOTES

2 Berber

- 1 This stands for the pronunciation [ɛ]. The transcription < ǣ > used in this article follows Tuareg orthography.
- 2 There exists a bewildering variety of terminological systems in Berber studies. Most commonly used are those by André Basset (1952) and Lionel Galand (1964). The terminology used here is an English adaptation of these terminologies. Among the terms used here, 'Perfective' corresponds to 'prétérit' (Basset) and 'accompli' (Galand); 'Secondary Perfective' to 'prétérit intensif' (Basset) and 'accompli résultatif' (Galand); 'Imperfective' to 'aoriste intensif' (Basset) and 'inaccompli' (Galand). In older literature, the 'Imperfective' is often called 'habitatif'. Other authors (e.g. Prasse 1972–4; Sudlow 2001; Heath 2006) use different terms. In table 2.11 the innovative particle *sad* (insistence on a non-realized event), which is a recent innovation of Figuig Berber, has been omitted.
- 3 This vowel scheme goes back to earlier *ǣ* - *ə*, as is clearly shown by Ghadames forms, as well as by some Tuareg forms. The *ə* in the Tuareg form in this type is the result of an assimilation of **ǣ* to a following *ə*.
- 4 Due to vowel assimilation, this vowel scheme could go back to **ǣ* - *ə* - *ǣ*, as in the Perfective form of Ghadames type b.
- 5 I use here the clumsy term 'normal' for the PNG set found with the great majority of verb forms. It constitutes a kind of default set, i.e. the set which is used if none of the other sets can be used. Any more sophisticated term (such as 'Indicative') would be inaccurate.
- 6 Out of respect for Berber linguistic tradition, I prefer to use glosses based on the French terms rather than introducing English-based abbreviations.
- 7 In the literature one also finds the term 'Construct State', borrowed from Semitic studies, instead of 'Annexed State'. In the framework of Berber studies, the term 'Construct State' is misleading, as its function is completely different from that of the Construct State in Semitic languages.
- 8 It is interesting that Comrie (1987 [1976]: 50) considers the combination of stativity and perfectivity as a typologically highly marked option.
- 9 The predicative particle *ǫ* in these examples is present because the verb *iʔi* 'be' takes a clausal complement.

4 Semitic

- 1 **Note on citations and transcriptions:** the forms and phrases cited in this chapter will generally be according to the transcription system used in the standard references cited for the given language in section 4.3. An exception is that we have replaced the symbols 'h' and 'h', frequently used in some branches of Semitic studies, by 'x' and 'h' respectively. The former is the more common symbol for what is assumed to be a velar spirant. The reason for the latter is that

the phonological effects (especially on adjacent vowels) of *ħ* and *ʕ* are not like the effects of pharyngealized consonants like *ʕ*, though people unfamiliar with Arabic tend to imagine that they're the same. That is, *ħ* and *ʕ* do *not* tend to retract adjacent vowels – they sometimes even front them. For Biblical Hebrew, a dual transcription is used, one that sticks quite closely to the Tiberian vowel symbols and consonant phonetics, and a more abstract one that will make the structure more transparent. For example, for various forms of the paradigm of the verb 'write', it will be *kāṭāv*, *kāṭvā*, *kṭavtēm*, *yixṭov*, participle *koṭév*, *koṭéveṯ*, and respectively /katab, katab-a, katab-tēm, yi-ktob, ko:teb, ko:teb-t/. We think the combination gives a clearer and truer picture than the traditional transcriptions like *kātab*, *kāṭēbā*. Classical and Modern Standard Arabic words, particularly nouns, are sometimes given in their pausal form, indicated by a hyphen, and representations like *maktaba(t-)* mean that the word is *maktaba* in pausal form, but *maktabat-* when suffixed. For the Arabic ج we use 'j', which is *not* the same as ǰ, since 'j' is not intended to be equivalent to [dʒ].

Tagging convention: sequential morph(eme)s are separated by a hyphen; enclitics are separated by the equals sign; simultaneous features within a morph(eme) are separated by a dot (except for PNG combinations such as 3msg); multi-word glosses are separated by colons.

5 Chadic

- 1 In the present chapter, full-sentence translations have an initial upper-case letter and end with a full stop. Partial-sentence translations do not have a capital.

6 Cushitic

- 1 The circumflex indicates a falling tone (HL), the acute accent a high tone and the grave accent a low tone.
- 2 Iraqw does not have gender distinction in the second-person plural pronoun, contrary to Whiteley (1958) and, consequently, to Zaborski (1989: 650).
- 3 The optional element *léhe* does not seem to have a semantic contribution and is possibly etymologically related to a verb 'to have' (Hayward 1984a: 226).
- 4 The two types of suffix conjugation have a tonal difference and represent two different lexical classes.
- 5 The distinction definite/indefinite in Arbore refers to aspect marking, independent of the aspectual suffix to the main verb.
- 6 But not for Saeed (1993: 216).
- 7 The Dahalo passive is *-ikud* (Tosco 1991: 46).

7 Omotic

- 1 The following conventions are used in transcription: IPA ʃ, ʒ, ɸ and ɕ are represented by *š*, *ž*, *č* and *j* respectively. All glottalized obstruents are distinguished by a raised comma following the symbol for the consonant, e.g. *č'*, *ts'*, *k'*. In highly tonal languages, e.g. Bench, tone-levels are represented by raised numerals, 1, 2, etc. Segments that are not mentioned here have their customary IPA values.

8 Typological outline of the Afroasiatic phylum

- 1 Juliet Blevins's observation (p.c.)

- 2 A number of linguistic theories consider causative, passive, and reflexive to be morphological devices that change the inherent valency of the verb (Dixon and Aikhenvald 2000). Within the present analysis, the function of these morphological processes is to change the inherent semantic relationship of the subject of the clause. Even if the number of arguments changes as a result, this change is a by-product of the fundamental function.

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