

The syntax of Time (2004)

Chapter 4

On the Logical Form of Imperfective Aspect

Denis Delfitto

4.1 Introduction

In this chapter, I will lay out the foundations of a theory of imperfective tenses (including at least the present tense and the so-called imperfect in Romance languages) according to which present tense predicates (and, more generally, imperfectively marked predicates) are uniformly mapped into subject-predicate logical formats. The analysis of imperfective aspect in terms of predication will be argued to provide a uniform account of the two main readings of imperfective predicates (the so-called progressive reading, by means of which a sentence is interpreted as a report on the passing scene, and the so-called habitual reading, by means of which a sentence is given generic import).

On the negative side, I will argue that two rather widespread and influential analyses of the way in which imperfective sentences are assumed to yield progressive and habitual readings are empirically not tenable and conceptually ill founded. One of these analyses is the view of the imperfect as an aspectually sensitive tense, according to which the imperfect imposes a kind of aspectual constraint on the eventuality description to which it applies, to the effect that the latter is interpreted as a state or as a process (the progressive reading is assumed to follow from this aspectual constraint). I will not only take issue with this conception of the imperfect but also challenge the strictly related view that the model-theoretic notions underlying aktionsart and grammatical aspect are essentially the same. The second analysis that I intend to reject corresponds to the view of the imperfect as a polarity tense that triggers the presence of a generalized quantifier with modal force (the so-called Gen), quantifying over individuals and/or eventualities: the habitual reading is assumed to follow from this interpretation of Gen as a relation between two classes of eventualities. I will argue against this quantificational analysis (the so-called relational analysis of genericity) by arguing that there is no way to fix the properties of Gen

in a precise and noncontradictory way, endorsing a neo-Carlsonian view of generic sentences as subject-predicate structures.

On the positive side, I will argue that the predication analysis of imperfective aspect permits an elegant unification of the logical form assigned to progressives and habituais, leading to the important insight that the semantic instruction encoded by imperfective morphology is not ambiguous, contrary to what was implicitly held by traditional analyses. Moreover, I will take the position that (at least in Romance and Germanic) grammatical aspect is the locus where the distinction between "categorical" sentences (consisting in the ascription of a property to a subject) and "thetical" sentences (roughly consisting in the presentation of an eventuality) is grammatically encoded. In this way, the classical debate in philosophy of language over whether the subject-predicate format is an essential ingredient of the definition of sentence (opposing the logical/rationalistic tradition of linguistic analysis mostly identified with Port-Royal to philosophers like Brentano and linguists like Marty and Miklosich; see especially Graffi 2001) is shown to hinge less on an abstract philosophical choice and more on concrete empirical issues concerning the role of grammatical aspect (and in particular the imperfective/perfective opposition) as the morpho-syntactic regulator of the choice between a subject-predicate format and an eventive format.

Last but not least, I will argue that the predication analysis of imperfective tenses is able to provide a principled and elegant solution for a still poorly understood set of phenomena concerning the licensing of existential interpretations of argument bare nouns with the present tense in English. In a nutshell, the problem consists in the fact that neither Carlson's (1980) theory (holding that existential bare nouns are licensed by stage-level predicates) nor Kratzer's (1995) theory (holding that existential bare nouns depend on certain differences in argument structure between stage-level and individual-level predicates) provides a satisfactory solution for this set of facts (which I would like to dub the present tense paradox). I will show that this paradox can be solved under the hypothesis that existential interpretations are licensed only in structures where another of the predicate's arguments may count as a subject of predication, thus providing a nontrivial empirical argument in favor of the predication analysis of genericity.

The chapter is organized as follows. In section 4.2, I will review what I believe to be wrong conceptions of imperfective aspect, arguing against their empirical and conceptual feasibility. In section 4.3, I will present a unifying analysis of progressives and habituais, under the basic insight that the logical form of imperfectivity is predication. In section 4.4, I will deal with the present tense paradox in English. Finally, I will draw some general conclusions concerning the proposed logical form of imperfective aspect and the underlying conception of grammatical aspect.

Esquema
do
cap.

4.2 Two Wrong Conceptions of Imperfective Tenses

4.2.1 The Imperfect as a Tense of Aspectual Polarity

The first analysis I intend to take issue with conceives of the imperfect in terms of an aspectually sensitive tense. This means that the imperfect not only expresses the notional content of PAST but also crucially applies to eventuality descriptions that are either states or processes. Exemplifying with French (see de Swart 1998), the canonical usage of the imperfect manifests itself in sentences such as (1) (expressing a state), and not in sentences such as (2) (expressing a culminated event, a so-called accomplishment in the Vendlerian terminology), where a perfective tense should instead be used, as in (3).

- (1) Anne *était* triste. ^{Ana estava triste} ESTADO
'Anne was-IMP sad.'
- (2) Anne *écrivait* une lettre. ^{escrevia a carta} ACCOMPLISHMENT
'Anne wrote-IMP a letter.'
- (3) Anne *écrivit* une lettre. ^{escreveu a carta}
'Anne wrote-PERF a letter.'

The use of the imperfect in noncanonical cases such as (2), where it applies to verbs denoting culminated events, is explained by resorting to a mechanism of aspectual "coercion": since the imperfect applies to the wrong lexical meaning (i.e., to a verb that does not refer to a state/process), this lexical meaning is suitably modified in order to yield an acceptable input to the compositional rule. In particular, the sentence in (2) will be understood either as a habitual (roughly, Anne had the habit of writing a letter) or as a progressive (Anne was in the process of writing a letter). In this way, the original interpretation of the predicate 'write a letter' as a culminated event is turned into the interpretation of a state/process. Moreover, interpreting the imperfect in terms of aspectual coercion has the apparent advantage of assuming the same model-theoretic notions for the analysis of aktionsart and grammatical aspect. Aktionsart concerns the property of lexical meaning according to which predicates refer either to states/processes or to culminated eventualities of different types. Grammatical aspect (as exemplified by the aspectual marking proper to the imperfect) is simply a sort of aspectual operator (expressed by inflectional morphology) turning predicates of a certain class (e.g., those referring to culminated events) into predicates of another class (e.g., those referring to states/processes). In other words, the underlying insight is that assuming a certain event ontology (i.e., a certain ^{partition} of the domain of eventualities over which predicate variables are assumed to vary) will help in understanding both aktionsart distinctions at the level of lexical meaning and aspectual distinctions at the level of inflectional morphology. Arguing against the

Aktionsart - propriedade do SDO lexical do predicado: Estado, processo, eventualidade q. culminam.

Aspecto - Operador aspectual que transforma predicados de 1.ª classe acional em predicados de outra classe gramatical.

mistura
analysis of the imperfect that I have just sketched thus entails arguing against the proposed conflation of the notional value of grammatical aspect with the notional value of aktionsart.

Let us turn thus to the announced criticism of the view of the imperfect as an aspectual operator mapping accomplishments into states/processes. In a nutshell, the point I wish to make is that coercion is simply not able to predict the actual interpretation of imperfective sentences. Consider first how aspectual coercion operates in languages such as English when there is a clash between the interpretation of the verbal predicate as a culminated event and the temporal interpretation of a location adverb. The standard situation is shown in (4)–(5).

(4) The pianist played the sonata for eight hours.

(5) For months, the train arrived late.

In both cases, the semantic clash is solved by turning the telic predicate into a predicate referring to iterative events: the reference is either to repeated executions of the sonata or to repeated late arrivals. The interpretation of (4)–(5) clearly shows that the iterative reading is a suitable way of turning telic predicates into durative predicates (i.e., predicates referring to states/processes). If the imperfect is essentially an operator mapping culminated events into states/processes, we clearly predict that the realization of (4)–(5) as imperfective sentences will give rise to the iterative reading. To put it in a stronger form, if the imperfect corresponds to a mechanism of grammatically encoded aspectual coercion, there is no reason to expect that grammatical encoding will be less effective than the kind of pragmatically encoded coercion instantiated in (4)–(5) in producing the iterative reading of the imperfective equivalents of (4)–(5). Unfortunately, what we find is that the iterative reading cannot be expressed by the imperfect in languages such as French and Italian. Using the latter for illustration, notice that (6) (the imperfective equivalent of (4) in Italian) and (7) (the imperfective equivalent of (5)) cannot be assigned an iterative reading, for which a perfective tense is required, as shown in (8) and (9). Analogous facts hold in French.

(6) Il pianista *eseguiva* la sonata per otto ore.
(*iterative, OK habitual)

'The pianist *played-IMP* the sonata for eight hours.'

(7) Per mesi, il treno *arrivava* in ritardo.
(*iterative, OK habitual)

'For months, the train *arrived-IMP* late.'

(8) Il pianista *esegui* la sonata per otto ore.
(OK iterative, *habitual)

'The pianist *played-PERF* the sonata for eight hours.'

Critica
a visão
do imperfeito
to como
operador
que
mapeia
accompl
a estados/
processos

Il pianista toccava a
sonata per 8 h.

Per mesi, o treno chegava
tarde

Il pianista toccò a
sonata per 8h

- (9) Per mesi, il treno *arrivò* in ritardo.

(OK iterative, *habitual)

'For months, the train *arrived-PERF* late.'

Por meses, o trem chegou atrasado.

Of course, one might try to say that the habitual reading (which is in fact the only legitimate reading of (6) and (7)) is simply a variant of the iterative reading and is actually preferred (admittedly for unclear reasons) to the iterative reading whenever grammatically induced aspectual coercion applies. However, the point is that the difference between the durative and the habitual readings has nothing to do with the conversion of culminated eventualities into states or processes. The difference concerns the modal force proper to the habitual reading, which is completely absent from the iterative reading. To see this, consider the following hypothetical situation. Suppose that in the 1940s the Teatro alla Scala had the sadistic habit of having a poor pianist playing one of Beethoven's sonatas for eight hours at every yearly opening of the concert season. Suppose that this tradition was in fact subsumed under the official regulations of the theater but underwent a forced interruption during the war—say, in the period 1942–1945. In these circumstances, one might actually utter a sentence like (10) *salva veritate*, while its perfective counterpart in (11) would be open to the objection that the crazy performance at stake did not take place in certain years. The reason is that the imperfective sentence in (10) may be interpreted in the worlds of a deontic modal base in which everything happens according to the theater regulations and without the intervention of limiting external factors, whereas the perfective sentence in (11) is necessarily interpreted in the real world (hence the falsity flavor of (11)). *lei/ dever*

- (10) Negli anni quaranta, ad ogni inizio di stagione, il pianista *eseguiva* la sonata di Beethoven per otto ore.

'In the forties, at every season opening, the pianist *played-IMP* Beethoven's sonata for eight hours.'

- (11) Negli anni quaranta, ad ogni inizio di stagione, il pianista *eseguì* la sonata di Beethoven per otto ore.

'In the forties, at every season opening, the pianist *played-PERF* Beethoven's sonata for eight hours.'

The conclusion I would like to draw from the discussion above is that the imperfect does not simply map telic predicates into durative predicates. Rather, it adds a modal dimension to the semantics of the past tense. In effect, one cannot even propose that mapping to durative predicates is an essential ingredient of the semantics of the imperfect, since the pure durative readings (like the iterative one) are not available as legitimate readings of imperfective sentences.

This casts serious doubts on the analysis of the imperfect as a polarity tense that applies only to states/processes. Even more significantly, it casts serious doubts on

Força modal da leitura habitual

10 - Nos anos 40, em cada abertura de concerto, o pianista tocava a sonata de Beeth. por 8h.

11 - Nos anos 40, em cada abertura de concerto, o pianista tocou a sonata de Beeth. por 8h.

the possibility of limiting the semantics of grammatical aspect to the same ontological domain that is relevant for aktionsart. These doubts are independently confirmed by the behavior of aspectually ambiguous verbs like *impugnare* ^{aperson-SC} ('to hold something' or 'to get hold of something') in Italian. Let us now turn to the analysis of this phenomenon, essentially following the argumentation developed in Bertinetto 2001. According to one of its two lexical meanings ('to get hold of something'), *impugnare* refers to a culminated event; according to the other, it refers to a process ('to hold something'). The view of the imperfect as a polarity tense selecting states/processes clearly predicts that the usage of *impugnare* in the imperfect should be unmarked with the meaning 'to hold something' and marked with the meaning 'to get hold of something'. At first sight, the prediction is borne out, as shown by the following examples in Italian (drawn from Bertinetto 2001):

- (12) Leo *impugnò* la pistola: tutt'intorno si fece subito silenzio.
'Leo got hold-*PERF* of his gun: all around a sudden silence arose.'
- (13) Quando Lia entrò, Leo *impugnava* la pistola.
'When Lia came in, Leo held-*IMP* the gun.'

However, it is not difficult to find cases where a perfective form combines with the durative meaning (14) and cases where the imperfect combines with predicates referring to culminated events (15).

- (14) Leo *impugnò* saldamente la pistola finché la sparatoria non finì.
'Leo firmly held-*PERF* his gun until the shooting was over.'
- (15) Quando Leo *impugnava* la pistola, Lia aveva paura. *Habitual*
'When Leo got hold-*IMP* of his gun, Lia was afraid.'

The striking fact about (15) is that in habitual sentences of this sort, aspectual coercion does not apply, contrary to the expectations raised by the theory of the imperfect as an aspectually sensitive tense. There is indeed no shift from the telic meaning of *impugnare* to its durative counterpart, since *impugnare* retains the original meaning 'to get hold of something' in (15). Notice that one may try to rescue aspectual coercion by proposing that the habitual variant of 'to get hold of something' qualifies as durative, satisfying as such the selectional requirements on the eventuality to which the imperfect applies. In fact, we saw earlier that French sentences such as *Anne écrivait une lettre* 'Anne wrote-*IMP* a letter' are normally interpreted either as habituais or as progressives. Above I provided a substantial argument against the view of habituality as an instantiation of the durative reading, but let us assume here, for the sake of the argument, that my objections can be circumvented. In a nutshell, the hypothetical rescuing strategy would claim that shifting the lexical meaning of 'to get hold of something' into its durative counterpart would not be required, since both the progressive and the telic variant of the predicate would suffice for the mapping

into states/processes. The trouble with this strategy is that the actual interpretation of (13) would represent an unsolvable puzzle. Namely, notice that (13) is assigned the reading 'Leo was holding the gun' in Italian, while the progressive reading of the telic counterpart of *impugnare* is completely excluded (*'Leo was getting hold of the gun'). If (15) is taken to show that the mapping into states/processes does not require a change of lexical meaning with predicates ambiguous between a telic and a durative reading, one would predict that there is no reason for the imperfect not to apply to the telic variant of *impugnare* and coerce it into its progressive reading ('to be getting hold of something'). The exclusion of this reading thus remains completely unexplained.

I take these facts to corroborate the view that aspectual coercion (and the related interpretation of the imperfect as a tense of aspectual polarity) cannot be the key to a proper understanding of the logical form and semantics of the imperfect.

The general conclusion I would like to draw is that aktionsart and grammatical aspect are orthogonal notions that make reference to distinct ontological properties of the domain in which they are interpreted. Adopting and somewhat extending the analysis advocated in Higginbotham 2000, I take aktionsart to be a lexical category that encodes the aspect of the ontological constitution of events that has to do with the homogeneity of its subparts. In a Davidsonian framework, the difference between telic predicates and states/processes can thus be expressed by associating telic predicates with a lexical structure containing two distinct event variables, corresponding to the two nonhomogeneous subparts of the telic eventuality (the processual part and the telos).

- (16) a. Telic: DIE $\langle e_1, e_2 \rangle$
b. Atelic: WALK $\langle e_1 \rangle$

Grammatical aspect is (at least in Romance/Germanic) an inflectional category that encodes a rather different aspect of the ontological constitution of events: their having (or not having) a culmination. This property is shared both by nonhomogeneous (telic) predicates like *die* and by homogeneous (process-denoting) predicates like *walk*, as is confirmed by the full legitimacy of the perfective variant of *walk* in Italian (17a) and by the results of the discussion above concerning cases like (14) (see Delfitto 2002a for a detailed discussion of some of the comparative issues at stake here). Formally, I interpret perfective marking as an inflectional category that acts as a predicate modifier: $\lambda Q \lambda e [Q(e) \wedge \text{Culm}(e)]$. In this way, the interpretation of the perfective realization of, say, *walk* will be something along the lines of (17b).

- (17) a. Leo *camminò* per tre ore.

'Leo walked-PERF for three hours.'

- b. $\text{WALK}_{\text{PERF}} = \lambda Q \lambda e [Q(e) \wedge \text{Culm}(e)] \leftrightarrow \lambda e [\text{walk}(e) \wedge \text{Culm}(e)]$

$\Rightarrow A \leftrightarrow B \text{ é vdd}$

qdo

$(A \rightarrow B \ \& \ B \rightarrow A)$

é vdd

$A \rightarrow$ modificador
do predicado

$\rightarrow$ que faz o

evento

culminar.

In this perspective, imperfective aspect will be the default case: an imperfectively marked predicate will simply express neutral information about whether the predicate refers to a culminated or to a nonculminated eventuality. This seems empirically correct in at least two respects. First, in habitual sentences such as (15) the imperfect refers to culminated events. Second, and even more importantly, the mereological aspects of the progressive interpretation of the imperfect (the fact that it refers to ongoing events or subparts of a culminated event) can be derived as a matter of implicature, under a straightforward application of Grice's Maxim of Quantity: the speaker who knows that the event he or she is referring to has culminated must use the perfective realization of the predicate (see especially Kearns 1991 for a detailed discussion of this issue).

Summarizing, we have seen that the view of the imperfect as a tense of aspectual polarity is fundamentally misguided. Empirically, it leads to a number of wrong predictions and to a vacuous dependence on aspectual coercion. Conceptually, it does not properly acknowledge that the imperfect (and grammatical aspect quite generally) encodes semantic instructions that cannot be reduced to a form of grammatically encoded aspectual coercion, consisting in the mapping of predicates referring to culminated events into predicates referring to durative events (states/processes). Moreover, we have seen that the imperfect, far from selecting predicates of states/processes, in fact expresses neutral semantic information regarding the choice between culminated and nonculminated events.

⇒ 4.2.2 The Quantificational Analysis of the Imperfect

Another influential analysis of imperfective aspect takes the present tense and the imperfect of stage-level predicates to encode a polarity feature that triggers the presence of a phonetically empty adverb of quantification (Q-adverb) with modal import (see especially Chierchia 1995). In this way, the French sentence (2) (restated here as (18)) is assigned the logical form in (19) (where C is a two-place predicative variable expressing a contextually determined relation between individuals and events in the past).

(18) Jean écrivait une lettre.

(19) $\text{Gen } [C(\text{Jean}, e)] [\exists y (\text{lettre}(y) \wedge \text{Agent}(\text{Jean}, e) \wedge \text{Theme}(y, e))]$

The truth-conditions informally expressed by (19) are that in all worlds of the relevant modal base, the occasions that favored writing a letter (in some contextually defined way) were occasions in which Jean actually wrote a letter. This analysis of the imperfect thus combines naturally with the relational view of genericity that takes English present tense sentences such as (20) to correspond with logical forms like (21).

imperfectivo
modal
Adverbio
de quantificação
fonética e
vazio.
(opaco)

codificar

escrita

contendo

forma lógica, e
considerando
a análise
quantificacio-
nal do
imperfecto

(20) Typhoons arise in this part of the Pacific.

(21) Gen(*I*) [this-part-of-the-Pacific(*I*)] [$\exists x$ (typhoon(*x*) $\wedge$ arise-in(*x*, *I*))]

Habitual sentences such as (18) are thus simply another instance of the relational interpretation of generic sentences (see especially Wilkinson 1991; Kratzer 1995).

In what follows, I will briefly present some empirical arguments against the view that the logical form of habituals is quantificational and that genericity involves the presence of a phonetically unrealized Q-adverb (see Delfitto 2002a for a more extensive discussion of the empirical shortcomings of the quantificational/relational view of genericity).

First argument. If the generic reading follows from the presence of an empty Q-adverb, we do not expect to find generic readings in sentences that contain overtly realized Q-adverbs. The reason is straightforward: if the overt Q-adverb binds the Davidsonian event variable associated with the predicate, the presence of Gen yields a violation of the constraint on vacuous quantification (i.e., there is no free variable for Gen to quantify over). To exemplify, a sentence like (22) would be assigned the logical form in (23).

(22) Gli italiani lavoravano spesso duramente.
'Italians often worked-IMP hard.'

Os italianos frequentemente trabalhavam duramente

(23) For many *e* [*C*(*I*, *e*)] [work-hard(*I*, *e*)]

However, sentences containing extensional Q-adverbs instead of the implicit Gen exhibit the usual modal effects that should be yielded by Gen, as is shown by the observation that the subject in (22) naturally refers to 'whoever may have turned out to be an Italian in the past' and not to some specific groups or generations of Italians who lived in the past. On the other hand, one cannot assume that these modal effects follow from the semantics of the overt Q-adverb *spesso* 'often', since the perfective counterpart of (22) in (24) can be interpreted only with the subject referring to some specific groups or generations of Italians who lived in the past.

(24) Gli italiani lavorarono spesso duramente.
'Italians often worked-PERF hard.'

Os italianos frequentemente trabalharam duramente

This means that the imperfective marking proper to (22) must encode a modal reading without enforcing, however, the presence of the modalized Q-adverb Gen (whose combination with *spesso* would yield vacuous quantification). The solution I intend to submit consists in the hypothesis that imperfective morphology encodes a subject-predicate logical format. As a consequence, (22) is associated with the logical form in (25), roughly stating that 'it is a property of Italians that they worked hard in many relevant situations in the past'.

(25) [λx Many *e* [*C*(*I*, *e*)] [work-hard(*I*, *e*)] (Italians)

Solução: morfologia do imperfeito codifica um formato lógico: sujeito - predicado.

If the modal reading is assumed to follow from the subject-predicate format, Gen can be dispensed with and there is no danger of vacuous quantification.

Second argument. Dobrovie-Sorin and Laca (1996) emphasize that the presence of Gen is empirically well supported only in contexts involving singular indefinites (see Delfitto 2002a for a detailed comparative analysis of the behavior of singular and plural indefinites). In particular, the behavior of singular indefinites suggests that Gen is licensed only in analytic/taxonomic contexts. This would explain why (26) is acceptable as a generic sentence, whereas (27) is not (a madrigal must be polyphonic in order to be a madrigal, but there are of course many madrigals that are not popular).

(26) A madrigal is polyphonic.

(27) ??A madrigal is popular. (generic)

The most straightforward explanation for the grammaticality contrast between (26) and (27) is that singular indefinites are variables, triggering the realization of an unselective binder in the form of an empty Q-adverb. The hypothesis is thus that the content of Gen can be recovered only in analytic contexts: in (27), there is thus no obvious way to identify the empty Q-adverb as a quasi-universal quantifier with modal force. What is also worth noticing is that the contrast between (26) and (27) is completely obliterated when the subject indefinites are bare nouns (both (28) and (29) are perfectly acceptable as generic sentences).

(28) Madrigals are polyphonic.

(29) Madrigals are popular.

These facts naturally follow from the combination of the Carlsonian insight that bare nouns are names of kinds with the predicational analysis of generic sentences (i.e., the hypothesis that the generic reading of (28)–(29) represents the semantics of the subject-predicate format). The point is that only the singular indefinite in (26)–(27) introduces a free variable that must be (unselectively) bound by the empty Q-adverb Gen. Since Gen is licensed only in taxonomic contexts, (26) will turn out to be acceptable and (27) unacceptable. We conclude that although the (constrained) presence of Gen is relatively well supported in contexts containing individual free variables, the absence of any grammaticality contrast between (28) and (29) shows that the roots of genericity do not lie in adverbial quantification.

Third argument. If Gen is an empty Q-adverb, we expect it to give rise to the same scope ambiguities that can be detected with overtly realized Q-adverbs. Consider for instance the ambiguity that arises with other scopal elements such as negation: depending on the position of the Q-adverb, the sentences in (30) are ambiguous between the reading in (31) and the reading in (32).

pari ho sl 3L

- (30) a. Michele *non fuma* spesso.
 'Michele *does not smoke* often.'
 b. Michele spesso *non fuma*.
 'Michele often *does not smoke*.'

(31) It is not the case that Michele often smokes.

(32) It is often the case that Michele does not smoke.

It is striking that this scopal ambiguity does not arise when the Q-adverb is—allegedly—the empty Gen: the sentence in (33) can be assigned only the reading corresponding to the logical construal in (32), with the negation in the scope of Gen.

- (33) Michele *non fuma*.
 'Michele *does not smoke*.'

These overgeneration problems do not arise within the predication analysis, since this analysis contends that there is no Gen in (33): the only admissible reading corresponds to the ascription of the property ' $\lambda x (x \text{ does not smoke})$ ' to Michele, which is roughly equivalent, truth-conditionally, to the logical construal in (32).

On the basis of these empirical arguments, I conclude that the quantificational analysis of habituals is empirically unsatisfactory. It follows that the view of imperfective aspect as encoding a polarity feature that triggers the presence of Gen is also not supported and should therefore be abandoned. In the next section, I turn to the predication analysis of imperfectively marked sentences, considering its empirical and conceptual advantages.

4.3 Imperfective Aspect as Encoding Predication

The hypothesis I would like to put forward here is that verbs that are aspectually marked as imperfective carry the semantic instruction that their maximal projection (VP) is to be interpreted as a one-place predicate (logical type $\langle e, t \rangle$). Within the current model of syntax, virtually all the verb's arguments have to vacate the VP as a result of the syntactic computation. One of the core questions that arise concerns the semantic nature of the relation between displaced arguments and their VP-internal traces. If we assume that syntactic movement uniformly reconstructs (in the sense that displaced arguments *can* be interpreted in their VP-internal launching site), traces of movement will not be related to their antecedents by means of predication: since the launching site potentially hosts the antecedent, there is simply no point in interpreting it as a *predicational* trace, that is, as a trace bound by a λ -operator. On the other hand, *this is exactly what imperfective marking is supposed to do according to my hypothesis*: it encodes the semantic instruction that one of the verb's arguments has to be interpreted predicationally, that is, by means of a λ -operator binding a

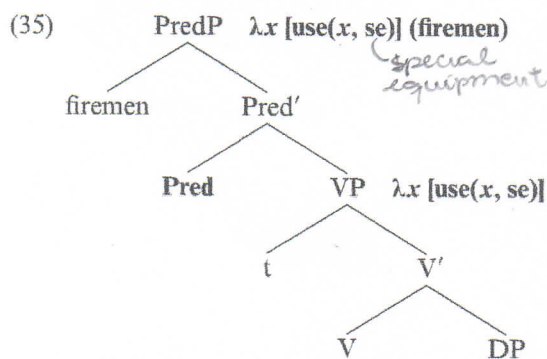
desocupar

lançamento

ligação

variable in the original VP-internal position. The best way of technically implementing this basic insight is as follows. When a verb is marked as imperfective, a designated functional projection PredP is syntactically realized and one of the verb's arguments must be displaced to Spec, PredP: the trace of this argument can be interpreted only predicationally, that is, in terms of a λ -operator binding a variable (see Delfitto 2002a, chap. 4, for independent morphosyntactic evidence in favor of the existence of Pred). Moreover, we can assume that the Pred head is endowed with specific semantic content, in the sense that it performs 'intensional type shifting' on the constituents that are found in its syntactic domain (the VP complement and the displaced argument in Spec, PredP, counting as a subject of predication). In this way, an imperfectively marked sentence will be interpreted as the ascription of the property expressed by the VP to the individual expressed by the constituent in Spec, PredP. To exemplify, a present tense sentence such as (34) will give rise to the syntactic and semantic structures shown in (35).

(34) Firemen use special equipment.



As can be seen in (35), the rationale of my proposal is that imperfective marking induces a predicational interpretation of the VP (the VP is essentially a λ -abstract, since the argument displaced to the Pred level cannot be reconstructed VP-internally). The categorical versus thetical interpretation of a sentence depends on the predicational versus propositional interpretation of the VP, which constitutes, in the traditional syntactic terminology, the minimal functional complex associated with the verb: if the VP is inherently predicational, as is the case in (35), there is no way to achieve a propositional interpretation of the minimal functional complex of the verb, that is, a thetical interpretation of the sentence.

The notion of predication that is assumed to be relevant here has to be carefully distinguished from the syntactic notion of predication (see Williams 1980), as involving the "external" realization of one of the verb's arguments. It must also be distinguished (as pointed out by Jacqueline Guéron (personal communication)) from

Interpretação { predicacional } do VP.
 { X }
 { proposicional }

the notion of predication that appears to be relevant for all structures where an unsaturated element (the predicate) combines (in various syntactic ways) with an argument expression (what we might call “Fregean predication”). These structures are arguably exemplified by clitic left-dislocation in Romance and even by simple clitic-constructions according to the analysis proposed in Delfitto 2002b, where pronominal clitics (including those that stand for predicates) are assumed to reopen the argument position to which they are formally related. The point to be made here is that in all these cases, functional abstraction appears to feed information structure (the left-dislocated argument is interpreted as a topic) and applies to both perfective and imperfective sentences. In fact, many of the sentences involving (left-)dislocated topics are arguably interpreted as thetical sentences, consisting in the presentation of an event rather than in the ascription of a property to an individual. Within the framework proposed here, this fact is captured by assuming that there is an interface level at which even topics undergo some kind of VP-internal “logical” reconstruction (say, through λ -conversion), on a par with the arguments of V that are syntactically displaced outside the VP. What imperfective morphology “encodes,” as emphasized above, is the interface instruction that one of the arguments of V (location arguments crucially included) is not allowed to reconstruct, either syntactically or “logically,” with the result that there will be no interface representation expressing a “thetical” interpretation of the relevant sentence. Analogously, I intend to propose that perfective marking does not prevent (parts of) a syntactic representation from expressing functional abstraction, possibly feeding specific interpretive (sub)systems, among them information structure; instead, what perfective marking establishes is the requirement that there be an interface representation where the linguistic expression corresponding to the VP is viewed as a fully saturated expression (this interface representation being relevant for the thetical interpretation of the sentence).

On the basis of these theoretical preliminaries, let us now look briefly at one decisive theoretical merit of the proposed interpretation of imperfective marking as predication, that is, the possibility of identifying the common denominator of the two most salient readings of imperfective sentences: the habitual and the progressive.

Let us start with the habitual reading. Under the most fashionable analysis, the habitual reading corresponds to a relation between two classes of events, and this relation is expressed by a (possibly implicit) Q-adverb. As already emphasized in section 4.2, the trouble with this analysis is that the relational interpretation is found both with imperfective and with perfective predicates. To exemplify, consider the fact that the interpretation of (36) and (37) in Italian is virtually the same and can be roughly expressed by the logical representation in (38).

(36) Nel 1922, il preside della Facoltà di Lettere *indossò sempre* la cravatta.

‘In 1922, the dean of the Faculty of Arts always *wore-PERF* a tie.’

(37) Nel 1922, il preside della Facoltà di Lettere *indossava* sempre la cravatta.
 'In 1922, the dean of the Faculty of Arts always *wore-IMP* a tie.'

(38) $\forall e [\tau(e) \subset 1922 \wedge C(\text{the dean}, e)] [\text{wear-a-tie}(\text{the dean}, e)]$
 where $\tau(e)$ denotes the time stretch of event e .

In informal terms, all the events in 1922 in which the dean had the opportunity of wearing a tie have been events in which the dean actually wore a tie. If what we are looking for is the difference between perfective marking in (36) and imperfective marking in (37), it is thus safe to conclude that the difference has nothing to do with the relational interpretation induced by Q-adverbs (including the implicit Gen, as discussed in section 4.2).

The truth-conditional difference between (36) and (37) consists in the modal dimension proper to (37) and absent from (36). To exemplify, let us suppose that the following hypothetical situation holds. After accurate research in the university archives, I could determine that in 1922 there could be no opportunity for the dean to wear a tie on formal occasions, because the university could not function normally as a result of political turmoil. However, suppose that I could also determine that, according to the university regulations of 1922, the dean was requested to wear a tie during any formal ceremony involving staff and students. It is now a fact that, according to native speakers of Italian, my utterance of (37) (which involves imperfective marking) gives rise to a true sentence in the situation just described (where no formal ceremony took place because of abnormal functioning), while (36) is clearly evaluated as false in the same circumstances. In other words, the truth of (37), contrary to the truth of (36), does not require events of the relevant kind to have taken place in the real world. Rather, for (37) to be true, it suffices that the relation "wear-a-tie(the dean, e)" holds in all possible situations that conform with the university regulations. More formally, we can say that (37) is true in the real world if and only if the relation "wear-a-tie(the dean, e)" holds in all the worlds of the *deontic* modal base that is relevant for this relation. Since I have already argued (see section 4.2) that the detected modal import cannot be encoded by Q-adverbs, it is quite reasonable to let it follow from the semantics of the predicational format. In full agreement with the discussion above, I propose, for (37), the logical representation in (39).

(39) $[\lambda x \forall e [\tau(e) \subset 1922 \wedge C(x, e)] [\text{wear-a-tie}(x, e)]] (\text{the dean})$

Informally, in 1922 wearing a tie on formal occasions was a property of the dean.

From this discussion, we can conclude that the habitual reading of imperfective sentences is not due to the presence of Q-adverbs (or of polarity features triggering the presence of Q-adverbs). Rather, the modal import proper to habitual sentences follows from their predicational format: if a Q-adverb is present, it will simply induce

Senza que
funzionaria
assm para
o português?

a relational interpretation of the property that is ascribed to the subject of predication, as is the case in (39).

It is time now to turn to the progressive reading of imperfective sentences. At first sight, there seems to be no point in arguing that imperfectives interpreted as progressives are assigned predicational formats at the level of LF. Intuitively, sentences such as those in (40) instantiate typical thetical structures, since they arguably express the information that a certain event (*viz.*, the crossing of the street) is developing (i.e., Holds) at a certain evaluation time (the time expressed in (40) by the adverb of temporal location).

- (40) Alle cinque, Teo attraversava la strada.
at five Teo crossed-IMP the street

'At five o'clock, Teo was crossing the street.'

Despite these appearances, I will actually argue that even progressives are assigned a categorical interpretation (i.e., they are interpreted predicationally) when they are realized as imperfectives.

Before I come to the main issue, some preliminary remarks are in order. As is well known, the semantics of progressive aspect includes not only event mereology (i.e., the possibility of referring to subparts of larger events) but also a set of contextual factors. In the formal semantics literature, these factors have been most commonly analyzed in terms of possible worlds/situations (Landman 1991) or in terms of concomitant facts and conversational backgrounds (Bonomi 1997). One of the most debated problems concerns Dowty's (1979) notion of inertia worlds, according to which the worlds belonging to the modal base can be characterized by restricting one's attention to the most natural development of the event holding at the evaluation time. Suppose one utters (41).

- (41) Teo was crossing the street when a car hit him.

According to Dowty's proposal, (41) is true if and only if its most natural development leads to its completion (not necessarily in the real world, where some accident might have prevented Teo from reaching the other side of the street). The trouble is that every speaker of English would agree, as a matter of world knowledge, that the most natural continuation of the event holding at *t* (the crossing) does not involve reaching the other side of the street in the situation described in (41), where a car hit poor Teo. Landman (1991) has proposed a solution to this problem that is informally based on the idea that the worlds of the modal base have to be those in which only the "internal" development of the event is considered (in this way, the fact that poor Teo was hit by the car in (41) is simply put out of the picture in establishing whether there is a "possible" culmination of the relevant event). The logical form corresponding to (41) will be something like (42) (adapted from Landman 1991).

ATRIBUÍDO

Às 5, Teo atravessava a rua.

Relação entre as partes e o todo! ☺



condição

- (42) $\exists e' \exists t [\text{AT}(e', t) \wedge \text{PROG}(e', \lambda e (\text{crossing}(e) \wedge \text{Agent}(\text{Teo}, e) \wedge \text{Theme}(\text{the street}, e)))]$

Inspection of (42) reveals that the progressive operator PROG is formally analyzed as a relation between events and predicates of events. The truth-conditions for this relation are as follows:

- (43) $[\text{PROG}(e, P) \wedge \text{AT}(e, t)]$ is true at w iff $\exists w'$ in the continuation branch of e in w such that $e \subseteq e'$ and $P(e')$ and $t \subset \tau(e')$ (where τ is a function assigning a temporal extension to events)

What Landman's formalization satisfactorily captures is the insight that an event e can be said to hold at t if and only if by inspecting the continuation of e that stems from the internal constitution of e (continuation branch), we arrive at a possible situation w' (that qualifies as reasonable with respect to the real world w) in which e culminates (this culminated event being in the extension of the predicate P). In this way, (41) is correctly predicted to be true if Teo was crossing the street without being able to reach the other side, because of the accident that happened to him. The point is that we have the intuition that there is a possible situation qualifying as a reasonable option for the event initiated in the real world, in which Teo actually reached the other side of the street. At the same time, we can also account for the clear contrast between (41) and sentences of the kind exemplified in (44).

- (44) Teo is wiping out the Roman army. *Teo estava acabando do exército romano*

In the case of (44), we want the sentence to be false in a situation in which Teo has already killed, say, three Roman soldiers and is still busy fighting. Landman's truth-conditions correctly capture this intuition: at a given point, the continuation branch of e (on our way toward culmination) will be in a world w' that no longer qualifies as a reasonable option with respect to the original situation in the real world (e.g., the world w' in which Teo has already killed a thousand Roman soldiers; see also Zucchi 1999, 184). It is worth noting that nonmodal approaches to the semantics of the progressive (see especially Parsons 1990) cannot capture this difference between (41) and (44). There, developing events are in the extension of the predicate *Hold*, while culminated events are in the extension of the predicate *Culminate*. However, we do not know under which conditions the predicate *Hold* truly applies to e at t . For instance, in both (41) and (44) the holding event qualifies as a proper subpart of its culminated counterpart. The trouble is that we want to say that the event of crossing the street holds at t (41), while the event of wiping out the Roman army does not hold at t (44). This crucial insight remains dangerously unexpressed in Parsons's formalism.

However, despite its merits, Landman's semantics for the progressive, as it stands, is unsuited to my purposes, in that it does not properly acknowledge that predicates

inadequada

of events can refer, in their basic form, to holding events. This assumption is necessary in order to express the insight that aspectually unmarked forms convey neutral information about the culmination of the events they refer to: *as we have seen in the previous section, imperfective marking is compatible with reference to culminated events*. In order to see how this feature of Landman's analysis manifests itself within the formalism he proposes, notice for instance that in (42) it is only the culminated event e , but not the developing event e' , that is said to be in the extension of the predicate *cross*. In order to repair this deficiency of Landman's formalism, while preserving the crucial advantages of the modal analysis, I will basically adopt Zucchi's (1999) proposal, which consists in embedding into a modal framework Parsons's (1990) insight that basic forms can refer to developing events. For a sentence such as (41), Zucchi's analysis would provide the logical form in (45) (adapted from Zucchi 1999).

mistura da semântica de eventos e a intensional?

- (45) $\exists e \exists t [\text{crossing}(e) \wedge \text{Agent}(e, \text{Teo}) \wedge \text{Theme}(e, \text{the street}) \wedge \text{AT}(e, t) \wedge \text{Hold}(e, t, \lambda e [\text{crossing}(e) \wedge \text{Theme}(e, \text{the street})])]$

What (45) does is repair the reported absence of conditions on the predicate *Hold* by requiring that the relevant crossing event have its culminated counterpart on its continuation branch in order to hold at t (Zucchi 1999, 194).

Now that I have sketched a formal analysis of progressive aspect that seems more promising in view of the requirements on imperfective marking that emerged in section 4.2, it is time to go back to the main issue: How do the truth-conditions proposed for the progressive relate to the semantic instructions encoded by the imperfective aspect? And what do progressivity and habituality have in common?

Questão principal

Let us start with the latter question. On the basis of the foregoing discussion, we can conclude that what progressives and habituals certainly have in common is the fact that the truth-conditions we have defined for both of them clearly require evaluation with respect to a well-established set of possible worlds (modal base). In other words, the point I wish to make is that the modal dimension that has been detected in the analysis of habituals is also clearly required for an adequate analysis of the truth-conditions of progressives. What remains to be shown is that the modal dimension of progressives follows, as is arguably the case with habituals, from the predication format encoded by means of imperfective marking.

Progressivos e habituais: leitura modal.

I would submit that this hypothesis is actually supported by a proper analysis of the role played, in progressive sentences, by adverbs of temporal location. For instance, in (40) (repeated here) the temporal adverbial provides the time at which the crossing event is said to hold.

- (40) Alle cinque, Teo attraversava la strada.
at five Teo crossed-IMP the street
'At five o'clock, Teo was crossing the street.'

Emboldurado

Adopting the insightful suggestions made by Jespersen (1924) and Kearns (1991), we might express this fact by claiming that progressives express readings in which the time of the event is somehow "framed" by the event itself. This would be consistent with the event mereology involved in the semantics of progressive aspect, in full agreement with my claim that imperfective marking is neutral with respect to the culmination of the event(s). On the other hand, we have just seen that the conditions on the predicate Hold at t crucially involve reference to the possible continuation of the holding event, up to culmination. We can see the culminated event e' as framing the evaluation time t at which a subpart of e' —say, e —is said to hold.

My claim is that this "frame interpretation" is syntactically encoded by means of a predicational format involving a subject-predicate structure. The subject of predication is the evaluation time t .

Let us consider this hypothesis in some detail. From the semantics of the progressive sketched above, we derive the important consequence that, in speaking about developing events, we are actually "framing" a certain time t , which acquires a sort of conceptual prominence. The idea is that this intuitive prominence is formally expressed by a logical format in which the framed time counts as a subject of predication. In this way, we clearly shift from a thetical to a categorical interpretation of the progressive aspect. For a sentence like (46), the truth-conditions that most conveniently suit its logical form (a consequence of the predicational format in syntax) are those informally spelled out in (47), rather than those spelled out in (48).

(46) At five o'clock, Teo was eating an apple. *As 5h Teo estava comendo uma maçã*

(47) The time five o'clock is such that an event of eating (by Teo) was developing at it.

(48) There has been an event of eating (by Teo) that was developing at five o'clock.

There is some additional empirical evidence, from Italian, that this hypothesis is on the right track. Bianchi, Squartini, and Bertinetto (1995) observe that punctual adverbials necessarily occur, with progressive sentences, in positions outside the "predicative nucleus" of the sentence, that is, either right- or left-dislocated. Occurrence in a nondislocated position (i.e., postverbally and with unmarked intonation) yields ungrammaticality. The relevant paradigm is given in (49), where the progressive reading is encoded by means of the imperfect.

(49) a. Alle cinque, Teo *mangiava*.
'At five o'clock, Teo ate-IMP.'

b. Teo *mangiava*, alle cinque.
'Teo ate-IMP, at five.'

c. #Teo *mangiava* alle cinque.
'Teo ate-IMP at five.'

As 5h, Teo comia

Teo comia, as 5h

Teo comia 'as 5h

Prog.*

habit*

*Em Port.

The most noticeable fact about (49) is that it is not the case that (49c) is simply ungrammatical with the imperfect. Rather, it is ungrammatical under the progressive reading of the imperfect. Under the habitual reading ('In the relevant period, Teo used to eat at five o'clock'), (49c) is fully acceptable. Bianchi, Squartini, and Bertinetto (1995) explain (49) by assuming that the punctual temporal adverbs involved denote a perspective point *P* by means of which the speaker "introduces a particular perspective on the event" (p. 320). They also propose that "the syntactic prominence of *P* is related to its prominence in the informational structure of the text" (p. 320). Notice that the framework I have developed permits an elegant translation of all these insights. The punctual adverbs that undergo dislocation are exactly those adverbs that most readily allow a "frame interpretation." The contextual prominence can be naturally understood in terms of the "framing effect" described above. Last but not least, syntactic prominence should be understood in terms of predication: whatever the final syntactic position of the punctual adverb may be, it is my claim that the movement path of the adverb crucially involves displacement to the PredP layer, as a result of the aspectual information encoded on the verb (i.e., the semantic instruction according to which the VP must be interpreted as a "predicative" category that ascribes a property to an object). Under the hypothesis that temporal adverbs expressing the event time occur VP-internally (see Larson 1988; Bertinetto and Delfitto 2000), the requirement that they be displaced to Spec, PredP yields a categorical structure in which they count as subject of predication. The result of this analysis is that the sentence in (40) is assigned the logical form in (50).

- (50) $[\lambda t (\exists e [\text{crossing}(e) \wedge \text{Agent}(\text{Teo}, e) \wedge \text{Theme}(e, \text{the street}) \wedge \text{AT}(e, t) \wedge \text{Hold}(e, t, \lambda e [\text{crossing}(e) \wedge \text{Theme}(e, \text{the street})])])]]$ (five o'clock)

Compare the logical form in (50) with the logical representation that I proposed for habitual sentences, as exemplified in (39). In both cases, we have a property ascribed to a subject (the λ -abstract corresponding to the VP is interpreted intensionally). In order to reach this result, I have simply capitalized on the two essential semantic ingredients of imperfective morphology:

1. the fact that it encodes a predicative interpretation of the VP and
2. the fact that it expresses neutral information with respect to the ontological constitution of the event.

We have seen that both habituals and progressives are based on a predicational format. As for claim 2, neutrality manifests itself in the fact that habituals typically involve culminated events, whereas progressives normally refer to holding events. Of course, I have not explained how a speaker, given a sentence with imperfective marking, can disambiguate between a progressive reading and a habitual one (by deciding, for instance, which of the arguments of the verb gets interpreted as the

Assim
como em
ptg! :)

subject of predication). In fact, as far as we know, this might be the product of a complex interplay of syntactic, semantic, and pragmatic factors that remain to be sorted out. However, notice that given an imperfective sentence like (51a) in a non-narrative context, there is full ambiguity, in Italian, between the progressive and the habitual readings.

- (51) a. Teo *mangiava* una mela. *Teo comia una mela*
 'Teo ate-IMP an apple.'
 b. 'Teo was eating an apple.'
 c. 'Teo used to eat an apple.'

We can interpret this ambiguity as evidence that, as far as the semantics of the imperfect goes, the choice between the two readings is entirely free. This is so because the semantic constraints encoded by imperfective morphology are flexible enough to leave extra room for distinct interpretive choices. The point is that imperfective morphology expresses interpretive constraints (concerning the intensional interpretation of an abstract predication format) that are compatible with both readings. The semantic instructions encoded in morphosyntax constrain interpretation by inducing an abstract subject-predicate format, without deciding, however, between the progressive and the habitual readings.

4.4 The Present Tense Paradox

In the 1970s, Gregory Carlson proposed an elegant analysis according to which bare subjects (i.e., determinerless noun phrases occurring as subjects) can be interpreted existentially only if they combine with stage-level predicates (essentially, predicates expressing reports on the passing scene) (Carlson 1980). Subsequent empirical research led to the conclusion that the data are in fact, from this theoretical perspective, quite paradoxical: existential readings are also found with individual-level predicates, as is the case in (52), while there are stage-level predicates that do not license the existential interpretation of their subjects, as can be seen in (53). Both sets of facts are quite puzzling in Carlson's perspective.

- (52) Typhoons arise in this part of the Pacific.
 'It is a property of this part of the Pacific that some typhoons arise in it.'

- (53) Firemen are joyful/invisible/on holiday.
 $\exists x (\text{fireman}(x) \wedge \text{joyful/invisible/on holiday}(x))$

On the basis of the class of facts exemplified by (52), Kratzer (1995) proposed a substantial revision of Carlson's theory, according to which bare nouns are interpreted as introducing a restricted variable that is quantified over by the variable-taking operators $\exists$ and Gen. Within Kratzer's analysis, stage-level predicates are interpreted



as those predicates that express a temporary property of individuals and differ from individual-level predicates (which refer to permanent properties of individuals) in argument structure terms. More exactly, there are two relevant argument structure properties. The first concerns the fact that, unlike individual-level predicates, stage-level predicates are endowed, with a (possibly implicit) spatiotemporal argument expressing spatial or temporal location. In this way, one can account for the interpretation associated with (52) by simply assuming that the variable introduced by the bare subject is quantified over by $\exists$, whereas Gen binds the variable introduced by the overt locative. This leads to the logical representation in (53), which provides the desired reading of (52). 54

locative
evidente

(54) $\text{Gen}(I) [\text{this-part-of-the-Pacific}(I)] \exists x [\text{typhoon}(x) \wedge \text{arise-in}(x, I)]$

This hypothesis also provides an adequate logical representation of sentences such as (55), where there is no overt locative, under the assumption that the abstract location argument associated with stage-level predicates need not be phonetically realized in order to be syntactically represented. The relevant logical form is given in (56).

(55) Firemen are available. accessíveis

(56) $\text{Gen}(I) [\text{here}(I)] \exists x [\text{fireman}(x) \wedge \text{available}(x, I)]$

'There are typically some firemen available around here.'

The second difference in argument structure proposed by Kratzer is that the subject of individual-level predicates cannot be in the scope of the existential operator (this result is achieved, technically, by stipulating that the syntactic domain of existential quantification is the VP and that subjects of individual-level predicates are generated outside the VP and cannot be reconstructed VP-internally). This second property is needed in order to correctly exclude the existential reading of sentences like (57), shown in (58). Namely, notice that nothing prevents $\exists$ from quantifying over the variable introduced by the subject, unless it is explicitly assumed that this variable falls outside the scope of $\exists$.

(57) Typhoons are dangerous.

(58) $\exists x [\text{typhoon}(x) \wedge \text{dangerous}(x)]$

insustentável

Here, I would like to argue that Kratzer's analysis, in spite of its attractive features, is empirically untenable. In particular, there are no argument structure differences between stage-level predicates and individual-level predicates. The point is that it is not difficult to find predicates that express temporary properties but do not admit an existential interpretation of their subject. A sentence such as (59) should license both interpretations in (60) according to Kratzer's analysis: (60a) corresponds to the reading in which the variable introduced by the subject, being reconstructed

VP-internally, is in the scope of $\exists$, while (60b) corresponds to the reading in which $\exists$ is in the scope of the quasi-universal quantifier on spatiotemporal variables.

(59) Typhoons arise suddenly.

(60) a. $\exists x (\text{typhoon}(x) \wedge \text{arise-suddenly}(x))$

'There are typhoons that arise suddenly.'

b. $\text{Gen}(I) [\text{here}(I)] \exists x [\text{typhoon}(x) \wedge \text{arise-suddenly}(x)]$

'There are typically typhoons that arise suddenly around here.'

*(as leituras não
estão de acordo
com a interpretação
intuitiva da 5.)*

The unavailability of both readings in (60) is entirely unexpected, especially if we consider that the predicate *arise-suddenly* gives rise to the kind of semantic ambiguities that are proper, according to Kratzer, to stage-level predicates. Namely, a sentence like (61) can be interpreted, in the appropriate contexts, both as (62a) and as (62b).

(61) Almost all diseases arise suddenly in tropical countries.

(62) a. 'Almost all diseases arise suddenly when they happen to arise in tropical countries.'

b. 'Almost all diseases in tropical countries arise suddenly.'

Another relevant case concerns the difference between transitive predicates and unergative predicates. In the literature, it is often emphasized that sentences such as (63), involving a stage-level transitive predicate, are easily interpreted, modulo some prosodic and contextual factors, as licensing an existential interpretation of the subject ('It is a property of modern planes that there are some computers that route them').

(63) Computers route modern planes.

Now, it is a fact that neither context nor prosody can rescue an existential reading of the subject in sentences involving the kind of unergative predicates instantiated in (64).

(64) a. Students work hard.

b. Professors wear a tie.

c. Italians drive fast.

In the case of (64a), for instance, both interpretations shown in (65) are completely excluded.

(65) a. $\exists x (\text{student}(x) \wedge \text{work-hard}(x))$

'There are students who work hard.'

b. $\text{Gen}(I) [\text{here}(I)] \exists x [\text{student}(x) \wedge \text{work-hard}(x)]$

The unavailability of the existential readings in (60a) and (65a) clearly suggests that VP-internal reconstruction does not really discriminate between stage-level and

individual-level predicates. If reconstruction were uniformly admissible for stage-level predicates, we should expect both (60a) and (65a) to be legitimate readings, contrary to the facts. One might argue that the existential reading of the subject is indeed possible (via VP-internal reconstruction) but triggers an illegitimate vacuous quantification configuration, owing to the absence of an appropriate bindee for the Gen operator present in the structure. However, if this is the case, one predicts that the prospects for the existential reading of the subject should improve if an appropriate bindee is actually added to the structure, in the form of the abstract location argument proposed by Kratzer. Unfortunately, this prediction is not borne out, since the logical forms in (60b) and (65b) do not correspond to legitimate interpretations of (59) and (64a), respectively. On the basis of these facts, we are led to conclude that the distribution of the existential readings cannot be easily reduced to the set of differences in argument structure between stage-level and individual-level predicates proposed by Kratzer.

Now, consider the following alternative hypothesis. Suppose that all present tense sentences (since they involve imperfective marking) are interpreted "categorically," that is, as the ascription of a property to a subject of predication, as argued in section 4.3. This means that all present tense sentences will have a subject of predication that cannot be reconstructed, independently of the stage-level/individual-level distinction. Of course, the subject of predication (i.e., the referential constituent that is displaced to the PredP level) need not coincide with the grammatical subject, as repeatedly emphasized in section 4.3. In this perspective, the relevant difference between a sentence like (52) and a sentence like (59) is that in the former, contrary to what happens in the latter, there is a spatial location argument, distinct from the grammatical subject, that may count as a subject of predication. If this is what happens in (52), there will be no need for the grammatical subject to be displaced to the PredP level. Whatever the final syntactic position of the grammatical subject may be, VP-internal reconstruction will be permitted and this will automatically turn the existential reading of the subject into a legitimate construal. In (59), on the contrary, there is no argument—besides the grammatical subject—to be "promoted" to the PredP level. Displacement of the grammatical subject to the PredP level will be the only way to ensure that the structure is interpreted categorically, as required by the semantic instruction encoded by imperfective marking.

The same explanatory paradigm can now be applied to the analysis of the contrast between transitive sentences like (63) and the intransitive sentences in (64). In (63) there is a legitimate construal in which the direct object counts as the subject of predication (with the grammatical subject reconstructed VP-internally), whereas in (64) the grammatical subject necessarily coincides with the logical subject (this arguably rules out the existential construal associated with VP-internal reconstruction). Notice that this style of explanation implies a complete rejection of Kratzer's

hypotheses. It is not true that predicates expressing a temporary property uniformly license a (possibly null) spatiotemporal argument: if this were the case, the null location argument might be promoted to logical subject in (59) and (64) and we would be left without a principled explanation for the exclusion of the existential reading of the grammatical subject. It is also not true that predicates expressing a temporary property uniformly admit VP-internal reconstruction of their grammatical subject: if this were the case, the existential interpretation of the grammatical subject in (59) and (64) should be fully legitimate. In a nutshell, these remarks show that it is preferable to replace the lexical opposition between stage-level and individual-level predicates with the grammatical opposition between perfectly and imperfectly marked predicates: the latter, which instantiate the default aspectual marking, uniformly encode a categorical interpretation of the sentence (hence a nonexistential interpretation of the grammatical subject in all structures in which there is no extra argument available as the logical subject). If this analysis is essentially correct, it provides indirect empirical corroboration for the logical interpretation of aspectual marking that I proposed in section 4.3: the absence of certain existential readings clearly correlates with the categorical interpretation of all imperfectly marked sentences.

In fact, I believe there is another nice extension of this explanatory paradigm, which somehow completes the resolution of the present tense paradox. Consider the following facts. In the literature, there is widely considered to be a large set of non-verbal heads that behave quite differently from predicates like *to be available* in (55), even though they express a rather extreme sort of temporary property, namely, a report on contingent events or states ("reports on the passing scene"). Some of them have already been instantiated in (53). Other examples are given in (66) (see Delfitto 2002a and the references quoted therein).

(66) Firemen are rich/sad/hungry.

What we should manage to explain is why a null location argument is arguably licensed with predicates like *available* in (55) and completely excluded with the kind of predicate in (66). From Kratzer's perspective, all these predicates should qualify as stage-level (they clearly refer to temporary properties). This shows that what is relevant for an explanation is certainly not the boundary between stage-level and individual-level predicates. As originally noted by Higginbotham and Ramchand (1996), predicates such as *available* involve a notion of spatiotemporal location in the form of spatiotemporal proximity to the speaker: *available* in (55) actually means something like 'available around here' (at least whenever the sentence is uttered in an "out-of-the-blue" context). Licensing of a null location argument thus correlates with the assignment of a default indexical reading: only the cases where speaker orientation is somehow encoded in the lexical meaning of the predicate will be cases where a

phonetically silent location argument is syntactically licensed and possibly promoted to logical subject. There is in fact a striking empirical observation that strongly corroborates the hypothesis that predicates allowing existential readings are predicates expressing the speaker's point of view. There is a systematic correlation between the availability of existential readings in English and the availability of postverbal subjects with unmarked interpretation in Italian. To see this, let us consider the following English predicates, all allowing an existential reading of the subject:

- (67) a. Firemen are available.
 b. Firemen are on strike.
 c. Firemen are nearby.

The Italian equivalents of (67) are sentences involving a postverbal realization of the subject. This subject is not necessarily interpreted as the only focused constituent of the sentence (narrow focus); rather, the whole sentence is easily interpreted presentationally, in terms of an "all-focus sentence" ('There are some firemen available/on strike/nearby'). The relevant examples are given in (68).

- (68) a. Sono disponibili pompieri/i pompieri.
 are available firemen the firemen
 'There are firemen available around here.'
 'Firemen are available around here.'
 b. Sono in sciopero pompieri/i pompieri.
 are on strike firemen the firemen
 'There are firemen on strike around here.'
 'Firemen are on strike around here.'
 c. Ci sono qui vicino pompieri/i pompieri.
 there are here nearby firemen the firemen
 'There are firemen nearby.'
 'Firemen are nearby.'

(os) Bombeiros estão / são disponíveis

Bombeiros estão em greve

(os) bombeiros estão por perto

As the English translations show, all sentences in (68) involve spatiotemporal proximity to the speaker whenever interpreted "out of the blue." Apparently, licensing a neutral interpretation of the postverbal subject involves licensing of a null location argument expressing spatiotemporal proximity to the speaker. This empty spatiotemporal argument is likely to play a crucial role in ensuring that inversion structures are syntactically licensed while receiving an "all-focus" interpretation. A possibility that comes to mind is that the Extended Projection Principle (EPP), or whatever condition is assumed to subsume it (like checking of a strong D-feature in T in the minimalist system of Chomsky 1995), is satisfied by covert displacement of the empty locative to the relevant syntactic position. In this way, we predict that in intransitive structures where there is no empty locative, it is the grammatical subject that

obligatorily moves to Spec,T in order to satisfy the EPP. If the subject surfaces postverbally, this position is arguably the result of some marked (i.e., informationally related) rightward movement strategy: the subject moves rightward in order to find itself in a position where it can be assigned "narrow focus" (a sort of "prosodic movement" in the sense of Zubizarreta 1995). This prediction is clearly borne out. The Italian equivalents of (66) (for which I have argued that the ban on the existential reading of the subject depends on the absence of an empty locative) are necessarily interpreted with a narrow focus reading of the inverted subject: since the EPP cannot be satisfied by the empty locative, the structure necessarily involves rightward prosodic movement.

- (69) a. *Sono ricchi pompieri/i pompieri.

(OK with narrow focus of the inverted subject)

'There are rich firemen.'

'Firemen are rich.'

Existential bombeiros ricos
(Os) bombeiros são ricos.

- b. *Sono tristi pompieri/i pompieri.

(OK with narrow focus of the inverted subject)

'There are sad firemen.'

'Firemen are sad.'

tristes

- c. *Sono affamati pompieri/i pompieri.

(OK with narrow focus of the inverted subject)

'There are hungry firemen.'

'Firemen are hungry.'

famintos

The proposed correlation between existential reading of the subject in English and unmarked subject inversion in Italian thus corroborates the view that the presence of a null spatiotemporal argument is not a property of all stage-level predicates. In fact, only a small fraction of stage-level predicates interpreted as reports on the passing scene license empty locatives, whose presence is essential to the existential reading of the subject. This is due to the fact that existential readings are based on the availability of a subject of predication distinct from the grammatical subject: for a subset of the sentences interpreted as reports on the passing scene, this logical subject can coincide with a phonetically unrealized location argument. This conclusion shows that what is relevant to a proper understanding of the existential readings is the aspectual opposition perfective/imperfective, and not the lexical opposition stage-level/individual-level. It also provides additional empirical evidence for the categorical status of progressives and, more generally, sentences expressing reports on contingent events or states: in spite of their intuitive presentational status, these sentences are uniformly associated with a subject-predicate logical form. It is this logical form that arguably leads to a resolution of Carlson's present tense paradox.

?

4.5 Conclusions

In this chapter, I have argued against two influential analyses of imperfective morphology: (i) the imperfect as an aspectually sensitive tense and (ii) the imperfect as encoding quantification over individuals or events. The analysis I developed views imperfective marking as encoding a predication interpretation of the minimal functional complex (VP) of the predicate to which it applies: imperfective sentences are thus uniformly interpreted as the ascription of a property to an object/individual. What the two most salient readings of the imperfect (the progressive reading and the habitual reading) have in common is a predication logical form and its concomitant modal import. Imperfective morphology expresses default semantic instructions (concerning culmination and predication) that do not discriminate between progressivity and habituality. Moreover, I have argued for the view that progressives are not “thetical” sentences expressing reports on the passing scene. Rather, they have the predication format proper to generic sentences, a fact that helps clarify the intriguing set of facts that I have dubbed the “present tense paradox.”

References

- Bertinetto, P. M. 2001. On a frequent misunderstanding in the temporal-aspectual domain: The ‘perfective-telic confusion’. In C. Cecchetto, G. Chierchia, and M. T. Guasti, eds., *Semantic interfaces*, 177–210. Stanford, Calif.: CSLI Publications.
- Bertinetto, P. M., and D. Delfitto. 2000. Aspect vs. actionality: Why they should be kept apart. In Ö. Dahl, ed., *Tense and aspect in the languages of Europe*, 189–225. Berlin: Mouton de Gruyter.
- Bianchi, V., M. Squartini, and P. M. Bertinetto. 1995. Perspective point and textual dynamics. In P. M. Bertinetto, V. Bianchi, J. Higginbotham, and M. Squartini, eds., *Temporal reference, aspect and actionality*, 309–324. Turin: Rosenberg and Sellier.
- Bonomi, A. 1997. The progressive and the structure of events. *Journal of Semantics* 14, 173–205.
- Carlson, G. N. 1980. *Reference to kinds in English*. New York: Garland.
- Chierchia, G. 1995. Individual-level predicates as inherent generics. In G. N. Carlson and F. J. Pelletier, eds., *The generic book*, 176–223. Chicago: University of Chicago Press.
- Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Delfitto, D. 2002a. *Genericity in language*. Alessandria, Italy: Dell’Orso.
- Delfitto, D. 2002b. On the semantics of pronominal clitics and some of its consequences. *Catalan Journal of Linguistics* 1, 41–69.
- Dobrovie-Sorin, C., and B. Laca. 1996. Generic bare NPs. Manuscript, Université Paris 7 and Université de Strasbourg.
- Dowty, D. R. 1979. *Word meaning and Montague Grammar: The semantics of verbs and times in Generative Semantics and Montague PTQ*. Dordrecht: Reidel.

- Graffi, G. 2001. *200 years of syntax: A critical survey*. Amsterdam: John Benjamins.
- Higginbotham, J. 2000. On events in linguistic semantics. In J. Higginbotham, F. Pianesi, and A. Varzi, eds., *Speaking of events*, 49–79. Oxford: Oxford University Press.
- Higginbotham, J., and G. Ramchand. 1996. The stage-level/individual-level distinction and the Mapping Hypothesis. Manuscript, University of Oxford.
- Jespersen, O. 1924. *The philosophy of grammar*. London: Allen and Unwin.
- Kamp, H., and U. Reyle. 1993. *From discourse to logic*. Dordrecht: Kluwer.
- Kearns, K. S. 1991. The semantics of the English progressive. Doctoral dissertation, MIT.
- Kratzer, A. 1995. Stage-level and individual-level predicates. In G. N. Carlson and F. J. Pelletier, eds., *The generic hook*, 125–175. Chicago: University of Chicago Press.
- Landman, F. 1991. The progressive. *Natural Language Semantics* 1, 1–32.
- Larson, R. 1988. On the double object construction. *Linguistic Inquiry* 19, 335–391.
- Moro, A. 1997. *The raising of predicates: Predicative noun phrases and the theory of clause structure*. Cambridge: Cambridge University Press.
- Parsons, T. 1990. *Events in the semantics of English: A study in subatomic semantics*. Cambridge, Mass.: MIT Press.
- Pinto, M. 1997. Licensing and interpretation of inverted subjects in Italian. Doctoral dissertation, UiL OTS, University of Utrecht.
- de Swart, H. 1998. Aspect shift and coercion. *Natural Language and Linguistic Theory* 16, 347–385.
- Tortora, C. M. 1997. The syntax and semantics of the weak locative. Doctoral dissertation, University of Delaware.
- Wilkinson, K. 1991. Studies in the semantics of generic noun phrases. Doctoral dissertation, University of Massachusetts, Amherst.
- Williams, E. 1980. Predication. *Linguistic Inquiry* 11, 208–238.
- Zubizarreta, M. L. 1995. *Prosody, focus, and word order*. Cambridge, Mass.: MIT Press.
- Zucchi, A. 1999. Incomplete events, intensionality and imperfective aspect. *Natural Language Semantics* 7, 179–215.