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A READER IN NINETEENTH- CENTURY HISTORICAL INDO-EUROPEAN LINGUISTICS

Edited and Translated by

WINFRED P. LEHMANN

This book is a collection of extremely valuable material very badly edited and translated. Be prepared to take any information in it with a considerable grain of salt, since you have no guarantee that this is what the original author was trying to say.

G.M.

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CHAPTER ONE

SIR WILLIAM JONES

THE THIRD ANNIVERSARY DISCOURSE, ON THE HINDUS

Delivered 2 February, 1786. Works I, pp. 19-34.

Sir William Jones's celebrated discourse is given here in full to illustrate the context from which linguistics developed in the nineteenth century. With his contemporaries, Jones was interested in better knowledge of ancient history. In the pursuit of this knowledge, language was only one means. The commemorative address of his successor as president of the Asiatick Society, Sir John Shore, states explicitly that for Jones language was a tool, not an end in itself. "But the judgement of Sir William Jones was too discerning to consider language in any other light than as the key of science, and he would have despised the reputation of a mere linguist. Knowledge and truth, were the object of all his studies, and his ambition was to be useful to mankind; with these views, he extended his researches to all languages, nations, and times." (Works I, p.v.) A glance at the other annual discourses supports this statement on Jones's wide interests and the subsidiary position of linguists, which it maintained to the middle of the nineteenth century. Yet the "Desiderata" which Shore found among his papers may indicate that Jones had planned to spend additional time on linguistics: the third desideratum is "A Grammar of the Sanscrit Language, from Panini, etc."; the fourth, "A Dictionary of the Sanscrit Language, from thirty-two original Vocabularies and Niructi."

These proposed undertakings, and citations from his "Dissertation on the Orthography of Asiatick Words in Roman Letters" (Works I, pp. 175-228) may indicate that Jones deserves a larger reputation than that for stimulating study of the Indo-European languages and historical linguistics. The views in his third discourse on the origin of our writing system and Devanagari are accurate; the following excerpts from the "Dissertation" indicate a knowledge of phonetics comparable with that of Grimm's successors.

It would be superfluous to discourse on the organs of speech, which have been a thousand times dissected, and as often described by musicians or anatomists; and the several powers of which every man may perceive either by the touch or by sight, if he will attentively observe another person pronouncing the different classes of letters, or pronounce them himself distinctly before a mirror: but a short analysis of articulate sounds may be proper to introduce an examination of every separate symbol.

All things abound with error, as the old searchers for truth remarked with despondence; but it is really deplorable, that our first step from total ignorance should be into gross inaccuracy, and that we should begin our education in England with learning to read the five vowels, two of which, as we are taught to pronounce them, are clearly diphthongs. There are, indeed, five simple vocal sounds in our language, as in that of Rome; which occur in the words an innocent bull, though not precisely in their natural order, for we have retained the true arrangement of the letters, while we capriciously disarrange them in pronunciation; so that our eyes are satisfied, and our ears disappointed. The primary elements of articulation are the soft and hard breathings, the spiritus lenis and spiritus asper of the Latin Grammarians. If the lips be opened ever so little, the breath suffered gently to pass through them, and the feeblest utterance attempted, a sound is formed of so simple a nature, that, when lengthened, it continues nearly the same, except that, by the least acuteness in the voice it becomes a cry, and is probably the first sound uttered by infants; but if, while this element is articulated, the breath be forced with an effort through the lips, we form an aspirate more or less harsh in proportion to the force exerted. When, in pronouncing the simple vowel, we open our lips wider, we express a sound completely articulated, which most nations have agreed to place the first in their symbolical systems: by opening them wider still with the corners of them a little drawn back, we give birth to the second of the Roman vowels, and by a large aperture, with a farther inflexion of the lips and a higher elevation of the tongue, we utter the third of them. By pursing up our lips in the least degree, we convert the simple element into another sound of

the same nature with the first vowel, and easily confounded with it in a broad pronunciation: when this new sound is lengthened, it approaches very nearly to the fourth vowel, which we form by a bolder and stronger rotundity of the mouth; a farther contraction of it produces the fifth vowel, which in its elongation almost closes the lips, a small passage only being left for the breath. These are all short vowels; and, if an Italian were to read the words an innocent bull, he would give the sound of each corresponding long vowel, as in the monosyllables of his own language, sâ, si, sô, se, sû. Between these ten vowels are numberless gradations, and nice inflexions, which use only can teach; and, by the composition of them all, might be formed an hundred diphthongs, and a thousand triphthongs. . . .

We may now consider in the same order, beginning with the root of the tongue and ending with the perfect close of the lips, those less musical sounds, which require the aid of a vowel, or at least of the simple breathing, to be fully articulated; and it may here be premised, that the harsh breathing distinctly pronounced after each of these consonants, as they are named by grammarians, constitutes its proper aspirate. (pp. 182-5)

We hear much of aspirated letters; but the only proper aspirates (those I mean, in which a strong breathing is distinctly heard after the consonants) are to be found in the languages of India; unless the word cachexy, which our medical writers have borrowed from the Greek, be thought an exception to the rule: this aspiration may be distinguished by a comma, as the letter before us is expressed in the word c'hanitra, a-spade. (p. 195)

Agreeably to the preceding analysis of letters, if I were to adopt a new mode of English orthography, I should write Addison's description of the angel in the following manner, distinguishing the simple breathing, or first element, which we cannot invariably omit, by a perpendicular line above our first or second vowel:

Sò hwen sm éñjel, bai divain cãmánd,
 With rais'n tempests shécs a gilti land,
 Sch az év lét ór péł Britanya pást.
 Cálrn and strín hi draivz dhi fyúryas blást,
 And, plí'z'd dh'áimaitiz árdertz tu perfórm.
 Raids in dhi hweníwínd and dairects dhi stárm.

This mode of writing poetry would be the touchstone of bad rhymes, which the eye as well as the ear would instantly detect; as in the first couplet of this description, and even in the last, according to the common pronunciation of the word perform. I close this paper with specimens of oriental writing, not as fixed standards of orthography, which no individual has a right to settle, but as examples of the method, which I recommend. . . . (p. 205)

Jones (1746-94) was led to his knowledge of Sanskrit through an interest in Hindu law. At Harrow and Oxford he studied oriental languages and literature. After achieving a reputation as an oriental scholar, out of financial necessity he undertook the study of law. In 1763 he was appointed judge in Calcutta, where he continued his vigorous career of publication. His collected works were published five years after his death, in a handsome edition, *The Works of Sir William Jones in six volumes* (London: Robinson and Evans, 1799). This has been followed here, with a few orthographical changes: since ligatures and symbols like long s are not maintained, it also seemed best to modernize spellings like authentic for authentick, and Sanskrit for Sanscrit, except in titles. Students having the opportunity of consulting the printing of 1799 will admire, with Sir John Shore, Jones's "degree of knowledge" and his elegant presentation.

IN the former discourses, which I had the honor of addressing to you, Gentlemen, on the institution and objects of our Society, I confined myself purposely to general topics; giving in the first a distant prospect of the vast career, on which we were entering, and, in the second, exhibiting a more diffuse, but still superficial, sketch of the various discoveries in History, Science, and Art, which we might justly expect from our inquiries into the literature of Asia. I now propose to fill up that outline so comprehensively as to omit nothing essential, yet so concisely as to avoid being tedious; and, if the state of my health shall suffer me to continue long enough in this climate, it is my design, with your permission, to prepare for our annual meetings a series of short dissertations, unconnected in their titles and subjects, but all tending to a common point of no small importance in the pursuit of interesting truths.

Of all the works, which have been published in our own age, or, perhaps, in any other, on the History of the Ancient World, and the

first population of this habitable globe, that of Mr. Jacob Bryant, whom I name with reverence and affection, has the best claim to the praise of deep erudition ingeniously applied, and new theories happily illustrated by an assemblage of numberless converging rays from a most extensive circumference: it falls, nevertheless, as every human work must fall, short of perfection; and the least satisfactory part of it seems to be that, which relates to the derivation of words from Asiatic languages. Etymology has, no doubt, some use in historical researches; but it is a medium of proof so very fallacious, that, where it elucidates one fact, it obscures a thousand, and more frequently borders on the ridiculous, than leads to any solid conclusion: it rarely carries with it any internal power of conviction from a resemblance of sounds or similarity of letters; yet often, where it is wholly unassisted by those advantages, it may be indisputably proved by extrinsic evidence. We know a posteriori, that both fitz and hjo, by the nature of two several dialects, are derived from filijs; that uncle comes from avus, and stranger from extra; that jour is deducible, through the Italian, from dies; and rosignol from luscinia, or the finger in groves; that sciuuro, écureuil, and squirrel are compounded of two Greek words descriptive of the animal; which etymologies, though they could not have been demonstrated à priori, might serve to confirm, if any such confirmation were necessary, the proofs of a connection between the members of one great Empire; but, when we derive our hanger, or short pendent sword, from the Persian, because ignorant travellers thus mis-spell the word khanjar, which in truth means a different weapon, or sandalwood from the Greek, because we suppose, that sandals were sometimes made of it, we gain no ground in proving the affinity of nations, and only weaken arguments, which might otherwise be firmly supported. That Cus then, or, as it certainly is written in one ancient dialect, Cût, and in others, probably, Cäs, enters into the composition of many proper names, we may very reasonably believe; and that Algeziras takes its name from the Arabic word for an island, cannot be doubted; but, when we are told from Europe, that places and provinces in India were clearly denominated from those words, we cannot but observe, in the first instance, that the town, in which we now are assembled, is properly written and pronounced Calicâta; that both Câtâ and Cût unquestionably mean places of strength, or, in general, any inclosures; and that Gujârât is at least as remote from Jezirah in sound, as it is in situation.

Another exception (and a third could hardly be discovered by any candid criticism) to the Analysis of Ancient Mythology, is, that the method of reasoning and arrangement of topics adopted in that learned work are not quite agreeable to the title, but almost wholly synthetical; and, though synthesis may be the better mode in pure

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science, where the principles are undeniable, yet it seems less calculated to give complete satisfaction in historical disquisitions, where every postulatum will perhaps be refused, and every definition controverted; this may seem a slight objection, but the subject is in itself so interesting, and the full conviction of all reasonable men so desirable, that it may not be lost labor to discuss the same or a similar theory in a method purely analytical, and, after beginning with facts of general notoriety or undisputed evidence, to investigate such truths, as are at first unknown or very imperfectly discerned.

The five principal nations, who have in different ages divided among themselves, as a kind of inheritance, the vast continent of Asia, with the many islands depending on it, are the Indians, the Chinese, the Tartars, the Arabs, and the Persians: who they severally were, whence, and when they came, where they now are settled, and what advantage a more perfect knowledge of them all may bring to our European world, will be shown, I trust, in five distinct essays; the last of which will demonstrate the connection or diversity between them, and solve the great problem, whether they had any common origin, and whether that origin was the same, which we generally ascribe to them.

I begin with India, not because I find reason to believe it the true center of population or of knowledge, but, because it is the country, which we now inhabit, and from which we may best survey the regions around us; as, in popular language, we speak of the rising sun, and of his progress through the Zodiac, although it had long ago been imagined, and is now demonstrated, that he is himself the center of our planetary system. Let me here premise, that, in all these inquiries concerning the history of India, I shall confine my researches downwards to the Mohammedan conquests at the beginning of the eleventh century, but extend them upwards, as high as possible, to the earliest authentic records of the human species.

India then, on its most enlarged scale, in which the ancients appear to have understood it, comprises an area of near forty degrees on each side, including a space almost as large as all Europe; being divided on the west from Persia by the Arachosian mountains, limited on the east by the Chinese part of the farther peninsula, confined on the north by the wilds of Tartary, and extending to the south as far as the isles of Java. This trapezium, therefore, comprehends the stupendous hills of Potyid or Tibet, the beautiful valley of Cashmír, and all the domains of the old Indoscythians, the countries of Nepál and Bután, Cámrúp or Asám, together with Siam, Ava, Racán, and the bordering kingdoms, as far as the China of the Hindus or Sin of the Arabian Geographers; not to mention the whole western peninsula with the celebrated island of Sinhala, or Lion-like men, at its

southern extremity. By India, in short, I mean that whole extent of country, in which the primitive religion and languages of the Hindus prevail at this day with more or less of their ancient purity, and in which the Nágari letters are still used with more or less deviation from their original form.

The Hindus themselves believe their own country, to which they give the vain epithets of Medhyama or Central, and Panyabhumi, or the Land of Virtues, to have been the portion of Bharat, one of nine brothers, whose father had the dominion of the whole earth; and they represent the mountains of Himálaya as lying to the north, and, to the west, those of Vindhya, called also Vindian by the Greeks; beyond which the Sindhu runs in several branches to the sea, and meets it nearly opposite to the point of Dwaracá, the celebrated seat of their Shepherd God: in the south-east they place the great river Saravatyá; by which they probably mean that of Ava, called also Airavati in parts of its course, and giving perhaps its ancient name to the gulf of Sabara. This domain of Bharat they consider as the middle of the Jambudwipa, which the Tibetians also call the Land of Zambu; and the appellation is extremely remarkable; for Jambu is the Sanskrit name of a delicate fruit called Jáman by the Muselmans, and by us rose-apple; but the largest and richest sort is named Amrita, or Immortal; and the Mythologists of Tibet apply the same word to a celestial tree bearing ambrosial fruit, and adjoining to four vast rocks, from which as many sacred rivers derive their several streams.

The inhabitants of this extensive tract are described by Mr. Lord with great exactness, and with a picturesque elegance peculiar to our ancient language: "A people, says he, presented themselves to mine eyes, clothed in linen garments somewhat low descending, of a gesture and garb, as I may say, maidenly and well nigh effeminate, or a countenance shy and somewhat estranged, yet smiling out a glozed and bashful familiarity." Mr. Orme, the Historian of India, who unites an exquisite taste for every fine art with an accurate knowledge of Asiatic manners, observes, in his elegant preliminary Dissertation, that this "country has been inhabited from the earliest antiquity by a people, who have no resemblance, either in their figure or manners, with any of the nations contiguous to them," and that, "although conquerors have established themselves at different times in different parts of India, yet the original inhabitants have lost very little of their original character." The ancients, in fact, give a description of them, which our early travellers confirmed, and our own personal knowledge of them nearly verifies; as you will perceive from a passage in the Geographical Poem of Dionysius, which the Analyst of Ancient Mythology has translated with great spirit:

To th' east a lovely country wide extends,
 India, whose borders the wide ocean bounds;
 On this the sun, new rising from the main,
 Smiles pleas'd, and sheds his early orient beam.
 Th' inhabitants are swart, and in their locks
 Betray the tints of the dark hyacinth.
 Various their functions; some the rock explore,
 And from the mine extract the latent gold;
 Some labor at the woof with cunning skill,
 And manufacture linen; others shape
 And polish iv'ry with the nicest care:
 Many retire to rivers shoal, and plunge
 Or glitt'ring diamond. Oft the jasper's found
 Green, but diaphanous; the topaz too
 Of ray serene and pleasing; last of all
 The lovely amethyst, in which combine
 All the mild shades of purple. The rich soil,
 Wash'd by a thousand rivers, from all sides
 Pours on the natives wealth without control.

Their sources of wealth are still abundant even after so many revolutions and conquests; in their manufactures of cotton they still surpass all the world; and their features have, most probably, remained unaltered since the time of Dionysius; nor can we reasonably doubt, how degenerate and abased so ever the Hindus may now appear, that in some early age they were splendid in art and arms, happy in government, wise in legislation, and eminent in various knowledge: but, since their civil history beyond the middle of the nineteenth century from the present time, is involved in a cloud of fables, we seem to possess only four general media of satisfying our curiosity concerning it; namely, first their Languages and Letters; secondly, their Philosophy and Religion; thirdly, the actual remains of their old Sculpture and Architecture; and fourthly, the written memorials of their Sciences and Arts.

I. It is much to be lamented, that neither the Greeks, who attended Alexander into India, nor those who were long connected with it under the Bactrian Princes, have left us any means of knowing with accuracy, what vernacular languages they found on their arrival in this Empire. The Mohammedans, we know, heard the people of proper Hindustan, or India on a limited scale, speaking a Bhashâ, or living tongue of a very singular construction, the purest dialect of which was current in the districts round Agra, and chiefly on the poetical ground of Mat'hurâ; and this is commonly called the idiom of Vraja. Five words in six, perhaps, of this language were derived

from the Sanskrit, in which books of religion and science were composed, and which appears to have been formed by an exquisite grammatical arrangement, as the name itself implies, from some unpolished idiom; but the basis of the Hindustani, particularly the inflections and regimen of verbs, differed as widely from both those tongues, as Arabic differs from Persian, or German from Greek. Now the general effect of conquest is to leave the current language of the conquered people unchanged, or very little altered, in its groundwork, but to blend with it a considerable number of exotic names both for things and for actions; as it has happened in every country, that I can recollect, where the conquerors have not preserved their own tongue unmixed with that of the natives, like the Turks in Greece, and the Saxons in Britain; and this analogy might induce us to believe, that the pure Hindi, whether of Tartarian or Chaldean origin, was primeval in Upper India, into which the Sanskrit was introduced by conquerors from other kingdoms in some very remote age; for we cannot doubt that the language of the Veda's was used in the great extent of country, which has before been delineated, as long as the religion of Brahmâ has prevailed in it.

The Sanskrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologist could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists: there is a similitar reason, though not quite so forcible, for supposing that both the Gothic and the Celtic, though blended with a very different idiom, had the same origin with the Sanskrit; and the old Persian might be added to the same family, if this were the place for discussing any question concerning the antiquities of Persia.

The characters, in which the language of India were originally written, are called Nâgarî, from Nagara, a City, with the word Deva sometimes prefixed, because they are believed to have been taught by the Divinity himself, who prescribed the artificial order of them in a voice from heaven. These letters, with no greater variation in their form by the change of straight lines to curves, or conversely, than the Cusic alphabet has received in its way to India, are still adopted in more than twenty kingdoms and states, from the borders of Cashgar and Khoten, to Râna's bridge, and from the Sindhu to the river of Siam; nor can I help believing, although the polished and elegant Dévanâgarî may not be so ancient as the monumental characters in the caverns of Jarasandha, that the square Chaldæic letters, in which most Hebrew books are copied, were originally the same,

or derived from the same prototype, both with the Indian and Arabian characters: that the Phœnician, from which the Greek and Roman alphabets were formed by various changes and inversions, had a similar origin, there can be little doubt; and the inscriptions at Canaráh, of which you now possess a most accurate copy, seem to be compounded of Nágarí and Ethiopic letters, which bear a close relation to each other, both in the mode of writing from the left hand, and in the singular manner of connecting the vowels with the consonants. These remarks may favor an opinion entertained by many, that all the symbols of sound, which at first, probably, were only rude outlines of the different organs of speech, had a common origin: the symbols of ideas, now used in China and Japan, and formerly, perhaps, in Egypt and Mexico, are quite of a distinct nature; but it is very remarkable, that the order of sounds in the Chinese grammars corresponds nearly with that observed in Tibet, and hardly differs from that, which the Hindus consider as the invention of their Gods.

II. Of the Indian Religion and Philosophy, I shall here say but little; because a full account of each would require a separate volume: it will be sufficient in this dissertation to assume, what might be proved beyond controversy, that we now live among the adorers of those very deities, who were worshipped under different names in Old Greece and Italy, and among the professors of those philosophical tenets, which the Ionic and Attic writers illustrated with all the beauties of their melodious language. On one hand we see the triad of Neptune, the eagle of Jupiter, the satyrs of Bacchus, the bow of Cupid, and the chariot of the Sun; on another we hear the symbols of Rhea, the songs of the Muses, and the pastoral tales of Apollo Nomius. In more retired scenes, in groves, and in seminaries of learning, we may perceive the Bráhmans and the Sarmanes, mentioned by Clemens, disputing in the forms of logic, or discoursing on the vanity of human enjoyments, on the immortality of the soul, her emanation from the eternal mind, her debasement, wanderings, and final union with her source. The six philosophical schools, whose principles are explained in the Dersana Sástra, comprise all the metaphysics of the old Academy, the Stoa, the Lyceum; nor is it possible to read the Védánta, or the many fine compositions in illustration of it, without believing, that Pythagoras and Plato derived their sublime theories from the same fountain with the sages of India. The Scythian and Hyperborean doctrines and mythology may also be traced in every part of these eastern regions; nor can we doubt, that Wod or Oden, whose religion, as the northern historians admit, was introduced into Scandinavia by a foreign race, the same with Buddh, whose rites were probably imported into India nearly at the same time, though received much later by the Chinese, who soften his name into FO'.

This may be a proper place to ascertain an important point in the Chronology of the Hindus; for the priests of Buddha left in Tibet and China the precise epoch of his appearance, real or imagined, in this Empire; and their information, which had been preserved in writing, was compared by the Christian missionaries and scholars with our own era. Couplet, De Guignes, Giorgi, and Bailly, differ a little in their accounts of this epoch, but that of Couplet seems the most correct: on taking, however, the medium of the four several dates, we may fix the time of Buddha, or the ninth great incarnation of Vishnu, in the year one thousand and fourteen before the birth of Christ, or two thousand seven hundred and ninety-nine years ago. Now the Cashmirians, who boast of his descent in their kingdom, assert that he appeared on earth about two centuries after Crishna the Indian Apollo, who took so decided a part in the war of the Mahabharat; and, if an Etymologist were to suppose, that the Athenians had embellished their poetical history of Pandion's expulsion and the restoration of Ægeus with the Asiatic tale of the Pándus and Yudhishthir, neither of which words they could have articulated, I should not hastily deride his conjecture: certain it is, that Pándumandel is called by the Greeks the country of Pandion. We have, therefore, determined another interesting epoch, by fixing the age of Crishna near the three thousandth year from the present time; and, as the three first Avatárs, or descents of Vishnu, relate no less clearly to an Universal Deluge, in which eight persons only were saved, than the fourth and the fifth do to the punishment of impiety and the humiliation of the proud, we may for the present assume, that the second, or silver, age of the Hindus was subsequent to the dispersion from Babel; so that we have only a dark interval of about a thousand years, which were employed in the settlement of nations, the foundation of states or empires, and the cultivation of civil society. The great incarnate Gods of this intermediate age are both named Rama but with different epithets; one of whom bears a wonderful resemblance to the Indian Bacchus, and his wars are the subject of several heroic poems. He is represented as a descendant from Surya, or the Sun, as the husband of Sítá, and the son of a princess named Causelyá: it is very remarkable, that the greatest festival Ramasitoa; whence we may suppose, that South America was peopled by the same race, who imported into the farthest parts of Asia the rites and fabulous history of Rama. These rites and this history are extremely curious; and, although I cannot believe with Newton, that ancient mythology was nothing but historical truth in a poetical dress, nor, with Bacon, that it consisted solely of moral and metaphysical allegories, nor with Bryant, that all the heathen divinities are only different attributes

and representations of the Sun or of deceased progenitors, but conceive that the whole system of religious fables rose, like the Nile, from several distinct sources, yet I cannot but agree, that one great spring and fountain of all idolatry in the four quarters of the globe was the veneration paid by men to the vast body of fire, which "looks from his sole dominion like the God of this world", and another, the immoderate respect shown to the memory of powerful or virtuous ancestors, especially the founders of kingdoms, legislators, and warriors, of whom the Sun or the Moon were wildly supposed to be the parents.

III. The remains of architecture and sculpture in India, which I mention here as mere monuments of antiquity, not as specimens of ancient art, seem to prove an early connection between this country and Africa: the pyramids of Egypt, the colossal statues described by Pausanias and others, the sphinx, and the *Hermes Canis*, which last bears a great resemblance to the *Varāhvatār*, or the incarnation of Vishnu in the form of a Boar, indicate the style and mythology of the same indefatigable workmen, who formed the vast excavations of *Cânārah*, the various temples and images of Buddha, and the idols, which are continually dug up at *Gaya*, or in its vicinity. The letters on many of those monuments appear, as I have before intimated, partly of Indian, and partly of Abyssinian or Ethiopic origin; and all these indubitable facts may induce no ill-grounded opinion, that Ethiopia and Hindustān were peopled or colonized by the same extraordinary race; in confirmation of which, it may be added, that the mountaineers of Bengal and Bahār can hardly be distinguished in some of their features, particularly their lips and noses, from the modern Abyssinians, whom the Arabs call the children of Cūsh: and the ancient Hindus, according to Strabo, differed in nothing from the Africans, but in the straightness and smoothness of their hair, while that of the others was crisp or woolly; a difference proceeding chiefly, if not entirely, from the respective humidity or dryness of their atmospheres: hence the people who received the first light of the rising sun, according to the limited knowledge of the ancients, are said by Apuleius to be the *Arvi* and *Ethiopiāns*, by which he clearly meant certain nations of India; where we frequently see figures of Buddha with curled hair apparently designed for a representation of it in its natural state.

IV. It is unfortunate, that the *Śilpi Śāstra*, or collection of treatises on Arts and Manufactures, which must have contained a treasure of useful information on dyeing, painting, and metallurgy, has been so long neglected, that few, if any, traces of it are to be found; but the labors of the Indian loom and needle have been universally celebrated; and fine linen is not improbably supposed to have been called *Sindon*, from the name of the river near which it

was wrought in the highest perfection: the people of Colchis were also famed for this manufacture, and the Egyptians yet more, as we learn from several passages in scripture, and particularly from a beautiful chapter in Ezekiel containing the most authentic delineation of ancient commerce, of which Tyre had been the principal mart. Silk was fabricated immemorially by the Indians, though commonly ascribed to the people of *Serica* or *Tancut*, among whom probably the word *Ser*, which the Greeks applied to the silkworm, signified gold; a sense, which it now bears in Tibet. That the Hindus were in early ages a commercial people, we have many reasons to believe; and in the first of their sacred law-tracts, which they suppose to have been revealed by Menu many millions of years ago, we find a curious passage on the legal interest of money, and the limited rate of it in different cases, with an exception in regard to adventures at sea; an exception, which the sense of mankind approves, and which commerce absolutely requires, though it was not before the reign of Charles I. that our own jurisprudence fully admitted it in respect of maritime contracts.

We are told by the Grecian writers, that the Indians were the wisest of nations; and in moral wisdom, they were certainly eminent: their *Niti Śāstra*, or System of Ethics, is yet preserved, and the *Fables of Vishnuserman*, whom we ridiculously call *Pilpay*, are the most beautiful, if not the most ancient, collection of apologues in the world: they were first translated from the Sanskrit, in the sixth century, by the order of *Buzerhumīr*, or *Bright as the Sun*, the chief physician and afterwards *Veizir* of the great *Anushrevan*, and are extant under various names in more than twenty languages; but their original title is *Hitopadēsa*, or *Amicable Instruction*; and, as the very existence of *Esop*, whom the Arabs believe to have been an Abyssinian, appears rather doubtful, I am not disinclined to suppose, that the first moral fables, which appeared in Europe, were of Indian or Ethiopian origin.

The Hindus are said to have boasted of three inventions, all of which, indeed, are admirable, the method of instructing by apologues, the decimal scale adopted now by all civilized nations, and the game of Chess, on which they have some curious treatises; but, if their numerous works on Grammar, Logic, Rhetoric, Music, all which are extant and accessible, were explained in some language generally known, it would be found, that they had yet higher pretensions to the praise of a fertile and inventive genius. Their lighter Poems are lively and elegant; their *Epic*, magnificent and sublime in the highest degree; their *Purāna*'s comprise a series of mythological Histories in blank verse from the Creation to the supposed incarnation of Buddha; and their *Vēdas*, as far as we can judge from that compendium of them, which is called *Upanishat*, abound with

noble speculations in metaphysics, and fine discourses on the being and attributes of God. Their most ancient medical book, entitled Chereca, is believed to be the work of Siva; for each of the divinities in their Triad has at least one sacred composition ascribed to him; but, as to mere human works on History and Geography, though they are said to be extant in Cashmír, it has not been yet in my power to procure them. What their astronomical and mathematical writings contain, will not, I trust, remain long a secret: they are easily procured, and their importance cannot be doubted. The Philosopher, whose works are said to include a system of the universe founded on the principle of Attraction and the Central position of the sun, is named Yavan Acharya, because he had travelled, we are told, into Ionia: if this be true, he might have been one of those, who conversed with Pythagoras; this at least is undeniable, that a book on astronomy in Sanskrit bears the title of Yavana Jática, which may signify the Ionic Sect; nor is it improbable, that the names of the planets and Zodiacal stars, which the Arabs borrowed from the Greeks, but which we find in the oldest Indian records, were originally devised by the same ingenious and enterprizing race, from whom both Greece and India were peopled; the race, who, as Dionysius describes them,

... first assayed the deep,

And wafted merchandize to coasts unknown,

Those, who digested first the starry choir,

Their motions mark'd, and call'd them by their names.

Of these cursory observations on the Hindus, which it would require volumes to expand and illustrate, this is the result: that they had an immemorial affinity with the old Persians, Ethiopians, and Egyptians, the Phenicians, Greeks, and Tuscans, the Scythians or Goths, and Celts, the Chinese, Japanese, and Peruvians; whence, as no reason appears for believing, that they were a colony from any one of those nations, or any of those nations from them, we may fairly conclude that they all proceeded from some central country, to investigate which will be the object of my future Discourses; and I have a sanguine hope, that your collections during the present year will bring to light many useful discoveries; although the departure for Europe of a very ingenious member, who first opened the inestimable mine of Sanskrit literature, will often deprive us of accurate and solid information concerning the languages and antiquities of India.

CHAPTER TWO

FRIEDRICH VON SCHLEGEL

ON THE LANGUAGE AND WISDOM OF THE INDIANS

From *Über die Sprache und Weisheit der Indier: Ein Beitrag zur Begründung der Alterthumskunde* (Heidelberg: Mohr und Zimmer, 1808)

Like Jones's Discourse, Friedrich von Schlegel's *Über die Sprache und Weisheit der Indier* prepares for the important early works in nineteenth-century linguistics. Schlegel's aim too is to encourage general study of antiquity, not only of language; the section on language makes up only approximately a fourth of his book, which goes on to deal with other "media of satisfying our curiosity concerning . . . the early age" of mankind. Schlegel's book was important for arousing interest in Sanskrit, especially in Germany; it also makes the first mention of aims that were to be central to linguistics, notably "comparative grammar". Because its prime importance is its encouragement to others, only excerpts are given here, though the entire book is delightful to read. I have included one paragraph of citations comparing the vocabulary of Sanskrit and German; it may illustrate the advances made over Schlegel by his successors. And his lists of grammatical criteria for establishing relationships illustrate the enthusiasm of a popularizer rather than the care of a scholar. From the selections translated, students may learn to know the contributions of Schlegel's work as well as its shortcomings.

With his successors, Schlegel is interested in finding a common source for the languages which after Jones were held to be related. In interpreting the early conception of "source" or "derived from" we must be careful to avoid our own definitions, which are based largely on the work of subsequent linguists. In his excellent introduction to the centenary edition of Rask, *Ausgewählte Abhandlungen XIII-LXIII*, Holger Pedersen discusses sympathetically the use of these notions at the beginning of the nineteenth century for determining the relationship of languages. Schlegel indeed speaks of a family-tree, but derives the European languages from Sanskrit on the basis of its greater antiquity,

not by positing intermediate stages. Accordingly, the relationship he suggests between German and Sanskrit should not be equated with our deriving German from Proto-Indo-European.

Schlegel's emphasis on grammar in determining relationships merits great credit. His demand for precise agreement of vocabulary items may be understood when we compare the fanciful etymologies of his predecessors; insistence on rigor was essential to stop further such fabrications. Yet while he asks for complete agreement in determining cognates, Schlegel permits the use of forms which differ, though he has not yet hit upon the concept of determining "rules" for such differences; his citing of an "analogy" between Latin *p* and Germanic *f*, Latin *c* and Germanic *h*, is a step on the way to the more comprehensive sets of rules given by Rask and Grimm.

Schlegel also is applauded for introducing the term "comparative grammar" into linguistics. In basing this term on comparative anatomy and incorporating the notion of family trees for languages, he drew on biology for linguistic methodology, foreshadowing Schleicher and his reliance on Darwinism. These adoptions of methodology and the attention he drew to Sanskrit are the most important contributions of his book.

Yet in it Schlegel also suggested a further means for distinguishing language interrelationships, one that was not taken over by Bopp, Grimm and their successors, and subsequently remained peripheral to the central course of nineteenth century linguistics: the use of typology. For Schlegel there was an ancient grammar, characterized by inflection, and a more recent grammar, characterized by analytic devices. Languages of the ancient type were more *kunstreich* (ingenious, artistic) than are those of the newer manner. Accordingly, examination of the type of a language might contribute to determining its antiquity. Yet in dealing with Chinese, for even Schlegel this means was disappointing; the problems of typology interested some linguists of the nineteenth century, notably Humboldt and Steinthal, but its uncertainties gave it more status among non-specialists than among linguists. Even the efforts of Sapir in this century did little to encourage its application, though recent techniques may make it more useful. (See my *Historical Linguistics*, Chapter III.) Yet all attempts to use typology in support of genealogical classification have been completely discredited. We may wonder

whether the ineffectiveness of typology as a tool for supporting genealogical classification led Schlegel's successors to disregard his interest in structure, which we find duplicated only in this century.

Apart from his book of 1808, the chief concern of Friedrich von Schlegel (1772-1829) was for literature. He began his study of Sanskrit and Indian antiquity in 1803, under Alexander Hamilton in Paris, planning a chrestomathy printed in Devanagari, but for it he lacked the necessary funds. Instead he published his book to arouse interest in Indic studies, expecting for European scholarship results comparable to those produced by the study of Greek in the fifteenth and sixteenth centuries. Yet after publication of the book, he himself abandoned his concern for Indic studies, in a shift of interest that may be reflected by his joining the Roman Catholic Church. From then to his death he directed his attention to Europe and his own literary production. His brother, August Wilhelm von Schlegel (1767-1845), who also concerned himself with the typological classification of language, came to concentrate on Indic studies, especially after he was appointed professor of literature at the University of Bonn in 1818. His work in this position is generally credited as the beginning of Indic scholarship in Germany. Apart from the contributions which increased knowledge of Indic languages made to linguistics, the importance of the brothers for linguistics is based almost entirely on Friedrich's book of 1808.

Chapter 1. On the Indic Language in General (pp. 1-3)

The Old Indic Sanskrit, that is the cultivated or perfected, also Gronthon, that is the written language or the book language, has a very close relationship with the Roman and Greek, as with the Germanic and Persian languages. The similarity consists not only in a great number of roots, which it shares with them, but it extends to the innermost structure and grammar. The agreement is accordingly not one of chance which might be explained by mixture, but rather an essential one which points to common descent. Comparison yields the further result that the Indic language is the older, the others however later and derived from it.

For Armenian, the Slavic languages and next for Celtic, the relationship with Indic is either minute, or not to be compared with the close agreement among the languages named above which we

derive from it. Yet this relationship, though minute, is not to be completely disregarded, since it manifests itself in accordance with the sequence in which these languages were named at least in some grammatical forms, in such components which cannot be reckoned among the chance features of the language but rather belong to their inner structure.

In Hebrew and related dialects, as well as in Coptic, a goodly number of Indic roots may possibly be found still. But this does not prove an original relationship since it can be the result of simple mixture. The grammar of these languages like that of Basque is basically different from that of Indic.

The large and not yet completely determinable number of the remaining north and south Asiatic and American languages has absolutely no essential relationship with the Indic language family. To be sure, in the grammar of these languages, which also is quite different from that of Indic, we find a similar arrangement among several; in their roots however they are also completely different, even among one another and so totally deviant, that there is no possibility of being able to take them back to a common source.

The important results of this linguistic comparison for the oldest history of the origin of peoples and their earliest migrations will be the subject of investigation in the future. In this first book we will be content with establishing and making clear the principles themselves, simple but very comprehensive results of conscientious research. . . .

Chapter 2. On the Relationship of Roots (pp. 6-7)

Some examples may show most clearly that the claimed relationship does not in any sense rest on etymological elaborations, many of which were contrived before the proper source was found, but that it may be presented to impartial scholars as simple fact.

In making this demonstration we permit absolutely no rules of change or replacement of letters, but rather demand complete equivalence of the word as proof of descent. To be sure, if the intermediate steps can be proved historically, then giorno may be derived from diēs; and if instead of Latin f we often find Spanish h, if Latin p very often becomes f in the Germanic form of the same word and Latin c not infrequently h, this certainly establishes an analogy, also for other not quite such apparent cases. Yet as indicated, one must be able to demonstrate the intermediate steps or the general analogy historically; nothing can be fabricated from axioms, and the agreement must be very precise and evident in order to permit even the minutest variations of form.

I cite first of all some Indic words which are characteristic of Germanic. Shrityoti — er schreitet 'strides'; vindoti — er findet 'finds'; schliṣṣoti — er umschließt 'surrounds'; Onto — das Ende 'end'; Monuschyo — der Mensch 'human being'; Shwosa, Svostrī — die Schwester 'sister'; Rotho — das Rad 'wheel'; Bhruvo — die Brauen der Augen 'eyebrows'; Torsho — der Durst 'thirst'; Tandovon — der Tanz 'dance'; Ondoni — die Enten 'ducks'; Noko — der Nagel 'nail'; sthiro — unbeweglich, stier 'immovable'; Oshonon — das Essen 'food', etc. . . .

Chapter 3. Of Grammatical Structure (pp. 27-28; 32-35)

Might one however not possibly reverse this whole proof and say: the relationship is striking enough and may be established in part; but what really is the reason for assuming that Indic is the older among the related languages and their common source? May it not just as well have arisen only through mixture of the others, or at any rate have received its similarity in this way?

Not to mention that much of what has already been mentioned and also many another probability speaks against that, we will now come to something that decides the situation fully and raises it to certainty. In general the hypothesis that attempts to derive whatever Greek elements are found in India from the Seleucids in Bactria is not much happier than one which might try to explain the Egyptian pyramids from natural crystallization.

The decisive point however which will clarify everything here is the inner structure of the languages or comparative grammar, which will give us quite new information about the genealogy of languages in a similar way as comparative anatomy has illuminated the higher natural history.

Of the related languages we will first select Persian, whose grammar, which has even taken over personal suffixes from Arabic through the long and old intercourse between both peoples, agrees with that of Indic and the others far less than even that of German today, not to speak of Greek and Roman. But if one assembles all similarities, they are certainly weighty. . . . [to p. 32]

In Germanic grammar there are many other agreements with the Greek and Indic besides those which it shares with Persian. In Germanic as throughout in Indic, n is characteristic of the accusative, s of the genitive. The final syllable -tvon forms substantives of state in Indic, just as -thum is used in German. The subjunctive is in part marked by a change of the vowel, as in all languages which follow the old grammar. Agreeing similarly is the formation of the imperfect through change of the vowel in one type of the German

verbs. If in another type the imperfect is formed by means of an inserted *t*, this to be sure is a special characteristic, just as is the *b* in the Roman imperfect; the principle however is still the same, namely that the secondary determination of the meaning for time and other relationships does not happen through special words or particles added outside the word, but through inner modification of the root.

If, moreover, we add the grammar of the older dialects, of Gothic and Anglo-Saxon for German, of Icelandic for the Scandinavian branch of our language, then we not only find a perfect with an augment, as in Greek and Indic, a dual, more exact gender and relationship markers of the inflections, which now are somewhat worn down and less recognizable; the third persons of the singular and plural of verbs, for example, are complete and in perfect agreement. In a word, in the contemplation of the old monuments of the Germanic language not the slightest doubt can remain that they formerly had a quite similar grammatical structure to that of Greek and Roman.

Even now very many traces of these older forms of language remain in Germanic, in German itself more than in English and the Scandinavian dialects; but if on the whole the principle of the more recent auxiliary prevails here — to form conjugation primarily through auxiliary verbs, declension through prepositions — this should mislead us the less, since also all the Romance languages, which stem from the Latin, have undergone a similar change, as have all the Hindustani dialects, as they are now spoken, which have approximately the same relationship to Sanskrit as the Romance dialects do to Latin. No external cause is necessary either to explain this phenomenon which shows up everywhere the same. The ingenious structure is readily lost through wearing away by common usage, especially in a time of barbarism, either quite gradually, or at times also more suddenly; and the grammar with auxiliaries and prepositions is actually the shortest and most convenient, like an abbreviation for simple, general usage; in fact one could almost establish the general rule that a language is the easier to learn, the more its structure has been simplified and approximated to this abbreviation. . . .

Chapter 4. Of Two Main Types of Languages according to Their Inner Structure (pp. 44-45)

The real essence of this principle of language which prevails in Indic and in all languages derived from it is best made clear through contrast. For not all languages follow this grammar, whose ingenious simplicity we admire in Indic and Greek, and to whose

character we tried to call attention in the previous chapter. In many other languages and actually in the most, we find the characteristics and laws of a grammar quite different from that, indeed in complete contrast with it.

Either the secondary markings of meaning are indicated through inner change of the sound of the root, through inflection; or on the other hand always through a separate, added word, which by itself indicates plurality, past, a future obligation or other relationship concepts of manner; and these two very simple cases also designate the two main types of all languages. On closer inspection all other cases are only modifications and secondary types of these two kinds; therefore this contrast includes and completely exhausts the entire sphere of language which is immeasurable and indeterminate with regard to the variety of roots.

A notable example of a language quite without inflection, in which everything that the other languages indicate through inflection is arranged through separate words that have a meaning by themselves, is furnished by Chinese: a language which with its peculiar monosyllabicity, because of this consistency or rather perfect simplicity of structure, is very instructive for the understanding of the entire world of languages. . . . (p. 49-50)

The series of grades of languages, which follow this grammar, is accordingly the following. In Chinese, the particles which designate the secondary marking of meaning are monosyllabic words that exist by themselves and are quite independent of the root. The language of this otherwise refined nation would accordingly stand precisely on the lowest grade; possibly, because its childhood was fixed too early through its extremely ingenious writing system. In Basque and Coptic, as in the American languages, the grammar is formed completely through suffixes and prefixes, which are almost everywhere still easy to distinguish and in part still have meaning by themselves; but the added particles are already beginning to merge and coalesce with the word itself. This is even more the case in Arabic and all related dialects, which to be sure clearly belong to this type in accordance with the greater part of their grammar, while many other things cannot be taken back to it with certainty; here and there we even find an individual agreement with grammar through inflection. Finally, in Celtic some individual traces of grammar through suffixes are found; yet in greater part the newer manner is the prevalent one, of conjugating through auxiliaries and declining through prepositions. . . .

Chapter 6. Of the Variety of Related Languages and of
Some Peculiar Intermediate Languages
(conclusion, pp. 84-86)

I would really be afraid of tiring and confusing the reader if I reported everything that had been gathered and prepared. Enough if some order has been brought in the whole field and it has been indicated satisfactorily, by what principles a comparative grammar may be drawn up, and a completely historical family-tree — a true history of the origin of language instead of the former fabricated theories about its origin. What was said here will at least be adequate to demonstrate the importance of the study of Indic, even only from the point of view of the language; in the following book we will contemplate this study in relation to the history of the Oriental spirit.

I conclude with a look back at William Jones, who first brought light into the knowledge of language through the relationship and derivation he demonstrated of Roman, Greek, Germanic and Persian from Indic, and through this into the ancient history of peoples, where previously everything had been dark and confused. When however he wants to extend the relationship to some other cases too, where it is much smaller — further, to reduce the indeterminably great number of languages to the three main branches of the Indic, the Arabic and the Tatar families — and finally, after he himself first determined so beautifully the total difference of Arabic and Indic, to derive everything from one common original source simply for the sake of unity; then we have not been able to follow this excellent man in these matters, and in this everyone will unhesitatingly agree who examines the present treatise attentively.

CHAPTER THREE

RASMUS RASK

AN INVESTIGATION CONCERNING THE SOURCE
OF THE OLD NORTHERN OR ICELANDIC LANGUAGE

“Undersøgelse om det gamle Nordiske eller Islandske Sprogs Oprindelse” (Copenhagen, 1818), in Rasmus Rask, Ausgewählte Abhandlungen, ed. by Louis Hjelmslev, Vol. I (Kopenhagen: Levin and Munksgaard, 1932)

Perhaps the most brilliant of the early linguists, Rasmus Rask (1787-1832) made his primary contribution in accordance with a topic proposed for a prize by the Danish Academy of Sciences in 1811. The topic directed the structure of his monograph, and according to Pedersen led to some of its shortcomings. It requested competitors to “examine with historical criticism and indicate with appropriate examples the source from which the old Scandinavian language is to be derived most securely; also to indicate the character of the language and the relationship in which it stood from the oldest periods and during the Middle Ages on the one hand to the Nordic, on the other to the Germanic dialects; also to determine precise principles which must be followed in any statement of the origin and comparison of these languages.”

After discussing general principles, Rask surveyed the evidence with regard to neighboring languages: Greenlandic Eskimo, Celtic, Basque, Finnish, Slavic, Lettish, Thracian and the Asiatic languages. His survey of the relationship with Thracian (a term he adopted from Adelung to refer to the ancestor of Greek and Latin, hence one which we might equate with Indo-European) makes up approximately half of his monograph and contains the well-known statement relating Icelandic obstruents to those of Greek and Latin. Grimm himself indicated his indebtedness to this statement; after coming to know it he speedily rewrote the first volume of his grammar of 1819 and included in the second edition of 1822 the section presented below on the Germanic consonant shift. Rask's statement is presented here, with a few other excerpts to illustrate his fine grasp of linguistic principles.

As Pedersen and others have pointed out, Rask must be credited for his use of "system" and "grammatical criteria" rather than vocabulary in carrying out the request of the Academy. Although we applaud him for his methodological advances, we regret some of his terminology, for example, his name Thracian for "Indo-European". Since he did not know Sanskrit at the time he wrote his monograph, his group of Indo-European languages was still small, though in it he accurately provided the answer to the first request of the Academy. For the Germanic branch he used the term Gothic, which he divided into Scandinavian and Germanic (of which [Moeso-]Gothic was in turn a sub-branch).

Less external is the terminology regarding "source" and "descendant of"; a literal interpretation of these suggests that Rask was quite wrong in his genealogical classification. Yet these terms Pedersen would like to interpret "systematically" not "historically". Students who wish to deal with the problem fully may go to the original, admirably edited by Louis Hjelmslev, and to Pedersen's sympathetic introduction. Some of Rask's other views correspond to those of Schlegel; like him Rask thought of inflectional languages as the most ingenious — though unlike Schlegel he concerned himself little with typology.

The most widely discussed problem in relation to Rask is one of priority: has he been given inadequate credit for his accurate formulation of the Germanic consonant change, known widely by the name of Grimm's law? The discussion in Holger Pedersen's *Linguistic Science in the Nineteenth Century*, pp. 248-254, 258-262, presents the problem with Pedersen's well-known conciseness. In these days of corporate scholarship, questions of individual credit do not seem as important as they did in the past, when even national prestige was involved. We are much more interested in trying to understand the views, and for them the terminology used by perceptive scholars of the past. We admire Rask for noting the correspondences; Grimm accepted these, supported them more fully and gave his well-known formulation.

We also admire Rask for his efforts to learn language in the field; the data for his conclusions are largely the result of his own collecting. After completing his monograph, Rask undertook a journey to Russia, Persia and India, which led to more advanced views on the Indo-European languages. We also credit him for managing his data with a methodology

that approximates the high requirements of successors: though in the essay he still used the term "letter" for sounds as well as for writing symbols, he attempted to get at the phonetic basis of the letters. The phonetic interpretation he then compared systematically. Of further emphasis in his comparisons was grammar. This emphasis is clear from the space he devotes to grammatical comparison (pp. 190-295) of the monograph as opposed to vocabulary (295-321).

Rask's interest in learning ever more languages consumed the rest of his life after his return from his trip to the east in 1823. His failure to incorporate his new ideas in a revision of the "prize monograph" as well as its availability only in Danish led to a widespread disregard of it. The centenary edition in Danish has made up in part for previous neglect; possibly for the one hundred and fiftieth anniversary of Rask's death a complete English translation might be arranged. Rask's perceptive examination of his data and the great preponderance of methodology that accords with ours in proceeding beyond that of his predecessors would justify the translation, though most scholars might with little difficulty make their way through the Danish original.

Investigations, pp. 49-51

Grammatical agreement is a far more certain indication (than is vocabulary) of relationship or original unity; for one finds that a language which is mixed with another very rarely or never takes over changes of form or inflection from this, but on the other hand the more readily loses its own. In this way English has not taken over any Icelandic or French inflections, but on the other hand has lost many of the old inflections of Anglo-Saxon; similarly Danish has not taken over German endings, nor has Spanish taken over Gothic or Arabic endings. This kind of agreement, which is the most important and most certain, has nonetheless been almost entirely overlooked until now in tracing the source of languages, and this is the greatest error of most things written to the present on this point; it is the reason why they are so uncertain and of such small scientific value.

The language which has the most ingenious grammar is the most unmixed, the most original, oldest and nearest to the source; for the grammatical inflections and endings are constantly lost with

the formation of a new language, and it requires a very long time and intercourse with other people to develop and rearrange itself anew. In this way Danish is simpler than Icelandic, English simpler than Anglo-Saxon; in the same way New Greek is related to Old Greek, Italian to Latin, German to Moeso-Gothic, and similarly in all situations that we know.

A language, however mixed it may be, belongs to the same class of languages as another, when it has the most essential, concrete, indispensable and primary words, the foundation of the language, in common with it. On the other hand nothing can be concluded about the original relationship of technical terms, words of politeness and commerce or that part of the language which intercourse with others, social relations among one another, education and science have made it necessary to add to the oldest stock of words; it depends on many circumstances, which can only be known from history, whether a people has borrowed these from other languages or developed them from its own. Thus English is rightly counted to the Gothic class of languages and in particular to the Saxon branch of the Germanic chief part of it; for all basic stems of the English stock of words are Saxon, such as: heaven, earth, sea, land, man, head, hair, eye, hand, foot, horse, cow, calf, ill, good, great, little, whole, half, I, thou, he, to make, love, go, see, stand; of, out, from, together, etc. Especially substitutes (pronouns) and numerals are lost last of all in mixing with unlike languages; in Anglo-Saxon for example all pronouns are of Gothic and specifically Saxon origin.

When in such words one finds agreements between two languages, and that to such an extent that one can draw up rules for the transition of letters from one to the other, then there is an original relationship between these languages; especially when the similarities in the inflection of languages and its formal organization correspond; e.g.

Gk	<u>phēmē</u>	in Latin to	<u>fama</u>	and	<u>holkos</u>	to	<u>sulcus</u>
Gk	<u>mētēr</u>	in Latin to	<u>mater</u>	and	<u>bolbos</u>	to	<u>bulbus</u>
Gk	<u>phēgos</u>	in Latin to	<u>fagus</u>	and	<u>amorgē</u>	to	<u>amurca</u>
Gk	<u>pēlos</u>	in Latin to	<u>palus</u>	and	<u>olkhos</u>	to	<u>vulgus</u>

From this one sees that Gk ē in Latin often becomes a, and o becomes u; by bringing together many words one would be able to draw up many transition rules. And since one finds such great agreement between Latin and Greek grammar, one can rightfully conclude that an original relationship exists between these languages, which is also sufficiently known and does not need to be demonstrated here again.

Thracian

(pp. 177-8) After having considered the three eastern classes of languages: Finnish, which had little or no relation with Icelandic, Slavic, which was closely related, and Lettish, which seemed even nearer; we find to the south the Roman class of languages and the New Greek. The Romance is of greatest extent; to it belong Italian, Spanish, Portuguese and French, but all these languages are more notable for their development, harmony and literary riches than for age or remote origin. It is known that all of them arose after the fall of the Roman Empire, indeed long after, when the confusion which the wandering Gothic people caused to the old Latin began to subside, but in such a way that the old material completely maintained the upper hand and merely was rearranged in new form. Accordingly this language could in no way contain the source for the Gothic, which is much older; and the same can be applied to New Greek; but the Romance languages descend, as indicated, from the Latin, and the New Greek (hē rōmaikē) from the old or real Greek (hē hellenikē): we then come to the two old, rightfully famous peoples, the Greeks and Romans.

Adelung in his Mithridates has demonstrated at length and with care that all the peoples, who were situated between the Halys River in Asia Minor, as widely as broadly to the north and west up to Pannonia, where the Germanic stock began, are to be ascribed to a single stock of peoples, whom he called the Thracian-Pelagian-Greek-Latin, but who in my opinion might be given the shorter designation Thracian, after the central point.

(pp. 187-8) [After stating phonetic similarities between Greek and Icelandic, Rask discusses some differences, such as the limited number of permitted final consonants in Greek and the loss of final inflections in Icelandic; he continues:] But not only in endings, also in the words themselves many changes took place; it will probably not be out of the way to note here the most frequent of these transitions from Greek and Latin to Icelandic.

Long a becomes á or ó, as: elakhus (little) lágur (low), mater módir.

Short a to e:

daman temia, scabo eg skéf, sakkos,
saccus seckur.

u to o:

gunē konā, purgos (tower) borg, gusto
German ich koste.

Of the mute letters, they generally remain in words, becoming usually:

p to f, e.g.:
t to þ, e.g.:
k to h, e.g.:

platus (broad) flatur (flat), pater fadir.
treis (read trís) príř, tego eg pek tu tu pu.
kreas (meat) hræ (dead body), cornu horn,
cutis hud.

b most often remains:

blazanó (germinate) blad, bruo (spring forth)

d to t:

brunur (spring), bullare at bulla.
damaó (name) tannr (name), dignus tígnm
(elevated, noble)

g to k:

gunē kona, genos kyn or kin, gena kinn, agros
akt.

ph to b:

phēgos Danish Bøgg, fiber, Icel. bíf, phero
fero egg ber.

th to d:

thurā dyr; so also in Lagin, theos deus.

kh to g:

khūō Danish gyder, ekhein ega, khutra gryta,
kholē gall.

’ to s:

heks sex, hanna saman, hupnos svefn, Danish
Søvnr.

But often they are also changed in other ways; for example, medially and after a vowel k becomes g, as in: macer (read maker) mager, ac og, taceo Icel. peggi; and t to d, as in: pater fadir, frater brodir, and the like.

(pp. 190-2) [After dealing with the phonology of the Thracian languages, Rask surveys their morphology. Only his introduction is translated here; he goes on to survey the paradigms, spending most of his time on the substantives, much less on verbs.] Both languages which we know of the Thracian class, namely Greek and Latin, are so famous and well-known that it would be superfluous here to describe them extensively; but since they have been analyzed by various language teachers, accordingly from various points of view, they have been given a more unlike appearance than they really have. Presumably none of the learned men who have worked in this area have known the related, ancient and unusual languages: Lithuanian, Slavonic, Moeso-Gothic and Icelandic; these are very closely related to the Thracian, and could contribute so very much to clarify them. Indeed these have until now been much less analyzed and known than the Thracian languages. One can accordingly not expect to find greater agreements between the proposed grammatical systems of these and the Thracian languages than between the Thracian languages themselves. From the foregoing one should also have been convinced that there is much to improve in the grammars of these

languages, in respect to system and manner of presentation. The same is true of Thracian or the so-called ancient language, and it is scarcely to be expected that anyone who knows only one or at most two of these languages could find out the system which was the correct one for all; this can only be discovered through comparison of all of them. I have in the foregoing given briefly for each language the classification and arrangement that seems to me most correct, especially from the basis which seems most fitting for all of them. I will accordingly do the same here, at least to present the reader all of them from a single point of view, which is indispensably necessary, if one is to recognize and evaluate the similarities or dissimilarities between them.

Nouns and adjectives have one and the same manner of inflection in both the Thracian languages: in Greek they distinguish three numbers and in the singular five cases, which are best arranged as follows: 1) nominative, 2) vocative, which is generally only an insignificant modification of the nominative, 3) accusative, 4) genitive, and 5) dative. One might be uncertain which of the last two should be placed first, but because of the relationship of the accusative with the genitive in the Slavic languages, as of the natural likeness of the endings in the Lettish and Thracian languages, the arrangement given seems most correct. The dual has only two cases: the one is used for the nominative, vocative and accusative; the other for the genitive and dative. The plural has four; the nominative and vocative are always the same here. In Latin on the other hand these parts of speech have six cases in the singular, namely, in addition to Greek, 6) an ablative, which however is simply a modification of the dative. The dual is lacking entirely in Latin, but in the plural it has the same cases as in Greek, since the vocative is included with the nominative and the ablative with the dative. Gender and comparison are the usual three. With regard to method of inflection these words are distinguished in both languages into two main types or systems, as also in Gothic, Slavic and Lettish. The sub-division in each of these, as in the languages just mentioned, is made according to gender: Neuter, which is the simplest and most original, is to be set first, thereupon Masculine, which is directly developed from it; and finally the Feminine, which has the most peculiarities of its own.

In accordance with this principle of division the separate methods of inflection in these languages are as follows: [The first system contains the three genders; the second system is made up of a neuter and a common gender.]

(p. 295) This formal organization of the Icelandic language is much simpler than the Greek and Latin inflection, from which it has originated in its entirety. For there is hardly a single form or

ending which is not found in them, except for those which have arisen from combinations of parts which however are individually found in the Thracian languages. After this one will also expect a significant similarity also in regard to the stock of words. Since I cannot give here an entire dictionary, however, I will limit myself to citing a number of individual words as proof. [He cites 352.]

(pp. 321-3) This collection of words which in the Thracian and Gothic languages, and especially in Icelandic, seem to have an original relationship to one another, could easily have been larger, but I omitted many, though they were obvious in both classes of languages, such as all interjections: *ouai*, *Lat. vae*, *Icel. vei*, from which *vein* and *kvein* as also *veina* and *kveina*, *ai Icel. æ* (read *aj*), *pheu Danish fy*, and many others; and I selected these not so much according to ease of detecting likeness, but much more according to meaning, to demonstrate that precisely the first and most necessary words in the language, which designate the first objects of thought, are the same in both classes of languages. For this purpose I also listed them according to subject matter. I do not assume that all will agree with me on every one of these; but even if one throws out all of those about which one might have some doubt, then nonetheless of 352, in addition to the 48 listed above, in all 400 words, enough will certainly remain, that combined with the grammatical comparison given above they will prove as much as the 150 words with added grammatical notes which Sajnovics has cited as 'proof that the Hungarian and Lappish languages are one and the same'; as far as I know, no one has subsequently denied this. After this agreement which we have found in the stock of words and in inflection, as well as in accordance with the agreed historical indication of our fathers' immigration to the north from Scythia, and especially the last main colony, which is said to have brought in the language, literature and runes, which have such a striking likeness with the oldest Phoenician-Greek series of letters, which colony, as well-known, came from Tanais and the Black Sea: it seems that both the Northmen and the Germanic peoples are branches of the large Thracian stock of peoples, and that their language must also have had there its first origin, which also agrees with what is known about the languages of the Lettish stock and its relationship to the Greek. The Lettish stock is the nearest branch of the Thracian, next the Northern and the Germanic; the last seems to me somewhat farther away, which is also natural as a result of our fathers' eastern and southern tribal seat. But the difference is really not great; they stand about side by side, but in no way can the Northern be taken to stem from the Thracian indirectly through the Germanic; this would be contrary both to history and to the inner essence of the languages. Similarly one can by no means say that Icelandic stems from Greek.

Greek is not the pure old Thracian. Least of all must one limit Greek to Attic, for it is just one of the latest Greek dialects, and far from the one in which relationship is shown most clearly. As great preeminence as Attic has in refinement and harmony, so great do Doric and Aeolic have in antiquity and importance for the investigator of language; for if these were lost, the identity with Latin, not to speak of Icelandic, could scarcely be proved satisfactorily. But what we can permit ourselves justified to conclude after the foregoing is that Icelandic, or Old Norse, has its source in the old Thracian, or that in its chief components it has sprung from large Thracian stock, of which Greek and Latin are the oldest and only remains, and that we can consider that its root. But for the complete etymological explanation of this we have seen that the Lettish and the Slavic classes of languages are of greatest importance, also that even Finnish was not without significant influence and use.

CHAPTER FOUR

FRANZ BOPP

ON THE CONJUGATIONAL SYSTEM
OF THE SANSKRIT LANGUAGE

In comparison with that of Greek, Latin, Persian
and the Germanic languages

From Über das Conjugationssystem der Sanskritsprache in
Vergleichung mit jenem der griechischen, lateinischen,
persischen und germanischen Sprache
(Frankfurt-am-Main: in der Andreäischen Buchhandlung, 1816)

It may be unfair to Bopp to give a selection from his initial work. But his chief importance is in clarifying the morphology of Indo-European, and even his final presentation has long been superseded. Accordingly the views which he first presented are those of greatest interest to us.

Moreover, his analysis of the conjugational system of the Sanskrit language is by no means a negligible result of four years of independent work, carried on with little guidance from predecessors. The extracts presented here indicate however that Bopp's publication of 1816 was still preliminary to the important treatments in comparative linguistics.

For in 1816 Bopp is still pursuing the course of Friedrich von Schlegel. To be sure a much greater portion of his book is devoted to the language, pp. 3-157, but as much space is given to Indic literature, primarily to translations, pp. 160-312. Bopp's chief aim is accordingly an understanding of Indic culture, not of the Indic language, let alone that of the Indo-European family. His first work then resembles a comparative grammar of the Indo-European languages less than does the monograph of Rask. The publication in 1818 of Rask's work, which had been completed earlier, may have been as beneficial to Bopp in his groping toward a comparative grammar of the Indo-European languages as it was to Grimm.

To interpret Bopp's aims from the often tedious introduction of his teacher Windischmann, Conjugational System i-xxxvii, may also be less than flattering to the mature Bopp; but it gives us an insight into contemporary hopes

for comparative linguistics and accordingly some understanding of the tremendous energy with which it was pursued. According to Windischmann, ix-x, Bopp "had resolved to treat the investigation of language as a historic and philosophic study and not to be content with understanding what was written in any given language. We may rejoice at these efforts and intentions, which from a purely human point of view deserve to be named before many others, for through intimate association with the significant signs, by which the word, this child of the spirit, expresses the deepest emotions and feelings, as it does the clearest and most definite thoughts, indescribably much of the hindrances to true self-knowledge and self-culture are dispelled." Moreover, in study of languages, such as Gothic, and their structure, there was hope, according to Windischmann, for additional means to illuminate the history of the Indic and Germanic peoples and the differing cultures of each.

Such considerations led Bopp to master ever more of the Indo-European languages — Sanskrit, Avestan, Greek, Latin, Lithuanian and Gothic for the first volumes of his Comparative Grammar of 1833 — then Slavic, Celtic and Albanian for remaining volumes, and the second edition of 1857-61. The posthumous third of 1868-70 maintains some of the initial shortcomings of the early period of comparative linguistics virtually to the time of the neo-grammarians.

One shortcoming was the almost exclusive attention to morphology. We note Grimm's similar lack of interest for phonology. Raumer's attention to phonetics had its influence only on the successors to the great pioneers.

Another shortcoming is Bopp's attempt to discern the origin of inflection in separate words, particularly the verb "to be". In its crass form, this is completely superseded. Yet many publications still emerge which seek the origin of inflections, like the Germanic weak preterite, in simple verbs such as do, even though highly conservative and careful linguists, e.g. H. Collitz, Das Schwache Präteritum. Baltimore, 1912, have cited almost overwhelming evidence against such views. The early notions on the development of language, from non-inflected through agglutinative to inflected, have not been discarded even today, though we probably would find little receptivity for the view that certain inflections developed because of an inherent meaning of the symbol, such as s for the second person.

Franz Bopp is often credited with providing "the real beginning of what we call comparative linguistics" (Pedersen,

Linguistic Science, p. 257). In keeping with this achievement his external career was distinguished. His publication resulting from four years of study in Paris, 1812-1816, led to general recognition. After visiting London and publishing there, he became professor of Sanskrit and comparative grammar in Berlin in 1821. Teaching and publication made up the rest of his life; his publications are on the whole admirable, except for a suggestion that the Malayo-Polynesian languages are related to the Indo-European. Apart from this lapse, editions, monographs and successive editions of his grammar, with translations into English and French, made him the dominant figure in Indo-European comparative grammar throughout the first half of the nineteenth century.

Chapter 1. On Verbs in General

By verb in the narrowest sense is meant that part of speech which expresses the connection of a topic with a property, and their relations to one another.

The verb, according to this definition, has no real meaning in itself, but is simply the grammatical bond between subject and predicate, through whose inner change and formation their mutual relations are indicated.

Under this concept there is only a single verb, namely the so-called *verbum abstractum*, *sein*, *esse*. But also with this verb, to the extent that it is to express simply the relations between subject and predicate, we have to remove the concept of existence, which it comprehends in itself; in its grammatical determination this does not need to express the existence of the subject, because this is already expressed by the subject when we state it. Thus in the sentence: *homo est mortalis*, it is not the verb, *est*, which expresses the existence of the subject *homo*, but the existence is contained as the first and basic characteristic in the concept expressed by the word *homo*, just as the characteristic *mortalis* like others assumed to be known for the concept *homo* is associated through the copula *est*. In the sentence: *der Gott ist seiend*, the word *sein* represents two quite different functions. In the first it determines as grammatical bond simply the relation between the subject and the predicate; in the second it expresses the property which is added to the subject.

It seems to me therefore, that simply through lack of a completely abstract verb, a verb which embraces the concept of existence

in itself is used in most languages for the sake of a grammatical bond; and there might well be a language, which is not without a totally meaningless copula, through whose inflection or inner change the relations between subject and predicate might be expressed. In Sanskrit there are two verbs which correspond to the verb *esse*, namely *asti* and *bhavati*. Whether both are exchanged with one another equally frequently, and although the first is replaced by the latter in the tenses lacking to it, nonetheless it seems to me from fine difference must exist, which may possibly have been distinguished more sharply originally. Nonetheless it seems to me from observation of the use of both, and from comparison of the substantives and adjectives derived from the roots of both, to emerge clearly that *asti* almost alone expressed grammatical union, that *bhavati* however is primarily used when existence is to be expressed. From the root *bhū* come the words *bhāvana*, *svajambhū*, *prabhu*, *bhūtam*, *bhavan*, etc., all of which point to existence. From the root *as* one can hardly find a noun derived other than the particle *sat* and its negative *asat*. The following verse from the *Bāgavat Gīta* can probably not be translated faithfully into any language:

Nāsato vidjatae bhāvō nābhāvō vidjatae satah.

The relation of the subject with its predicate is not always expressed through a special part of speech, but is unexpressed; and the relations and secondary determinations of meaning are indicated through the inner change and inflection of the word itself that expresses the attribute. The adjectives inflected in this way make up the sphere of verbs in the usual sense.

Among all the languages known to us, the sacred language of the Indians shows itself to be one of the most capable of expressing the most varied relations and connections in a truly organic manner through inner modification and forming of the stem syllable. But disregarding this remarkable capability of modification, occasionally it is pleased to incorporate the root of the *verbum abstractum*, in which case the stem syllable and the incorporated *verbum abstractum* divide the grammatical functions of the verb.

Among the languages which are of common origin with the Old Indic we have to admire the capability of indicating the most varied determinations of relationship, most of all in the Greek. In the conjugation of the verbs it not only follows the same principle as the Sanskrit, but the inflections by which it expresses the same relations are exactly the same; and it combines in the same tenses and in the same way the *verbum abstractum* with the stem syllable.

The Roman language agrees with the Indic no less than does the

Greek, and one could hardly find in it a relation expressed by an inflection which is not common to it and Sanskrit. In the conjugation of verbs however the combination of the root with an auxiliary verb has become the prevailing principle for it. In this combination however it does not express a part of the relation, which is to be defined, through inflection of the stem syllable, as this is the case in Indic and in Greek, but the root remains totally unchanged. —

It is the purpose of this essay to show how in the conjugation of the Old Indic verbs the definitions of relationship are expressed through corresponding modifications of the root, how at times however the verbum abstractum is combined with the stem syllable to one word, and stem syllable and auxiliary divide the grammatical functions of the verb; to show how the same is the case in the Greek language, how in Latin the system of combination of root with an auxiliary has come to be dominant, and how only in this way the apparent difference of the Latin conjugation from that of Sanskrit and Greek arose; finally to prove, that in all the languages which stem from Sanskrit or from a mother language in common with it, no definition of relationship is indicated by an inflection which is not common to them and that original language, and that apparent exceptions only arise from the fact that either the stem syllable is combined with the auxiliaries into one word, or that from participles the tempora derivativa which are customary already in Sanskrit are derived, in the fashion as verba derivativa can be formed from substantives in Sanskrit, Greek and many other languages.

Among the languages that stand in closest relationship with Sanskrit I recognize especially Greek, Latin, Germanic and Persian. It is remarkable that Bengalese, which surely has undergone the least foreign admixtures among the New Indic dialects, does not agree in its grammar nearly so completely with Sanskrit as do the above-mentioned languages, while on the other hand it attests a far greater number of Old Indic words. Yet new organic modifications have not taken the place of the Old Indic inflections, but after their meaning and spirit have gradually vanished, their use also diminished, and tempora participialia (among which I do not understand periphrastic forms like the Latin amatus est) replaced the tenses which were formed in Sanskrit through inner change of the stem syllable. Similarly in the New Germanic languages, several indications of relationship are expressed through periphrasis, which in Gothic were designated by inflections that were already used in Sanskrit and Greek.

In order to show in its full light the truth of these principles which are extremely important for the history of languages, it is necessary to become acquainted above all with the conjugational system of the Old Indic languages, then to survey and compare the

conjugations of the Greek and the Roman, the Germanic and Persian languages, whereby we will see their identity, but will also recognize the gradual and graded destruction of the simple speech organization and observe the striving to replace it by mechanical combinations, from which an appearance of a new organism arose when their elements were no longer recognized.

Chapter 2. Conjugation of the Old Indic Language

We will go through the tenses of the Indic verbs here in the sequence in which they follow one another in the Sanskrit grammars, and in the process will give as briefly and compactly as possible the reason for every change of form and depict the manner how every modification of meaning corresponds to an individual modification of the word. From this it will become clear of itself that many tenses must be explained as compounds. Since however in my assertions I cannot support myself on the authority of others, for up to now nothing has been written about the origin of the grammatical forms, I will have to support them with cogent proofs.

Formation of the Present

In the tempus praesens the meaning of the root is limited through no added secondary indication; the subject has real use of the predicate designated by the root. Also from the root, which is the common mother of all parts of speech, the tempus praesens is formed through simple addition of the designations for person. The designation for the first person is M for the singular and plural, and for the dual V; designation of the second person is S, or H which is related to it; designation of the third person is T for all three numbers. The endings, or the accents of the personal designations serve to determine the numbers, not the formation and characterization of the tenses.

Example: ad, eat			
	Sing.	Dual	Plur.
	atti<adti	attah<adtrah	adanti
	atsi<adsi	atthah<adthah	attha<adtha
	adai	advah	admah

Note. The D of the root becomes T before T and S in accordance with the rules of euphony. (end of p. 13)

Chapter 3. Conjugation of the Greek verbs (61-2)

In Greek, as in Sanskrit, certain random letters are added to roots, which as in Indic are maintained only in some tenses and disappear again in the others. One could, as in Sanskrit, divide the verbs into different conjugations in accordance with these, which then would largely correspond with the Indic in their characteristics. — The first Indic conjugation adds *a* to the first root; thus *patschali* comes from *patsch*. With this one can compare those Greek verbs which insert *ē*, *a* or *o* between root and designation for person. The third conjugation of Sanskrit repeats the initial letters of the root, e.g. *dadāti*, *tischthati*, from *dā* and *sthā*. So in Greek *didōmi*, *héstēmi* from *da* and *sta*. The fifth Indic conjugation adds *nu* to the root; e.g. *sunuma* "we beget" from *su*. To this corresponds in Greek *rhégnumen*, *déiknumen*, *dáinumen* from the roots *rhég*, *deik*, *dai*. — The eighth Indic conjugation adds *u*, e.g. *tanuma* "we extend" from the root *tan*. — The ninth conjugation adds the syllable *nā* in Sanskrit, e.g. *krināmi* from *kri*. *N* is often inserted in Greek between the root and the designation for person, as in *krinō*, *klinō*, *témnō*, etc., from *kri*, *kli*, *tem*.

Chapter 4. Conjugation of the Latin Verbs (88-89)

In order to learn to know the principle of the Latin conjugation, it is necessary that we start out from the conjugation of the auxiliary verbs, partly because of their frequent combination with the other verbs, partly because in their simpler change the principle of the Latin conjugation is easier to recognize.

The Latin language has two verbs, which are used for combination between subject and the predicate expressed by an adjective or substantive, and for the expression of their mutual relation to one another. Their stem syllables are *es* and *fu*, corresponding to the Indic roots of the same meaning *as* and *bhu*. As in Sanskrit *bhavati* replaces those tenses that went out of use for *asti*, so it happened for Latin *fu*. The ancients said *esum*; the Etruscans (=Umbrians) for *sum*: *esumē*. *Esu-me* is like Indic *as-mi* and the Greek *esmi*, *esmai*. — The praeteritum of *esum* is *eram*, with change of the *s* to the related *r*, accordingly *eram* for *esam*. Also in Sanskrit and in Greek the personal designations with *A* are emphasized. But the past is not expressed through this emphasis, rather through modification of the root: through replacement of the augment, through reduplication or change of the stem vowel. *Eram* is different from *esum*; its use gives its past meaning, but this modification of the meaning does not correspond to a particular modification of the root.

Chapter 5. Conjugation of the Persian Language and the Old Germanic Dialects (116-17)

However much the inflections have gone out of use in other parts of speech of the Persian language, through which in Indic and the languages related to it important secondary specifications are indicated, yet especially in the inflection of verbs the close bond can be recognized which ties it to those languages whose system of conjugation we have examined. With the old Germanic dialects it affords in the principle of the change of verbs such striking agreement that for the sake of brevity I consider myself justified to place it with them in one class. In the Persian language and in all Germanic dialects, the tempus praesens is derived from the root through simple affixation of the personal designations, which are known to us from Sanskrit as from Greek and Latin. Yet these have not maintained themselves throughout, but are at times replaced through vowels, as in Greek and Roman; eventually the designation of a definite person becomes the common ending of all others, as will be clear from the following examples.

From the roots *ber*, *luf*, *sok*, *mach*, *brenn* there are made in Persian, Anglo-Saxon, Gothic, Frankish and Icelandic the following presents:

	Persian	Anglo-Saxon	Gothic	Frankish	Icelandic
1.	<i>ber-em</i>	<i>luf-ige</i>	<i>sokj-a</i>	<i>mach-on</i>	<i>brenn-e</i>
2.	<i>--i</i>	<i>--ast</i>	<i>sokj-ais</i>	<i>--ost</i>	<i>--er</i>
3.	<i>--ed</i>	<i>---ath</i>	<i>sok-eith</i>	<i>--ot</i>	<i>--er</i>
			Pluralis		
1.	<i>ber-im</i>	<i>luf-iath</i>	<i>sokj-am</i>	<i>mach-omes</i>	<i>brenn-um</i>
2.	<i>--id</i>	<i>---iath</i>	<i>sok-eith</i>	<i>--ot</i>	<i>--ed</i>
3.	<i>--end</i>	<i>---iath</i>	<i>sok-and</i>	<i>--ont</i>	<i>--a</i>

CHAPTER FIVE

JACOB GRIMM

GERMANIC GRAMMAR

From *Deutsche Grammatik*

(Göttersloh: C. Bertelmann, 1893), I, pp. 580-592

If non-specialists know anything about historical linguistics, it is Grimm's law. The history of views on the consonant shift is virtually a history of linguistic theory until 1875; subsequently it is equivalent to the theory of historical linguistics, from the neogrammarian position (that each consonant should be treated individually) to that propounded today (that the entire shift be viewed as a whole). Yet our first reaction on looking at Grimm's celebrated statement may be surprise. He is groping through the consonants; his remarks on the liquids show great uncertainty. The vowels are quite obscure for him. And combined with the treatment are peripheral remarks about speech — comments on the purpose of vowels — which we would not welcome in any treatise today. Yet this formulation of the Germanic consonant shift has indeed had "momentous consequences for the history of language." Subsequent discussion is voluminous; few Germanists, Indo-Europeanists or even general linguists have failed to comment.

It was Grimm's conception of the shift as a unit which made such an impact on linguistics. Although his formulation lacks the neatness we might expect, he did account consistently for a large segment of the set of Indo-European and Germanic consonants. His consistent account was so overwhelming that no one doubted its validity. The items unaccounted for were considered exceptions and were made the object of research for the next half century.

Yet we may be even more surprised that there is no mention of a law. Grimm has given nine rules, relating the consonants of Germanic with those of Greek and Latin, less commonly with Sanskrit and other Indo-European languages. Instead of rule, Regel might equally well be translated *correspondence*. If we did use this translation, Grimm's formulation might be quite contemporary. He stated the evidence fully, including exceptions, posited the

relevant correspondences, and indicated their relationships to one another. The statement is a classic example of the formulation of a problem in linguistics, and of its solution within the sphere of language.

Possibly an attempt at explanation is implicit, though even this is not certain. By viewing the shift as non-organic, Grimm apparently saw in it a deviation from the organism developed by the speakers of Indo-European languages. Just as inflection, in contrast with agglutination, seemed appropriate to the Indo-European languages, so did the system of obstruents in Greek and Latin. But we see none of the fanciful attempts at explanation which our handbooks summarize — a shift due to change of geography, or climate and so on — nor even the more sober attempts which seem appropriate to us, such as a general shift in keeping with one type of phonetic reshaping or with the modification of distinctive features. Grimm's concentration on taxonomy spared him all such ventures.

He was also fortunate in his ignorance of phonetics, which permitted him to class together consonants which were quite different in articulation, and to produce a statement which passes beyond details to the system. Examination of details, as by Rauner, Grassmann, Verner, clarified exceptions, but it also for a time undermined the unity which Grimm saw in the shift, and which a structural approach has restored.

The translation has been deliberately kept stark to illustrate Grimm's pioneering. We might well interpret "guttural" to mean velar, as it often does even among linguists who should be better informed; but that it meant "throat-sound" to Grimm is clear from his German equivalent "Kehllaut". Though we may pride ourselves on superior terminology, our estimate of the capabilities of Grimm's contemporaries is not diminished by the ease with which they were to identify examples as Greek or Latin, with no special indication.

As we update Grimm's terminology, we may wonder at terms that have not been discarded. Grimm speaks of consonant gradation. We no longer do, but our entire treatment of the Indo-European vowels is based on the assumption of gradation. Grimm viewed vowels as virtually hopeless, but brought order into the consonant system by his use of grades. Subsequent linguists brought order into the Indo-European vowel system by using grades. In maintaining their terminology, are we also maintaining an antiquated framework for the vowels?

Though we consider Jacob Grimm (1785-1863) one of the greatest contributors to linguistics, his name is a household word for other achievements as well. The veneration in which he is held by scholars may be indicated by the retention of the page numbers of his original text of the grammar, which are maintained here, as in subsequent editions. His Germanic Grammar is still the most complete one we have. The large German dictionary, recently completed, was inaugurated by him and his brother, Wilhelm (1786-1859). His work in other fields: medieval literature, law, mythology, folklore, is as fundamental as his work in linguistics. After studying law at Marburg he held small government posts, which brought him at various times to Paris and Vienna. In 1817 he was appointed professor and librarian at Göttingen. Here he lectured in his areas of interest until 1837, when with six other professors he protested against the King of Hanover's abrogation of the constitution, and was dismissed. His political action at this time illustrates that his greatness was not confined to academic matters. After returning to Cassel for a few years he and his brother were invited to professorships at Berlin in 1840, and to memberships in the Prussian Academy of Sciences. Acclaim did not hinder his work, which involved all areas of linguistics from phonology to the painstaking activities of a lexicographer.

A Survey of the Consonants

The above survey informs us that the vowel relationships are uncertain and subject to various influences, but that their distribution and alternation are not arbitrary, rather, resulting from deeply established laws that have not yet been disclosed. The law of the ablauts will spread more light on this. One may view the vowels as the necessary coloring or animation of all words, as the breath without which they would not even exist. The real individuality of the word rests on the vowel sound; it affords the finest relationships. The form, if I may say so, on the other hand the specification is established by the consonantism. Here the relationships appear far more certain and lasting; dialects, whose vowels for the most part deviate, often maintain the same consonants.

The four liquids are unchangeable; their fluid element preserves them intact during the most powerful upheavals. They undergo only occasional permutations, transpositions, losses or geminations, in

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spite of which their essential significance remains the same; i.e., although, for example, chilche occasionally appears as chirche, r and l remain fundamentally different in all other cases. To be noted:

- 1) On the one hand l and r are closely related, on the other m and n. When an exchange takes place, m is the earlier and more delicate, n later and coarser [(cf. p. 386, 387)]. These references are to Grimm's Grammar. Conversely, the harder r may be older, the softer l younger. M stands in a special relationship with the labials, n with the linguals (cf. p. 536). Thus the OHG au, ou before m and labials, ô before n and linguals (p. 100); l and r are associated as readily with labials, linguals and gutturals. — L and r disintegrate occasionally into u and i (and could therefore be called semi-vowels); never m and n, yet the influence of a lost n on the preceding vowel might be compared (gas, for gans).
- 2) In the important association of r with s, of the combination rd with dd and sd (Goth. zd) r, rd appear as the younger forms which have gradually developed from s, sd (cf. p. 64, 65, 121, 167, 210, 244, 305, 317, 343, 387, 416).

Like the liquids, the three spirants v, h, s remain essentially unchanged throughout all the Germanic dialects. I deduce their inner relationship in part from the ê and ô which appear in front of them rather than ei and au (p. 91, 94), in part from the changes between h and v, w (p. 148, 403), h and s (p. 318, 416), and the association of the aspiration with the assibilation (th, ts, z); no direct exchange between v, w, and s; h and v, (the softest of all consonants,) disappear occasionally without replacement, even initially and particularly before liquids. (v. addendum)

Relationships are completely otherwise with the remaining consonants; a notable contrast between High German and all the other dialects becomes obvious. In the labial, lingual and guttural sounds, the Gothic (Saxon, Frisian, Northern) tenues correspond to the High German aspirates; the Gothic mediae to the High German tenues; and the Gothic aspirates to the High German mediae. The particulars may be expressed as follows:

Goth.	P.	B.	F.	T.	D.	þ.	K.	G.
OHG	F.	P.	B.	(V)	Z.	T.	D.	CH. K. G.

582 A change has taken place by means of which each of these nine consonants in High German shifted similarly from its position. There is no doubt that the High German situation must be viewed here as

the later, the changed, and the Gothic (Saxon, Frisian, Northern) as the earlier. This has been proved by analysis of the Old High German letters on various grounds. Observations:

- 1) The lingual series indicates the relationship most clearly; in Gothic *fains*, *dal*, *paurnus* are as necessarily distinguished as in Old High German *Zein*, *Tal* and *Dorn*.
- 2) The labial order also fits as soon as one acknowledges the second aspirate *bh* for the HG *v* in initial position and admits this instead of the closely related real media. For *f*, *p*, *y*, the erroneous designations *ph*, *b*, *f* were introduced, or occasionally others. Compare Goth. *pund*, *baifran*, *filu* with the HG *funt*, *peran*, *vilo* (also written *phunt*, *beran*, *filo*). The older arrangement had visible effect in the inconsistent writing system; the strictest High German pronunciation, in which *peran*, *pein*, *perag* were completely current, did not even rise to the pure media *bilo* for *filo*, *vilo*. Even hard, upper German folk dialects do not know and cultivate such a *b* for *f* certainly, however, many *b* for the spirant *v*. This all applies however for the initial position; in medial position the media frequently seems to me to stand in proper position, for example, in *ebar* (*aper*), *eban* (*aequalis*) etc. (cf. below, p. 589, fn. b.).
- 3) For the series of throat sounds the aspiration is lacking in Gothic, etc.: in High German all three gradations are found, but how are the High German *k* and *g* (*ch* assumed for *g*, *k*) to be organically divided into Gothic *k*? This could hardly be answered from the German language; the uncertainty of the Old High German writing system not only confuses *k* and *g*, but also *k* and *ch* with one another. At the same time however some clarification is provided by this that the OHG *k* which alternates with *g* never goes over to *ch*, and conversely, the *k* which alternates with *ch* never to *g*. So for example, *gunni* may not stand for *chunni* (*genus*) and *chans* never for *gans* (*anser*); for both, however, *kunni* and *kans*. Since in addition medial *ch* may not be exchanged with *k* (no *sprēkan* for *sprēchan*), then HG *k* for *ch* would be completely objectionable and of the two sounds, *g* and *k*, one would be superfluous and indeed theoretically this would be *g*. The High German language would thus not actually have any more throat sounds than the Gothic; *ch* would correspond to Gothic *k*, *k* however to *g*. Yet it appears to me that there is a third case where OHG *g* of necessity stands, i.e., where it cannot be replaced by *k* or *ch*; this is none other than the varying relationship between *h* and *g* (p. 427). Here the Goth. *g*

plays a double role; in *pragjan* (*currere*), and *guma* (*vir*) a different *g* appears from that in *āugō* (*oculus*), and *lagran* (*lacrimis*). This can become clear only through comparison of further originally related languages.

With such comparisons, which here cannot by any means be thoroughly pursued, but rather only are intended to put our Germanic sound-relationships into proper perspective one proceeds best from the consonants. If a thoroughly grounded statement is ascertained and accepted for these, then perhaps some insights might also be gained into the history of the vowels.

First we encounter the important principle: liquids and spirants agree in all essential relationships with the manner and arrangement of the German tongue. It seems that where the branches of the Germanic languages do not deviate from one another, Latin, Greek and Indic will not deviate. Sanskrit expressly recognizes the *r* and *l* as vowels, and uses *r* this way often, *l* more rarely. The weakening of the older *m* into later *n* is common everywhere; a large group of words with *m* in Sanskrit and Latin receive *n* in Greek (see *addendum*); exactly as the final MHG *n* becomes *m* again in medial position (*vein*, *leimes*; *arn*, *arnes*, p. 386), so *en* is related to *ēmen* (Lat. *eram*, *eramus*; compare *neon* with *novum*). Analogous modifications of the *s* to *r* are also easily found; especially Latin preferred the *r*, which is however always to be understood as the younger form. Alternation of the spirants *v* (*digamma*), 584 *s* and *h* is demonstrated by *hespera*, *vespera*; *hepta*, for *septem*; *hūs*, *sus*; *herpō*, *serpō*; *hekuros*, *socer*; *hupo*, *sub*; *sas*, *sā* (Skt. *is ea*), Gk *ho*, *hē*, Goth. *sa*, *sō*; *hāls*, *sal*; *sasa*, (Skt. *lepus*), *haso* etc.; also the initial spirant disappeared completely, e.g., Lat. *anser* is found for *hanser* (Skt. *hansa*, *cignus*), *odium* for *hodium* (Goth. *hatis*), *ēar* Lat. *ver*, and the Gk *īnmen* (Skt. *vidmas*, Lat. *videmus*, Goth. *vitum*) earlier had a *digamma* before it. *v* and *s* alternate the least, cf. *sinister* with *winster*.

Yet more astounding than the accord of the liquids and the spirants is the variation of the lip, tongue and throat sounds, not only from the Gothic, but also the Old High German arrangement. For just as Old High German has sunk one step down from the Gothic in all three grades, Gothic itself had already deviated by one step from the Latin (Greek, Sanskrit). [See supplement.] Gothic is related to Latin exactly as is Old High German to Gothic. The entire twofold sound shift, which has momentous consequences for the history of language and the rigor of etymology, can be so expressed in a table:

Gk	P.	B.	F.	T.	D.	TH.	K.	G.	CH.
Goth.	F.	P.	B.	TH.	T.	D.	-.	K.	G.
OHG	B. (V)	F.	P.	D.	Z.	T.	G.	CH.	K.

or otherwise conceived:

Gk	Goth.	OHG	Gk	Goth.	OHG	Gk	Goth.	OHG
P	F	B(V)	T	TH	D	K	-	G
B	P	F	D	T	Z	G	K	CH
F	B	P	TH	D	T	CH	G	K

From this we see now how the Goth fills the gap arising from the departure of the throat aspirate: he uses the spiritus h initially rather than ch, and h occasionally also medially and finally, but frequently also the media g. In Old High German the g would appear here consistently everywhere and would be analogous to the b and d of the other series; it may however be a remnant of the earlier sound arrangements that the Gothic initial h has also been carried over to Old High German because it was taken for a spirant and not as aspirate. Only occasionally does g appear beside it. This use of the h for ch is also remarkably found precisely in initial position in Latin so that the gutturals, more precisely determined, show up as follows:

Gk	Lat.	Goth.	OHG
κ	c	h, g	h, g
γ	g	k	ch
χ	h	g	k

The necessary examples for the proposed nine comparisons are:

- 585 I. (P. F. B. V.) 1) Initial position: pax, pacis, pacatus; Goth. fahéds (gaudium, quietes), ON feginn (contentus, laetus) --- pes, pedis; Gk poús, podós; SKT padas; Goth. fótus; OHG vuoꝛ --- piscis, fiskis, visc --- porca (sulcus), OHG vur-iha --- porcus, OHG varah --- Gk póros (iter, via), Goth. faran (ire) --- pater, Gk patér, Goth. fads, OHG vatar --- patis (SKT conjux), Lith. pats, Gk posis (? Dor. Gk pótis), Goth. brūd-faps (sponsus) --- Gk púr, OHG viur --- Gk polú OHG vilo, Goth. filu --- Gk pléos, Goth. fulls, OHG vol --- Gk prói, OHG vruo --- pecus, Goth. faihu, OHG vihu --- pulex, OHG viðh --- plecto, OHG vihtu --- Gk pérđō, Lith. perđziu, Swed. fjertter, OHG věꝛu --- Gk palámē, Lat. palma, AS folma, OHG volma --- Gk ptéron (for Gk ptéron, like Gk petáo for Gk ptáo), ON fiódhur, OHG vědar --- Gk peukē, picea, HG vihta --- pellis, Goth. fill, OHG vél --- pullus, Goth. fula, OHG volo --- pauci, Goth. favai, OHG vaohé --- primus, Goth. frumists, OHG vromist. --- 2) Medial position (The Gothic medial b for f is less precise than North-ern and Saxon f, bh) Gk kápros, caper, ON hafr --- Gk loipós

(reliquus), ON leifar (reliquiae), Goth. láibós --- svapa (SKT somnus), Gk húpnos, ON svefn, OS suëbhan --- septem, AS séofon, Goth. sibun --- aper, ON iöfur, AS éofor, OHG ébar --- Gk hupér, super, Goth. ufar, ON yfir, OHG ubar --- rapina, AS reaf, OHG roub.

II. (B, P, F) 1) For initial position, I know no example to support my view that the Germanic words with initial p, hg f (ph) are lacking (above p. 55, 131, 212, 247, 397, 462). 2) Medial position: Gk kánnabis, cannabis, ON hanpr, OHG hanaf; should turba be compared with Goth. þaurp, OHG dorof; stabulum with ON stöpull, OHG staphol; labi with hláupan, loufan?

III. (PH, B, P) The aspirate of the older languages itself still requires closer attention; Sanskrit recognizes both ph and bh, which appear mixed in Gk ph, Lat. f and b. 1) Initial position: The Indic root bhu, the Gk phu, the Lat. fu in the verb 'to be', compare with the AS béon, OHG pim (sum) --- Gk phégós, fagus, ON beyki, OHG puoha --- forare, ON bora, OHG poren --- frangere, fregi; Goth. brikan, OHG prēchan --- frui, fructus; Goth. brúkón, OHG prūchón --- frater, brōþar, pruoðer --- flare, blasan, plasan --- fero (in 586 SKT the root bhr), Goth. baira, OHG piru --- Gk phullon, folium, ON blad, OHG plat --- Gk ophrús, ON brá, OHG prawa. --- 2) Medial position: Gk eléphas, autos, Goth. ulbandus, OHG olpenta --- Gk kephalé, haubilþ, houpit --- Gk nephelē, nebula, Goth. nibls?, OHG népal --- Gk gráphein, Goth. graban, OHG grapán. These medials vacillate toward the first class, like: caput, AS heafod, OHG haubit, cf. the ON nifl to which an OHG nēbal would correspond.

IV. (T. TH. D.) 1) Initial position: tauta (lett. gens, regio)

Goth. þiuda, OHG diot --- tu, Goth. þu, OHG dú --- tenuis, tener, ON punur, OHG dunni --- Gk teinein, tendere; Goth. þanjan, OHG denen --- Gk treis, tres; þreis; dri --- tergere, ON þerra --- Gk tersein (arefacere) Goth. þaursis (aridus) torridus, OHG durri --- tacere, Goth. þahan, OHG dagan --- Gk trékhein, Goth. þragjan --- Gk talán, tñan, tolerare, Goth. pulan, OHG dolen --- tectum, Goth. þak, OHG dach --- Gk tauros, ON þiór --- tad (SKT id), Gk to (for tad), Goth. þat, OHG daz --- talis, ON þvíkr. --- 2) Medial position: ratio, rapjō, redja --- frater, brōþar, pruoðer --- Gk meta, Goth. miþ --- dantis (dens, dentis) tunpus, zand --- rota, ON hraðr (celer) OHG hrad (rota) --- iterum, Goth. viþrā, OHG widar --- Gk heteros, anþar, andar --- perhaps Gk étés, hetairoi (socius) may be compared with OS gesith, OHG sindeo --- étos (annus) with the obscure Goth. atapni (i.e. at-apni, OHG az-ādani?).

V. (D. T. Z.) 1) Initial position: dingua, tuggo, zunga (cf. above p. 152) --- deus, divus, Lith. diéwas; Gk dís, diós (for theós is Cre-tan) ON ýfr; OHG ziu (cf. above p. 150, 151) --- dantis (SKT) Gk odonis odontós; dens, dentis; Goth. tunpus, OHG zand --- Gk dia -, Lat. dis-, Saxon to-, OHG zi- --- Gk damñan, domare, Goth. tamjan, OHG

zemen --- Gk drūs, Goth. trūn --- digitus, cf. with the Saxon tēkan (signum) OHG zeichan --- Gk delkneūm, deikeim, indicare, Saxon tōgian, HG zeigen --- Gk dōios, dolus, ON tál, OHG zāla --- ducere, Goth. tiuhan, OHG ziohan --- Gk dtō, duo, Goth. tra, OHG zueh. --- Gk dākrū, Goth. tagr, OHG zahar --- Gk deksid, dextra, Goth. taliswō, OHG zēsawa. --- 2) Medial position: Gk hēdú, Goth. suti, OHG suozī --- ad, Goth. at, OHG az --- Gk hédos, sedes, seder, Goth. sitan, OHG sizan --- Gk édein, edere; itan, ézan --- Gk eidein, eidēnai, videre, Goth. vitan, OHG wizan --- odium, Goth. hatis, OHG haz --- claudere, OHG sliozan --- laedere, HG letzen, --- radix, ON rōt --- Gk huōtr, Goth. vatō, OHG wazar --- Gk hidrōs, sudor, sveiti, sueiz --- pedes, fōtjūs, vuozi.

VI. (TH, D, T.) The Latins have no th (except in foreign words), but often the Gk th has become the labial aspirate f of the same grade just as in Greek itself the Aeolic dialect shows ph for th (cf. Gk thumós, spiritus, animus, with funus, Gk phúnos; thúein with fl fire, suffire) both remind one of the intersection of Goth. pl with fl indicated on p. 66, 67. 1) Initial position: Gk thugátēr, Goth. dauhtar, OHG tohtar --- Gk thúra, Lat. pl. fores, Goth. dauř, OHG tor --- Gk thēr, Aeol. phēr. Lat. fera, ON dǫř, OHG tior --- Gk tharrēin (audere) Goth. ga-dauran, OHG turran, cf. the preterite ga-daursta, getorsta with Gk tháros, tháros, thrasús, --- Gk thénar (vola manus) OHG ténar --- Medial position: Gk méthn, AS mēdo, OHG méu --- Gk éthos, AS sido, OHG sitt.

VII. (K, H, G, H, G.) In the second grade the Goth. h is found for ch; in the third the OHG h for g. 1) Initial position: claudus, halts, halz --- Gk kánabís, ON hamp, OHG hanaf --- canere cf. with hano (gallus, as this with ON kalla, OHG chaltōn, clamare, fari) --- caput, háubþ, houbit --- Gk kardía, cor, hairtō, hērza --- Gk kiōn, canis, hump, hund --- Gk kōfios, hol --- celare, hılan, hēin --- Gk kálamos, calamus, halam, halm --- Gk kártos, karterós, hardus, hart --- cornu, háurn, horn --- collum, hals --- Gk krumós, (gelu), ON hrím --- Gk kláein, Goth. hlahan --- Gk krázein, crocitare, Goth. hruckjan --- Gk klépiēs, Goth. hlifus. --- 2) Medial position: Gk ókos, oculus, áugo, onga --- acies, OHG egega --- lux (lucis) liuhad, lioh, cf. Gk leukós with liuhadeins --- Gk ókos, Goth. veihš --- lacus, AS lagru --- acus, aceris, OHG ahana, agana, --- Gk dákru, tagr, zahar --- tacere, pahan, dagan --- pecus, faihu, viho --- Gk hekurós, soccer, Goth. svairra, HG schwager, schwieger --- Gk mékōn (papaver), OHG mágan, NHG mohn (? Goth. mēhan). Medially this sometimes corresponds to Skt śh: e.g. dasha, Gk déka, Lat. decem, Goth. faihu, Lith. deszintis.

VIII. (G, K, CH.) 1) Initial position: gramum, ON korn, OHG chorn --- Gk génos, genus; kani; chumi --- Gk génuš, gena, ON kinn, OHG chīmi --- Gk gōnu, ON knē, OHG chnio --- Gk guné, ON kona, OHG chona --- gelu (frigus) Goth. kalids, OHG chalt --- gula (guttur)

OHG chēla --- gustare, kusan, chiosan --- gau (Skt vacca), ON hā, OHG chna --- 2) Medial position: Gk egǫ́, ego, Goth. ik, OHG ih --- vígil, OHG wachar --- Gk agrós, agere, Goth. akrs, OHG achar --- Gk ágein, agere, ON aka --- Gk mégas, mégalos; miklis; micheil --- rex, regis, regnum; reiks; ríchi --- jugum, juk, joch --- augere, áukan, auchoñ --- Gk amégin, mulgere, ON miólka, OHG mēichan. --- IX. (CH, H, G, K.) In Latin h is here equivalent to ch, cf. Schneider, Lateinische Grammatik, p. 202: Gk kheimōn, hiems; Gk kheir, Lat. hir; Gk khēr, herinaceus. Frequently however, OHG g to k, which I carry out here only in theory. 1) Initial position: Gk khēn, anser (for hanser) Goth. gans, OHG kans --- Gk khēō (fundo), Gk khutós (fusus) Goth. giutan, OHG kiozan --- Gk kholé, ON gall, OHG kalla --- Gk khthēs, heri, hesternus, Goth. gistra, OHG kēstar --- Gk khórtos, hortus, gards, OHG karto --- hostis (peregrinus) gasts, kast --- homo, Goth. guma, OHG komo --- Gk khthōn like khthēs for khēs for khōn and this for khōm, cf. khamái, humi, humus; to be compared with Goth. gauđ, OHG kouwi, kou --- 2) Medial position: Gk ékhein, Goth. áigan, OHG eikan --- Gk trékhein, Doric trékhein, Goth. pragjan --- Gk lékhos, Goth. ligrs, OHG lēkar --- Gk leikhō, líkhō (lambo) Goth. láigo, OHG lēkhōn --- Gk lukhān (insidiari), (Goth. lēghōn?), OHG lākōn. --- (see supplement).

Notes on this comparison of consonants:

- 1) Even if certain of the cited samples still appear to be dubious or uncertain, the majority may be considered as clearly demonstrated because of the analogy of the gradation; the correctness of the rules in general is unmistakable. Words in which two consonants agree are doubly certain (Gk trékhein, pragjan; pōdes, fōtjūs); those in which one consonant agrees, another deviates, are suspicious; even more suspicious, those whose consonants showed essential equivalence in the three languages without gradation. In this case, relationship is either entirely lacking (e.g. AS páhn, padhas and Gk páthos, dolor) or the one language has borrowed from the other (e.g. scriban is scribere itself; frucht is fructus, hence not Germanic; the same is true for OS sitor, Lat. securus).
- 2) In the investigations of the words, likeness or resemblance of consonants which are in general related is less important than observation of the historical course of gradation, which does not become disturbed or reversed. A High German word with p, which shows b in Gothic and f in Latin is originally related in these three languages: each possesses it unborrowed. If, however, we were to find an f in a High German word, b in Gothic and p in Latin, then the relationship

would be nonsensical, even though in the abstract exactly the same relationships of the letters are present. The Gk t requires a Goth. p, the Gothic t however no Gk th but rather d, and so the identity throughout is based on the external difference.

3) Words, which the one or other language does not possess, could readily be posited for the nine consonant relationships, but not in the elements of vowels, liquids and spirants. All hypothesizing accordingly remains unprofitable; we might at most claim that for example Gk dáphnē would have to have t-b in Gothic and z-p in High German; Gk phutón b-p in Gothic and p-d in High German. These nine rules are only touchstones for words which are available. Analogy is generally not sufficient for new creations, for everything alive is incalculable and merges the laws of theory with the exceptions found in reality.

4) Such exceptions, i.e. instances, where the proposed comparisons fail, appear:

a) in the transition of the tenues, mediae or aspiratae, to tenues, mediae or aspiratae of another series. How often do the members of one series exchange with one another: p, t, k (Gk taós, pavo; Gk pénte, Aeol. pémpē; Gk poíos, Ion. koíos) b, d, g (Gk obelós, Dor. odelós; Gk gē Dor. dē; cf. above p. 445, 446) ph, th, ch (examples above p. 587).

b) because of the imperfection of the aspirations in most languages and the mixing with the related spirants and mediae which arises out of it. Sanskrit has aspiration of the mediae and tenues of each organ, so that bh, ph, dh, th, gh, kh are found. Jumbled relics of these appear in the other languages. The Greek speaker has ph, th, and ch; the Latin only the first (and then it is modified; his f is close to the bh); th becomes f for him; ch becomes h. Also the Lithuanian and Latvian languages both lack f, th and ch (yes even the simple spirant h); Gothic etc. lack ch, which they replace with h and g. In other Germanic dialects, distinct traces of the bh, dh and gh, which can probably be found more clearly in the future than could happen in my presentation. The lack of initial Goth. p, HG ph (f), appears less striking with this point of view. Since in Greek and Latin the labials fluctuate, e.g. Gk kephalé, caput; Gk néphos, nephélē, nubes, nebula; thus each of the Germanic forms is justified, Goth. háubjþ beside gibla and the Saxon heafod; and it must in general remain undecided whether OHG houbit or houpit, népal or nébal deserves preference. The Latins

loved medial mediae (habeo, nobilis, mobilis, fabula, cibus, hebes, scabies, etc.; origin in v is obvious in novisse, movere, etc.).

c) The sound shift takes place in the mass, but never neatly in individual items; words remain in the relationship of the old arrangements — the stream of innovation has passed them by. Connection with the unchangeable liquids and spirants has usually (not always) preserved them. Thus, a) some words of the Gothic etc. languages still have the stamp of the Latin and Greek order, e.g. du, dis (cited p. 152), compare with Saxon tō and OHG zuo, zi, zēr; daddjan (dan. dīe) was erroneously cited, which is related according to the sixth comparison with Gk tháein, and has nothing to do with the AS tit. Further examples are OS sēdel, instead of sētel (p. 217), the ON pt instead of fit (p. 314). The relationship between dies, dags, dāg-dagr may not be interpreted otherwise.

β) some of the Old High German words have the stamp of the Gothic etc., as in the words enumerated p. 154, 155, 394. γ) some Gothic and Old High German (the latter accordingly unscathed through two sound shifts) agree with the Latin and Greek e.g. the cited AS tit, Eng. teat, OHG tutto (p. 155), Gk tifithē. Further: longus, laggs, lāng; angustus, aggvus, engi; gramen, gras etc.² ō of two consonants in a word one may be shifted, the other retained, e.g. in tūnga, zunga, lingua, the g remained, while d (dingua) underwent gradation; the lingual does not check in prudentia, Goth. frōdei and Lith. protas; gaudere too may be closely related to Goth. gatjan (facere ut aliquis obtineat restituere, from gitan, like nasjan from nisan) and MHG ergetzen, and for the stricter form katjan (ON kātr, laetus, beside gēta acquire and gēta acquiescere) go to the MH erchetzen. This possibly misleading sentence should not be misused by the etymologists.

5. I have presented the Old High German sound shift (p. 127, 151, 177) as something non-organic, and admittedly it is a visible deviation from an earlier organism which is still present in vestiges. One must also consider Gothic in contrast with Greek and Latin as equally non-organic. The similarities of both changes puts them right in the proper light. They are great events in the history of our language and neither is without inner necessity.³ It is also not to be overlooked that each gradation fills ever smaller circles. The peculiarity of the latter does not extend beyond the High

German dialect. The earlier one encompassed Gothic, Saxon, Northern still; accordingly it had a more significant extent. And how restricted this appears when contrasted with the still older situation, which we must recognize for the Latin, Greek and Indic languages, and to which in general also the Slavic and Latvian tribes adhere, perhaps with some modifications. For example, since aspiration is lacking for the Latvians, Prussians and Lithuanians, they are accustomed to use a media for it or sibilants (see addendum). But they possess the unmodified (Latin and Greek) *tenes* and *mediae*, cf. the Lith. *plėnus* (see addendum) *pirnas* (*primus*) *pakājus* (*pax*, *pactis*) *piemņ* (*poimēn*) *peda* (*vestigium*) *tris* (*tres*), *tu* (*tu*) *traukti* (*trahere*) *kampas* (*campus*) *kas* (*quis*) *kēlas* (*kēleuthos*) *akis* (*oculus*) *ratas* (*rota*) *dantīs* (*dens*) *antras* (*Goth. anpar*) *wertas* (*Goth. vairps*) *derwā* (*ON tiara*, *NHG zehr*) *trokszi* (*NHG dirsten*) *du* (*duo*) *sedeti sedere* etc. Similarly in Slavic pasti (*pascere*) *vepr* (*aper*) *piti* (*piēn*) *pokoj* (*pax*) *mater* (*mater*) *sjekati* (*secare*) *videti* (*videre*) *dom* (*domus*) *smrt* (*mors*, *mortis*) *plak* (*pleron*) etc. For this reason, the Slavic and Lettish languages are without doubt closer to the Latin and Greek than the Gothic, and this is closer than the Old High German.

- 6) The result of the sound shift brings it about that HG z (for t) fully takes the place of the th, as HG ph for p, and ch for c. This High German equating of the z (ts) with th is even more remarkable, in part because in no monument known to me an actual exchange between z and th is apparent (no trace of an OHG *thiman*, *thein* for *ziman*, *zein*), and in part because in the High German dialect the pure spirant h is strongly favored and never is exchanged with the spirant s. This exchange prevails precisely in the Slavic and Lettish languages, in which so many of the original gutturals appear assimilated, cf., *cor*, *cordis*, *hērza* with the Lith. *szirdis* (pronounce *schirdis*), Bohemian *srdec*; *canis*, *hund* with the Lith. *szū*; *centum*, *hundert* with the Lith. *z* (pronounce *sh* or *dsh*) answers to the Gk kh, Lat. h as: *ziema* (*kheimā*, *hiems*), *zeme* (*humus*, cf. *humilis* and *khitamalōs*, *khamalōs*), *zmoγus*, (*homo*, pl. *zmones*, *homines*; OPruss. *smunents*, *homo*), *zasis* (*kheñ*, *anser*); *zengfi*, *zengimas* is the Germanic *gangan*, *gang*. One should compare, however, the AS *scēort*, Eng. short for *cēort* and even the OHG *scurz* for *churz* (above p. 175) as well as the hissing pronunciation of the Frisian, English and Swedish initials c, k, ch.

The relationships of the consonants accordingly provide adequate proof of original relationship of the compared languages. Might not also, based on this, at the same time contacts between the vowels be detected? — the analogy between the High German and Gothic vowel situation not lead to the conclusion that Latin vowels too must be connected with Gothic? The connection will be even more uncertain and disrupted for this reason because in the Germanic dialects with the same consonantal gradation we meet such varying and manifold vowels. Nonetheless there are still unmistakable similarities like those given below.

Addenda

(580-581) The relationship of the semi-vowels v and j (p. 9) to the spirants v, s, h (p. 10) is still obscure. First of all, the lingual order has no semi-vowel at all. Secondly, the gutturals have a semi-vowel j which is distinct from the spirant h. Finally, the question arises whether the semi-vowel v falls together with the spirant v? I have already touched on this puzzle on p. 187. It is to be noted that semi-vowels (i.e. vowels with consonantal value) only develop from i and u, not from a, obviously not from the non-original e and o. And since further i and u can develop to y and w, they are semi-vocalic in a reverse sense, i.e. consonants with vocalic value. Is it related to the richer endowment of the throat sound series that the aspirate is occasionally withdrawn from it? (583, 32) *madans*, *mador*, *Goth. natjan*, OHG *naz*. (584, 15) If one also assumed a fourth grade, then the sound would return to the first grade. Isolated items might possibly be put there, such as the ch and z in *chāpi*, *hagestolz* cited in the addenda to p. 185 and 526; these however are non-organic exceptions. Never does such a thing show up in an established regular series. (585 to 588) Some more examples are added here for the nine comparisons.

- I, 1. *pallidus*, Lith. *palwas*, ON *fōir*, OHG *valēr*; Slav. *post* (*jejunium*) OHG *vastaz*, Lith. *pauksztis* (*avis*) *Goth. fugis*; Slav. *pišt* (*coactile*) OHG *viltz*; Slav. *piast* (*pugnus*) OHG *vūst*; Gk *péras*, *Goth. fēra*.
 I, 2. *nepos*, OHG *nēvo*; Gk *kēpos*, OHG *hof*, *hoves*; *copia*, *hūfo*; *hoplē*, ON *hōfr*, OHG *huof*, *huoves*.
 II, 2. Lith. *obolys*, Russ. *jabloko*, ON *epli*, OHG *epfili*; Russ. *obezjana* (*simia*) Bohemian *opice*, ON *api*, OHG *afro*.
 IV, 1. *triturō*, AS *pērsce*, OHG *driscu*; *tonitru*, AS *pērsce*, OHG *driscu*; *tonitru*, AS *punor*, OHG *donar*; Slav. *trn*, *tern* (*spina*) *Goth. patrnus*, OHG *dorn*.

- V, 2. kardía, cor, cordis, hairtó, hërza; radix, ON röt; hoedus, ON geit, OHG keiz; madidus, OHG naz; kónis, kónidos, ON nit, OHG niz (instead of hmit, hmitz); nidus, Slav. gniedzó, AS nēst, OHG nēst; possibly notus, Goth. nati (consisting of knots) OHG nezi.
- VII, 1. Gk képos, hof; copia, húfo; crinis, hár; cerebrum, hirni.
- VII, 2. pulex (pulec-s) Slav. blocha, OHG vlôh.
- VIII, 1. Slav. gnjetu (premere, depsero) OHG chnétan).
- VIII, 2. Lith. nogas (nudus) ON naktr, OHG nacchot.
- IX, 1. hoedus (= hoidus) ON geit.

(591, 22) In the Slavic initial position the media of the second or third grade occasionally prevails, especially in the combinations bl, br, gn, gr, e.g. blocha (pulex) brat (frater) (bronja) (lorica, Dobr. p. 115) OHG prunja; gnida (kónis, kónidos Dobr. 195); graditi (cingere, Goth. gaurdan) etc.; to the Germanic hl, hu correspond chl, chv, e.g. chvila (mora) hvîla; chlev, hleip and many others.

(591, 24) pilnas, plenus, Slav. pln, poln.

Notes

1. The modification of the initial and final sounds in Old High German, Middle High German and Middle Low German is not taken into consideration here.
2. The OHG mit, miti agrees with the Gk metá, hūti with cutis, but not with Goth. miþ, ON húdh. I doubt if other words cited in the note p. 159 and other assumed OHG words can be judged in the same manner. The contradiction to the comparison of the initials is noteworthy in the words patér, méfēr; pater, frater; Goth. faders (?), brôþar; AS fæder, môder, brôðher (cf. p. 514, 544); OHG vatar, muotar, pruodar; the Germanic languages agree among themselves and the Lat. frater with them; but should it be pathér and méthēr? Hardly; all three have the same original tenuis in Sanskrit.
3. Different from individual corruptions which were not thorough, e.g. from the Swedish and Danish displacement of initial lingual aspirates by tenuis, while labial aspirates remain: or the Danish media which is found medially, beside which the initial position maintains the tenuis.

CHAPTER SIX

WILHELM VON HUMBOLDT

ON THE STRUCTURAL VARIETY OF HUMAN LANGUAGE
AND ITS INFLUENCE ON THE INTELLECTUAL
DEVELOPMENT OF MANKIND

From Über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts (Berlin: F. Dümmler, 1836), Chapter 19

An excerpt from Humboldt's highly influential monograph can do little more than indicate the far-ranging manner in which he presented his views about language. The whole is tightly organized and should be read as a unit for accurate understanding of Humboldt's position. This selection illustrates some of Humboldt's concerns, among them questions which are still occupying linguists.

One is, how should we deal with language in change. A subsequent answer was to abstract the system from speech — language from parole — and make it the essential concern of linguists. By this view linguistic analysis could arrive at items and their arrangements; linguistic forms are arranged for selection and order. After the items and their arrangements are described, the historical linguist might compare two selected stages of a language and deal with the changes between them. Humboldt's view of language as an organism in constant change does not permit such a simple answer. He would have looked with favor on the attempts to introduce linguistic methodology which does not first require reduction of language to a state — which can manage processes in a descriptive presentation.

A second concern exemplified in the excerpt is the problem that Sapir dealt with under drift. Here too Humboldt is not dogmatic. He does not hypostatize; he would probably have objected to the notion of therapeutic sound change. He simply suggests that a principle can be noted; he discusses its functioning in language and leaves it up to others to make use of this guideline in their efforts to understand language.

The excerpt also illustrates Humboldt's well-known concern with typology. Like that of the Schlegel brothers,

this was to be overwhelmed by the concentration on genealogical classification. The types were not exact enough to arouse enthusiasm. In discussing them, Humboldt does not propose that they are to be rated against one another, but rather against their adequacy in meeting the varied demands of the human intellect. Nor does he relate any type to historical progress or to stages of culture. The aim was simply to understand language.

Other ideas are discussed more fully in other widely cited sections of the monograph such as the eighth on form [in which Humboldt asserts that language is not a finished product (ergon) but rather an activity (energeia)] and the eleventh on the inner form of language. These have been cited especially in connection with the Sapir-Whorf hypothesis. Humboldt held that the structure of a language reflects the culture of its speaker and that the differences between languages parallels those between speakers, but he did not specify the parallels nor did he insist that it was the language which brings about the differences. These views on the close relation between language and other components of culture appeal especially to linguists such as Weisgerber and his associates, who object to a purely mechanistic approach to language.

Humboldt's primary publications dealt with language, but he was interested in the humanities in general. A close friend of Schiller and an early commentator on Goethe, Wilhelm von Humboldt (1767-1835) belonged to the leading intellectual groups of his day. Though he studied political science, he devoted himself to his interests in literature and esthetics until 1801 when he entered service with the Prussian state; repelled subsequently by its reactionary policies, he returned to his private pursuits in 1819. He was proclaimed for his knowledge of languages, among them Basque, which he made known among linguists. Although he did not travel as widely as his younger brother, Alexander (1769-1859), his control over languages extended beyond those of Europe, as illustrated in the references of the excerpt. Like the ancient Kawi language of Java, to the grammar of which the monograph is an introduction, languages were of primary interest to Humboldt for his chief concern, the relation of language and culture.

19. On the Primary Differences between Languages in Accordance with the Purity of Their Principle of Formation

Since language, as I have already mentioned frequently above, always possesses only an ideal existence in the heads and spirits of men, never a material one — even when engraved on stone or bronze — and since the force of the languages which are no longer spoken depends largely on the strength of our own capability to revivify them, to the extent in which we can still perceive them, in the same way there can never be a moment of true standstill in language, just as little as in the ceaselessly flanning thought of men. By nature it is a continuous process of development under the influence of the actual intellectual force of the speaker. Two periods which must be definitely distinguished arise of course in this process: the one in which the sound-creating force of the language is still in growth and living activity; the other in which an apparent standstill takes place after complete formation of at least the external form of language and then a visible decline of that creative, sensual force follows. But even from the period of decline new principles of life and new successful reformations of language can develop, which I will touch on in greater detail below.

In the course of development of language generally, two mutually limiting causes work together: the principle which originally determines the direction, and the influence of the material which has already been produced, whose power always stands in reverse relation to the force of the principle which is asserting itself. There can be no doubt of the presence of such a principle in each language. Just as a people, or a human capable of thought in general, adopts elements of a language, in the same way it must combine them into a unity, quite instinctively and without a clear realization of the process; for without this operation thinking by means of language in the individual and mutual understanding would be impossible. One would have to make this very assumption if one could rise to an initial creation of a language. This unity however can only be that of an exclusively prevailing principle. If this principle approximates the generally language-forming principle in man to such an extent that this permits its necessary individualization, and if it penetrates the language in full and unweakened power, then it will run through all stages of the course of its development to such an extent that in place of a diminishing power a new power will arise again and again which is suitable for the continuing course. For it is characteristic of every intellectual development that its power does not actually die but simply changes in its functions or replaces one of its organs with another. If however something which is not based on the necessity of the form of the language is already

mixed with the initial principle, or if the principle does not truly penetrate the sound, or if something which is also wrongly formed joins a not purely organic material and leads to greater deviation, then a strange power becomes opposed to the natural course of development, and the language cannot gain new strength through the pursuit of its course, as should be the case for every proper development of intellectual forces. Here too, as in the designation of the manifold associations of thought, language needs freedom; and one can regard it as a secure sign of the purest and most successful linguistic structure if in it the formation of words and constructions undergoes no other limitations than are necessary to combine regularity with freedom, that is, to assure for freedom its own existence through limitation. For the course of development of intellectual capability generally stands in natural harmony with the correct course of development of language. For since the need of thinking wakens language in man, in the same way that which flows purely from its conception also by necessity advances the successful advance of thinking. If however a nation equipped with such a language would sink into intellectual inertia and weakness for other reasons, it would be able to work itself out of this state more simply through its language. Conversely the intellectual capability must find in itself the lever for its development, if it is equipped with a language deviating from that correct and natural course of development. Then the means created by this capability will have an effect on the language, not to be sure a creative one, because its creations can only be the product of its own life-force, but constructing in it, lending its forms meaning, and permitting a use which it had not placed in them and to which it would not have led.

We can then determine a difference in the countless variety of current and lost languages which is of decisive importance for the continuing education of mankind, namely that between languages which have developed powerfully and consistently from a pure principle in lawful freedom and those which cannot boast of this advantage. The first are the successful fruits of the linguistic instinct which flourishes among mankind in manifold exertions. The latter have a deviant form in which two things combine: lack of strength of the feeling for language, which always exists in pure form among man originally; and a one-sided malformation which arises from the situation that to a form of sound which does not by necessity flow from the language others are combined, attracted by this malformation.

The above investigations provide a guide-line to study this in actual languages and to present it in simple form, however much one thinks he sees a bewildering mass of detail in them initially. For we have attempted to show what is important in the highest

principles and in this way to establish points to which linguistic analysis can be raised. However much this path may still be clarified and smoothed, one comprehends the possibility of finding in each language the form from which the character of its structure flows; one can also see in the material sketched above the measure of its advantages and its deficiencies.

If I have succeeded in depicting the inflectional method in its total perfection, in showing how it alone provides the true, inner firmness for the word with regard to the intellect and the ear, and at the same time distinguishing securely the parts of the sentence in accordance with the necessary intertwining of thoughts, then there is no question that it exclusively preserves in itself the pure principle of linguistic structure. Since it takes each element of speech in its twofold value, in its objective meaning and its subjective relationship to the thought and language, and designates this double relationship in its proportional weight through forms of sound designed for the purpose, it increases the most original essence of speech, articulation and symbolization, to its highest grades. Accordingly the question can only be, in which languages this method is preserved most consistently, completely and freely. No real language may have reached the pinnacle. But above we saw a difference of grade between Sanskrit and the Semitic languages: in the latter, inflection in its truest and most unmistakable form and connected with the finest symbolization, yet not carried through all parts of the language and limited through more or less accidental laws — the bisyllabic word form — the vowels used exclusively for designation of inflection — the hesitation about compounding; in the first, inflection preserved against every suspicion of agglutination through the firmness of the word unity, carried through all parts of the language and prevailing in it in the highest freedom.

Compared with the process of incorporation and loose attachment without a true word unity, the method of inflection seems to be a principle of genius, proceeding from the true intuition of the language. For while such languages are anxiously concerned with uniting the individual entity into a sentence, or with representing the sentence immediately unified, the method of inflection indicates directly the components in accordance with a particular thought construction, and by its nature cannot separate the relationship of a component to the thought in speech. A weakness of the language-forming instinct at times does not permit the method of inflection to go over to the sound, as in Chinese, and at other times not to prevail freely and alone, as in the languages which individually follow the process of incorporation. The effect of the pure principle can however be checked also through one-sided malformation, when an individual form of construction, as for example the specification

of the verb by means of modifying prefixes in Malay, becomes prevalent to the neglect of all others.

However different the deviations from the purest principle may be, every language can still be characterized for the extent to which the lack of designations for relationship is visible in it, and the attempt to add them and raise them to inflections, and the expedient of characterizing as a word what speech ought to present as a sentence. From the mixture of these principles will proceed the essence of such a language, but as a rule an even more individual form will develop from the application of them. For where the full energy of the guiding force does not preserve the proper equilibrium, there a part of the language readily attains a disproportionate development with unfairness to others. From this and other circumstances individual excellences can also arise in languages in which one cannot otherwise recognize the character of being excellently suited organs of thought. No one can deny that Chinese of the old style carries an impressive dignity through the fact that only weighty concepts join one another directly, and in this way it attains a simple greatness by seeming to escape to pure thought through speech in discarding all unnecessary secondary relationships. The real Malay is not unjustly praised because of its ease and the great simplicity of its constructions. The Semitic languages preserve an admirable art of fine distinctions of meaning through many vowel gradations. Basque possesses in its word formation and in its constructions a special strength which proceeds from brevity and boldness of expression. Delaware and other American languages combine into a single word a number of concepts, for the expression of which we would need many. But all of these examples only prove that the human intellect, however unbalanced the course it may take, can always produce something great and productive of fruitfulness and enthusiasm. These individual points do not decide the preeminence of languages to one another. The true preeminence of a language is simply to develop from a principle and in a freedom which make it possible for it to maintain all the intellectual capabilities of man in vigorous activity, to serve them as a satisfactory organ, and to stimulate them constantly through the sensuous fullness and intellectual regularity which it preserves. Everything of benefit to the spirit which can develop from language exists in this formal characteristic. It is the bed in which the spirit of language can propagate its waves, in the secure confidence that the sources which they lead him to will never be exhausted. For he actually glides on it as on an indelible depth from which he can draw more and more, when more has already flowed to him from it. Accordingly this formal measure can be applied to languages only if one tries to bring them under a general comparison.

CHAPTER SEVEN

RUDOLF VON RAUMER

LINGUISTIC-HISTORICAL CHANGE AND THE NATURAL-HISTORICAL DEFINITION OF SOUNDS

"Die sprachgeschichtliche Umwandlung und die naturgeschichtliche Bestimmung der Laute," *Zeitschrift für die Österreichischen Gymnasien* V (1856), 353-73

The great advance in historical linguistics after the early publications of Grimm, Bopp and others was in knowledge of phonetics. Usually we assume that this increased knowledge clarified historical problems, as in accounting for the "first set of exceptions in the consonant shift" — the retention of the voiceless stops after fricatives, for example in Gothic *ist* = Lat. *est*. But from von Raumer we learn that the influence also went in the other direction, that the problems which arose in historical linguistics led to an increasing need for competence in phonetics. In keeping with this need to move away from the "shuffling of letters," von Raumer set out to arrive at an accurate statement of articulatory phonetics.

The essay presented here recapitulates many of the conclusions presented by von Raumer in his monograph on *Aspiration and the Consonant Shift*, published when he was 22. In this he attempted to clarify the relationship of the Greek stops to the Germanic; he concluded that *ph th kh* were aspirates, like the related *bh dh gh* in Sanskrit. By this clarification he defined with greater precision the variety of sounds that Grimm combined in his aspiratae. He also made the suggestion for which Grassmann later was given credit — that Sanskrit never shows aspiration in two successive syllables: *Aspiration and the Consonant Shift* p. 74, §64: "For since Sanskrit never aspirates two successive syllables, one can assume as the original form of *bud'* with equal justification *b'ud'*. Then *bhudan* would simply be the usual transition of *b'* to *b*." But this insight of von Raumer's was not noted by his contemporaries. Apparently a review of all the relevant examples, as by Grassmann, was necessary to attract the notice of linguists. In devoting attention to phonetics, von Raumer dealt

with the spoken dialects, citing the pronunciation of Low German, Bavarian, Swabian variants. This attention to the dialects was followed by specific concentration on them, as his concern with phonetics led to the definitive treatments of Sievers and Jespersen at the end of the century.

Rudolf von Raumer (1815-1876) had a quiet career, completing his studies at the University of Erlangen and holding a position there until his death. With a chair at a university which was not a center for linguistic study he was somewhat of a loner, who did not participate in the struggles between the traditional grammarians and the more rigorous linguists. Possibly his aloof position also led to the neglect of his writings. Both in content and style, however, they seem more modern than most linguistic works of his time. In spite of his problems in developing a linguistic vocabulary and his occasional faulty reasoning (as in his interpretation of Gothic *p* as an aspirate) we consider him one of the important contributors to the developing methodology of historical linguistics.

Foreword

Through the discoveries of historical linguistic investigation, the significance of phonetics has been placed in a new light. The more the importance of phonetics becomes recognized, the more apparent becomes the need to understand as clearly and precisely as possible its subject matter, namely the sounds themselves. This understanding, insofar it is in the sphere of direct observation, lies in the area of the physical sciences. Therefore it is highly desirable that important scientists should devote themselves to the study of this subject. Among the many valuable studies, which have been recently undertaken in this area, I intend to dwell only upon those which Johannes Müller and Ernst Brücke have achieved for the determination and arrangement of the sounds of language. Investigations of this type need above all a common solid foundation. And exactly that has been furnished by Brücke's publication in a manner as clear as it is accessible. Only after agreement has been reached on such a basis can one discuss the more complex and deep-seated questions of scientific as well as historical investigation of sounds. If in regard to some of these questions I maintain previously proposed findings opposed to Brücke's views, I ask that this not be considered as personal obstinacy. I have subjected my assertions to a renewed careful examination. But the result of this examination has only convinced me anew, that my views concerning

aspiration and the sound shift, stated in 1837, are essentially correct. The relationship, however, in which this particular sound development stands to the various types of sound change in general, will be clarified partly by the following treatise, partly by comparison of it with my other linguistic works.

I. The Natural-historical Determination of Sounds

1. The natural-historical determination of sounds must first devote itself solely to the sounds of the present as object of immediate observation. The chief aim of such observation is the manner of utterance of the sounds. Differences, which the ear perceives or believes it perceives, are not to be dismissed. But in the realm of precise natural-historical observation they are only then to be dealt with, when one can establish with certainty their diversity of production.²

2. We distinguish primarily the tones of the human voice and the sounds of human speech. The tones are produced through the vibration of the vocal cords in the glottis; the sounds are produced through the deflection of the exhaled airstream against the organs lying between the epiglottis and the lips. Of the tones produced in the glottis, one distinguishes between loud and soft speech (*vox claudestina*). Loud speech is produced when we accompany utterance of sound, as far as it is possible, with tones from the vocal cords. Soft speech is produced when we speak without simultaneous sounding of the vocal cords. We accompany soft speech too with a noise, differing from the production of sounds, which we can clearly perceive especially in whispering the vowels.³

3. The sounds are divided into classes on the basis of three different criteria, namely 1) according to the position of the organs, 2) according to the type of air influx, 3) according to the organs, by which they are produced.

4. According to the position of the speech organs, the sounds are divided into 1) those which require for their utterance a complete closure of the organs (*stops, literae explosivae*), and 2) those which are produced without a complete closure of the organs (*continants, literae continuæ*).⁴ The latter sounds are divided again into those, which are produced by air passing through such a narrow passage, that the noise of air deflection becomes clearly audible (*consonantal continuants, consonantes continuæ*) and those for which, because of the wideness of the opening this is not the case (*vowels*).

5. The second criterion of classification is the type of air influx. Usually one divides the consonants into hard and soft, so that, for example, the German *p* is called hard, the *b* soft, and likewise

β (in *gießen*) hard, and the \underline{s} (in *sagen*, *Wesen*) soft. The objection is raised against this division, however, that it is wavering and without clearly fixed limits, for what one person calls hard, another will consider soft. Another criterion has therefore been advanced, which provides a definite limit, namely whether the tone of the voice can be combined with the utterance of a sound or not. Sounds are accordingly divided into voiced and voiceless. The difference is most noticeable in the pronunciation of some continuants, for example, the \underline{s} and the β . While one sustains the (so-called soft) \underline{s} , one can simultaneously produce a singing tone; as soon as one passes to the (hard or sharp) β , however, the singing tone immediately ceases. This difference, which was known already by the old Indian grammarians, is an excellent criterion, because it replaces an uncertain and indefinable difference for the ear with a certain and verifiable distinction in utterance. But since the tone of the voice only accompanies the sound and is not essential to it, one will do better by seeking the reason why it becomes impossible for certain sounds to combine with the tone of the voice, and then to take this cause as the criterion for distinction. This cause, however, is none other than this: certain sounds are produced by blowing (*flatae*), while others are formed through breathing (*halatae*). But blowing and singing exclude one another; one can convince himself of this at once, if one tries to sustain a singing tone when one passes from breathing to blowing.⁵ The difference then that one designates by voiceless and voiced⁶ I would prefer to express by blown (*literae flatae*) and breathed (*literae halatae*).⁷

6. Concerning the division of the sounds according to the organs or the places of articulation, I refer to Brücke's exhaustive presentation; for illustration, however, I wish to give at this point merely a survey of the common stops and spirants (consonantes continuatae spirantes) of the general New High German language. I limit myself to these two classes, because primarily they are to be considered in the course of this paper. I append the column for vowels merely in order to indicate the position of the consonantal continuants between the stops and the vowels.

This table of the common stops and spirants of the general New High German language conforms to the one given in my paper on aspiration and the sound shift. Only in one single instance do I disagree thereby with Brücke, in reference to the cerebral sibilant (*Sch in schoen*). I have repeated the experiments, which in conjunction with the old Indian grammar, disposed me to assign this sound to the cerebrals, and they have only convinced me again that its place of articulation lies between that of *ch* (in *Sichel*, *Brücke's X¹*) and that of β (and \underline{s}). One can convince himself of this fact, if one produces our spirants, one after another with *vox clandestina*, whether the

Place of Articulation	Stops (Explosivae)		Consonantal Continuants (Conson. continuatae)		Vowels (all halatae)
	blown (flatae) (= voiceless)	breathed (halatae) (= voiced)	blown (flatae)	breathed (halatae)	
I. Throat sounds (gutturales)	k	g	ch (in <i>Sache</i> , <i>Brücke's X²</i>)		are not always assignable to individual places of articulation with the same certainty as the consonants.
II. Palatal sounds (palatales)			ch (in <i>Sichel</i> , <i>Brücke's X¹</i>)	j (in <i>jeder</i>)	
III. Cerebral sounds (cerebrales)			sch (in <i>schoen</i>)		
IV. Dental sounds (dentales)	t	d	β (in <i>gießen</i>)	s (in <i>sagen</i> , <i>Wesen</i>)	
V. Labial sounds (labiales)	p	b	f	w ² (= French V) w ¹ (the u in <i>Quelle</i>)	

sequence be from back to front or from front to back. One may first narrow the air passage in one such sequence by beginning with the *ch* in *Sache*, passing then to that in *Sichel*, thereupon to the *sch* and finally the *ß*. Immediately upon reaching the *ß*, one should return to the *sch*. It will be very easy to notice that the place of articulation of the *sch* lies somewhat farther back than that of the *ß*. This is the most usual pronunciation of the NHG *sch*. The determination of this sound becomes somewhat complicated, however, in that there is a third sibilant besides *ß* and *sch*, which is pronounced somewhat farther back than the usual German *sch*. Sanskrit has this sound in the palatal sibilant *ç*, according to Bopp's designation (*ç*). It is produced by approaching the palate with the tongue in the same area, where we pronounce the *ch* in *Sichel*. But while we hold the part of the tongue, which lies in front of the place of articulation, as far as possible from the palate in pronouncing *ch* (in *Sichel*), in pronouncing the palatal sibilant we must approach the palate with the tongue. Through a gradual transition from the positioning of the organs of articulation of the palatal sibilant (*ç*) to that of the pure cerebral sibilant (*ç̄* = *ś*, *sh*, *sch*), we obtain an uninterrupted series of traditional sibilants lying between the palatal *ç* and the cerebral *ç̄*. A portion of our fellow-countrymen use these sibilants in place of the pure cerebral *ç̄* (= *sh*, *sch*).

II. The Historical-Linguistic Change of Sounds

1. In the course of time the words of language have changed their sounds. So much is certain and, moreover, this is one of the most important facts for the history of languages. We ascertain that the sounds of words have changed when we compare the older state of languages with the more recent. The process of the change itself however has not yet been investigated enough. If we penetrate deeper into the darkness which in many ways veils these questions, we find a huge multitude of highly different processes at work. And what is even more troublesome, we find that to isolate these processes becomes even more difficult, because often quite heterogeneous occurrences lead to almost the same result.

2. When the change of languages and especially of language sounds is spoken of, there are almost immediately references to the "spirit of the language" and its wonders. I have no intent whatsoever of deprecating the profundity with which the more recent research distinguishes itself. But I think it is about time that we turn our attentions to reality and its phenomena with clear and impartial minds. When we do, we find that the "spirit of the language" in itself and apart from people does nothing, but rather that all changes

in language actually are produced by the people. To just what extent their production is really a product of man remains a matter of conjecture. It is enough that the changes themselves are objects of observation as soon as they become apparent.

3. If first of all we direct our observation to that which happens before our very eyes, or better, before our ears, we will discern the following facts:

1) Every single person changes his speech in the course of his life. As a child, before the complete development of his speaking ability, he speaks many words with sounds, which he later abandons. If he attains an old age and loses his teeth, not only does the sharpness of his articulation disappear, but also in more than one instance real modifications of the previously pronounced sounds become apparent.

2) From this alone it follows that not even a single family, which consists of old people, adults and children, speaks one and the same language.

3) But even the adults among themselves never have exactly the same language, not even phonetically. This follows necessarily from the principle of individuation. Every human being has his own peculiarly formed organs of speech as well as his own particular facial features. Now the production of sounds is conditioned by the form of the speech organs, which confine the sound-producing air stream. Therefore, although our ear does not perceive the resultant difference, it is nevertheless present. But in many cases our ear is very readily able to detect the difference.

4) A further and not infrequently occurring difference results from the fact, that one person articulates a sound at a somewhat different place than another, and therefore, strictly speaking, actually produces an entirely different sound.

4. If we consider the possibilities which could result from the above discussed differences among relatively great numbers of people, we find them to be of most varied kinds. If the change of a sound heard in an individual's speech is caused by the inability of the vocal organs to produce the heard sound, this individual is forced to face the particular change wherever the sound in question occurs. Let us consider then an entire family, or an even larger social group consisting only of individuals which suffer from the foresaid disability. The sound pronounced earlier will necessarily disappear in this entire group, and the other sound will take its place.

On the other hand, however, let us consider a family in which one member, for example the father, has that peculiarity of speech, but the mother does not. The case may then occur that the children imitate either the father entirely or the mother. But it can also be

that, being capable of imitating both, the children imitate their father in some words, the mother in others, and in some words perhaps they waver between one parent and the other.

5. If the change of the heard sound is not based on the inability of the speaker to produce the sound, but rather only on the fact, that the changed pronunciation is easier for the speech organs than the traditional one, then usually the results will also be different than in the previously discussed instances. It is possible then that certain members of the group will retain the old pronunciation. But since the change is not due to an individual peculiarity of the speaker, but rather to the mechanism of the human speech organs in general, among the other members of society it will also be effected, not merely through imitation, but also through the structure of their own speech organs. This is the case in most instances in which one sound is altered by the environment of another.

6. A large part of the changes, which the sounds of words undergo in the course of time, can be accounted for in the ways discussed above. Especially if one remembers in addition, that the mere inexactness of hearing and speaking causes sound changes, which are very similar to the four discussed already. We find however another type of alterations belonging to a class of sound changes different from those previously discussed. And these changes are namely those in which, firstly, there is no question of mere inexactness of transmission, because they are immanent within the entire vocabulary or at least a very large part of it. Secondly, in these changes there exists no inability to produce the earlier sound, because the same sound, which is abandoned in one place, reappears at another. And thirdly, in these changes it has not been possible to prove an influence of neighboring sounds as the cause of the change. In this category belongs the most remarkable sound change in the Germanic languages: the sound shift of the mutes.⁸

7. The ways in which one sound changes into another can be twofold. Either a certain sound changes swiftly into another particular sound, or it passes gradually through a continuous series of intermediate sounds. In the case of sound changes through neighboring sounds, especially among vowels, there is often this gradual transition. For the sound changes discussed under number 6, this gradual transition is especially applicable.

8. It is naturally not my intention above to exhaust the diverse types of sound change. Otherwise, sound change through analogy, for example, would also have to be treated. But I would prefer to reserve this and other related questions for another occasion.

III. Which Means Do We Have at Our Command for Investigating Sound Changes?

1. We are not speaking here of the confirmation of the fact, that the sounds of words have changed. Neither is it a question of the form of words in one language or another. Rather, we are concerned about the process itself, by which the one form of words and sounds has replaced the other.

2. Neither is it a matter here of how word forms, which were already present in the spoken language, came to be taken into the written language. We are asking, rather, how one form of a word replaced another in the spoken language itself.

3. Although the question then about this process itself is different from the question concerning sounds which in one language are to be found in place of others in another language; the research on the latter question forms the basis for the investigation of the former. Indeed the excellent activity in the realm of comparative phonology and its admirable results lead us to believe that we shall also be successful in getting more clues about the above-mentioned processes. It is our very worthy linguists, whom we have to thank for the many results, and whose work has laid the foundation for all further investigations. Above all, it has been the comparative studies of the Indo-Germanic languages which have paved the way for us. I mention only the works of Rask, Bopp and Pott concerning the connection of the Asiatic and the European branches of the Indo-Germanic languages, the epochal Germanic grammar of Jakob Grimm, and the research in the Romance languages by Diez, in the Slavic languages by Miklosich and Schleicher, in the Celtic languages by Zeugn.

4. All of these works not only furnish the material for the investigation of sound change, but they also pave the way to this objective through the contributions, which they make toward the solution to what Diez, in the second edition of his Grammar of the Romance languages, has recently accomplished in this field. In fact the works of Diez quite clearly direct our attention toward both points; research must now be primarily focussed on these. The first of these is the investigation of the living dialects in the most specific and the most general sense of the word, and secondly, the physiological investigation of not only the living languages, but also of the languages no longer spoken.

5. Besides the very worthwhile treatment of dialects of entire ethnic groups, the investigation of living dialects will have to concern itself above all with the most accurate examination and representation possible of the particular diction of individuals. These studies will give us the possibility of drawing conclusions from

the thousand-fold synchronic diversity on the diachronic succession.⁹

6. The second requisition: the investigation of sounds in non-living languages is always attended by great difficulties. And yet this inquiry is the indispensable pre-condition if we want to advance from the mere demonstration of alphabetical modification to the investigation of sound change. The means at our command for converting the written letters of old languages into living sounds are quite diverse. To some extent they are provided in the structure of the languages themselves. Physiological and euphonic sound changes within the language concerned also offer numerous clues. Moreover, there is the value of the sounds in meter, which gives us so much information, especially in the classical languages and Sanskrit, and their positions in rhyme, which is so important for many languages of the Middle Ages. We do not want to review here all of the particular aids for determining the sounds of dead languages: the introduction of individual words in other languages, their transcription in another alphabet, and so forth. Rather, we shall limit ourselves to emphasizing only two means of determination relevant to the old chief languages of the Indo-Germanic family: the statements of the old native grammarians and the linguistic-historical change of the sounds themselves.

7. The importance of the old grammarians for determining the sounds is generally recognized. The general complaint, however, is that their assertions are partially ambiguous and partially difficult to understand. It is evident that this complaint is not entirely without foundation, in that the most discerning and candid scholars have arrived at quite different conclusions in many of the most important points. It should be pointed out, however, that the Indian grammarians are incomparably more accurate, more comprehensible and more explicit in their definition of sounds than the Greeks, who are in their own way also quite discriminating.

8. When I designate the historical-linguistic change of sounds as one of the means for determining sounds no longer spoken, I must first protest against a misunderstanding. In reference to Max Müller's estimable article on the languages in the area of the oriental war, Brücke says:¹⁰ "It must be noted that Max Müller considers the *e* and *o* to be diphthongs which differ from the true diphthongs, like the English *J* and *ou* in *ou* only in degree. It is hardly comprehensible how a man of Max Müller's intelligence could defend such an error, however widely accepted, after he had read the investigations of Willis. The cause of this particular error is, as it appears to me, another error of even greater range, which he unfortunately shares with many other linguists. They believe that the nature of a speech sound can only be determined by historical and

comparative philological research, for only this can be meant by the author when he refers to theoretical analysis. This determines how sounds replace one another at different times and among different peoples. But even if this occurred according to more immutable laws than it actually does, even then the analysis of individual sounds with regard to the conditions, under which they arise would be left to direct observation and scientific experiments." I subscribe fully to this statement of the discerning physiologist, and wish moreover that he would some day subject to a scientific examination the definition of sounds found in our otherwise quite laudable grammatical works. He would encounter there a great number of things which are almost more incredible than the above cited views of Max Müller.¹¹ concerning the alleged diphthongal nature of the Sanskrit *ē* and *ō*. I have therefore no intention of wanting to determine the nature of sounds according to linguistic-historical processes that would be contradictory to natural-historical observation. What I assert is rather: When we are uncertain about which sound is expressed by the symbol of a non-living language, among other arguments we can consider the question: What development has the sound of this symbol undergone in the course of linguistic history? From the answer to this question we can draw conclusions on the nature of the old sound. It is quite apparent, that by this method we would never enter into conflict with scientific conditions of sound production.

For our entire investigation is to serve only the purpose of finding the historically true sound belonging to the symbol among the many scientifically possible ones. I shall demonstrate this with an example. Old High German had two *i*'s, a short and a long. Etymologically, the short *i* corresponds to a Gothic (short) *i*; the long one to a Gothic *ī*. For example, Old High German *stilu* (*furor*) is in Gothic *stīla* (with a short *i*); on the other hand, Old High German *stīgu* (*scando*, with long *i*) is in Gothic *steigz*. Now if someone should want to conclude that the OHG *ī* is a diphthong, because it came from Gothic *ei*, then he would be guilty of the error of Max Müller, which Brücke rightfully criticizes above. If he says however: "The OHG *i* is long, where it corresponds etymologically with a Gothic *ī*; but where it stands in the position of a Gothic *i* (always short), it is short," then he will be right, insofar as direct proofs contrary to this assumption can not be adduced from elsewhere.

IV. The Natural-Scientific Determination of the Aspirates and the Germanic Sound-Shift

1. One of the most remarkable sound changes in the entire area

of Indo-Germanic languages is the transformation which the mutes have undergone in the Germanic branch of this great language family. This transformation is not only among the most remarkable because it is one of the most important for etymological research, but rather because it runs through an entire family of sounds with amazing regularity and, moreover, has occurred in the course of centuries not once, but twice, according to the very same principles. This transformation, to which Jacob Grimm gave the name "sound shift," consists therein, as is well-known, that the Germanic languages of the Gothic stage have a tenuis in place of a Greek media, and in place of a Greek tenuis, an aspirata, and finally in place of a Greek aspirata, they have a media. But the same transformation, which Gothic experienced in relation to Greek, Old High German undergoes a second time in relation to Gothic. In spite of all restrictions and exceptions, which the course of this development undergoes, we have accordingly in this transformation a process which is undeniably based on the nature of these sounds.

2. In order to comprehend the progress of this development, however, it is absolutely necessary to determine correctly the nature of the sounds concerned in it. The tenuis or blown (= voiceless) stops cause us no difficulty. The languages still living today have them as well as the dead languages, and the essential agreement of our *k*, *t*, *p* with the Old Greek *κ*, *τ*, *π* is not disputed. The media would give us somewhat more difficulty, if at the outset we have to attempt to determine relatively exactly the meaning of this concept, which the Old Greek grammarians identify with the expression *mesa*. For the moment, however, we can put aside this investigation, for the specific peculiarities of Greek pronunciation are not our concern in dealing with the law of the sound shift, but rather the sounds, which in the original Greek stage etymologically corresponded to the Gothic tenuis, were the breathed (= voiced, = soft) stops, accordingly in the main our *g*, *d*, *b*.

3. The difficulty lies in the determination of the sound of the aspirates. Twenty-one years ago I made the attempt to grasp the law of the sound shift more accurately by proceeding beyond the mere etymological comparison of letters and trying to penetrate into the historical-physiological process of the sound change itself. Among the results of this investigation was a more exact determination of the Greek and Sanskrit aspirates, a precise distinction of them from mere spirants (friction noises) and the proof, that precisely the aspirates played a major role in the process of the sound shift, a role, which the spirants, being quite different from the aspirates, were incapable of assuming. The main difference between aspirates and spirants was found to be, that the aspirate was a stop (*explosiv*) with after-sounding, while the spirant is a continual

sound (continua), produced not through the closure, but rather through the mere constricting of the speech organs.

4. Now after many years of further research I would, of course, modify in many respects the views which I expressed in my article of 1837. Yet I still hold to the entire course of the investigation as well as to its essential conclusions, believing I can refute everything which has been said against my findings. The conclusions published by me would receive the strongest blow if the views which a perceptive physiologist recently postulated concerning the nature of the old aspirates had any basis. For Brücke is of the opinion in his article mentioned frequently above, that the old aspirates, the Indian as well as the Greek, were merely fricatives (spirantes). He attempts to support his opinion with the most diverse arguments, and I feel myself obliged, therefore, to analyze more closely his argumentation.

5. We shall first discuss the Sanskrit aspirates. Here Brücke begins his exposition with an argument, which he draws from the orthographical designation of the Sanskrit aspirates. "In the *Dēvanāgarī*," he says, "their signs have nothing in common with those of the respective stops; only the sign for *t̄* (*t̄* of the cerebral group) has an unmistakable resemblance with that of its aspirate. This must be pointed out, because the almost complete lack of correlation of the signs is not entirely without importance for the evaluation of the nature of the sound."¹³ To the same degree as the latter is of importance precisely for the *Dēvanāgarī*, Brücke's argument will obviously refute his own views, as soon as the signs for the unaspirated stops reveal themselves to be in evident correlation with the signs for the corresponding aspirates. With a great number of signs, however, this correlation is not subject to the least doubt, and moreover is restricted by no means merely to the *t* of the cerebral series. One glance at the *Dēvanāgarī* signs will convince us of this fact. Let us compare in the guttural series ॠ (*ka*) and ॡ (*kha*), in the palatal series ॢ (*dscha*) and ॣ (*dschna*), and in the labial series । (*pa*) and ॥ (*pha*). How one wants to explain the origin of this similarity depends naturally on the views one has in general on the origin and development of the *Dēvanāgarī*.

According to the present grammatical tradition of the Indians, "each aspirate is pronounced like its corresponding non-aspirate, but with an accompanying, clearly perceptible *h*. Consequently one may not pronounce ॡ (*k̄*) like a German *ch*, ॣ (*ḥ*) not like *h*, or ॥ (*ḥ*) like an English *th*; but according to Colebrooke ॡ (*k̄*) is read like *kh* in inkhorn, ॣ (*ḥ*) like *ph* in haphazard, and ॥ (*ḥ*) like *th* in nuthook. The relationship is the same with the other aspirates."¹⁴ Even Brücke cannot deny this. He is of the opinion, however, that the present pronunciation of the Sanskrit aspirates is not the original,

that they were rather mere fricatives (spirants): $\overline{\text{व}}$ ($\acute{\text{k}}$) sounded like our *ch* in *Spruch*, $\overline{\text{ण}}$ ($\acute{\text{p}}$) like *f* and so forth.¹⁵

To determine whether this is in fact true, we shall have to consult the older Indian grammarians. In the annotation to Pāṇini's Grammar we find a survey of the Sanskrit letters with indication of the manner of production in regard to the several speech organs as well as the position of these organs.¹⁶ Here all of the aspirates *k*, *ṣ*, etc., as well as the corresponding non-aspirated stops are counted among the letters, whose utterance requires *sprīṣṭa*, that is, the contact of the organs.¹⁷ I would not know, how one could any more clearly characterize the nature of the stops. But perhaps Brücke wants to maintain that the annotations to Pāṇini are not old enough for him, rather that they stood under the influence of that later change in the pronunciation of the Indian aspirates which was assumed by him. Let us look then for the earliest evidence of Indian grammar. In the *Prātisākhya* of the *Rigveda* a representation of the sounds of Sanskrit has been preserved, which leads us quite far back in Indian antiquity. The very alphabet which precedes the first *pāṭala* shows us how closely the aspirates were associated with the corresponding non-aspirates even in those very earliest times. For the letters are represented in such a way, that every aspirate forms a single word with the corresponding non-aspirate, which, through the dual ending (*au*), indicates the copulative composition of both letter-names. Thus *ka* and *kā* are joined to form the word *kakau*, *ga* and *gā* to form the word *gagau*, and so on.¹⁸ Decisive, however, is the naming and definition of the aspirates in this old grammatical work. For the ten Sanskrit aspirates (*k*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*, *ṣ*) are brought together with the ten corresponding unaspirated stops and the five nasal consonants under the expression *sparsās*. This expression comes from the same word *sprīṣṭa* (*tangere*), to which the word *sprīṣṭa* (contact) in the annotations to Pāṇini belongs. All of these sounds, including the aspirates, are accordingly designated as contact sounds by the old grammarian and are quite expressly distinguished from the semi-vowels (*j*, *ṛ*, *l*, *v*) and the breathed sounds (*śmā*), to which *h* and the sibilants are ascribed. As a clinching argument, one old annotation interprets the passage to the effect, that the *sparsās* are the letters in the utterance of which the speech organs touch one another.¹⁹ For all fifteen sounds, which with the aspirates form one and the same class, there is no doubt of this contact; for also in the nasal consonants the actual speech organs are entirely closed and only the nasal passage remains open. It is therefore quite clear what the old grammarian means with the designation *sparsās* contact sounds. Furthermore there can accordingly be no doubt, that also the aspirates were produced in his time through actual contact of the speech organs, that is, as stops.

I believe herewith to have given the proof, that the Sanskrit aspirates were stops, and it only remains to put in its right place an argument especially emphasized by Brücke. Max Müller says in the above-mentioned publication:²⁰ "According to the Sanskrit grammarians we produce the aspirate as a modified tenuis, and not as a double consonant, in that we begin to pronounce the tenuis, but instead of breaking it off sharply, we allow it to be produced with what they call the corresponding wind (*flatus*, incorrectly rendered as *sibilans*)." From this Brücke wants to conclude:²¹ "Let us first turn our attention to this passage,²² he says, "so far as it is concerned with the tenuis aspirates, that is, the voiceless aspirates. So far it does not give cause for the slightest doubt, since Max Müller mentions on p. 27, that the fricatives are called winds of the Sanskrit grammarians. In this passage the derivation of the voiceless fricatives from the voiceless stops is described. No one could invent a description of such simplicity and truth, if these fricative sounds did not exist in the language. The present pronunciation of the voiceless aspirates is consequently not the original." Rather according to him, the Sanskrit aspirates must have been voiceless fricatives, namely $\overline{\text{व}}$ (*ka*), our *ch* in *Spruch*, $\overline{\text{ख}}$ (*ca*) our *ch* in *sprich*, etc.

This entire argument, however, seems to me to suffer from an inner contradiction. Even according to Brücke, the Indian grammarians have a clear and correct concept of the fricatives. They classify the sibilants, the *h* and a few others as belonging to these fricatives (*śmā*, a term of the Indian grammarians, rendered wind by Max Müller). But precisely the aspirates, which are our concern here, they do not include, but rather classify them among the *sparsās*, that is, sounds which require complete contact of the speech organs. What could be clearer, than that the Sanskrit aspirates were, in fact, not fricatives (spirants, *śmānas*), but rather stops?

As concerns the description of their production, which Max Müller passes on to us from the Indian grammarians, surprisingly enough it agrees completely with the statement I gave of the Old Greek aspirates twenty-one years ago. According to the description of the Indian grammarian, we have a Tenuis with a following, yet incompletely developed spirant, which, as regards the organs concerned, corresponds to the Tenuis. Twenty-one years ago I proposed to represent this undeveloped spirant with a proposed $\overline{\text{h}}$ and delineated the sound in question as follows:

Non-aspirated Mutes		Spirants	
p	b	f	v
t	d	β	s
k	g	ch (spruch)	hh

From these result the hard aspirates \underline{phv} , \underline{ths} , \underline{khnh} . If the following spirant develops completely, then we obtain the double-consonant $\underline{f\beta}$ (new High German \underline{z}) and \underline{kch} , which still occurs in many dialects of German-speaking Switzerland. The difference between the aspirate and the corresponding double consonant is this: with the double consonants ($\underline{f\beta}$, \underline{kch}), after production of the Tenuis the speech organs are brought into the steady position, which is necessary for the utterance of the clearly developed spirant. They are held in this position for a time, so that the spirant produced by it is distinguished from the preceding tenuis as a separately articulated sound. Because the speech organs have this steady position, one can also hold them there as long as one likes and, for example, make the uninterrupted sound: \underline{pffff} , $\underline{t\beta\beta\beta\beta}$ and so on. The situation is quite different, however, with the undevolved after-sounding of the aspirates. This is produced only through the slow opening of the organs after the closure of the Tenuis. The organs do not remain for one moment in the same position. Therefore no clearly determined, separable sound can be produced; and just so, this sound, which is involved in a continuous change from the time of its origin until it fades away, cannot be maintained steadily. For it begins with the point of opening and ends with such an expansion of the speech organs, that the stream of flowing air no longer makes audible friction.

In order to make myself as clear as possible, I have restricted myself intentionally to the simplest circumstances.

6. I have already treated the nature of the Old Greek aspirates quite extensively in my work concerning aspiration and the sound shift.²⁸ From the agreement of the Old Greek grammarians with the development of the sounds within the Greek language itself as well as in the relationship of Greek to the other Indo-Germanic languages, I demonstrated the Greek aspirates to be the sounds already given in the previous paragraph: \underline{phv} , \underline{ths} , $\underline{k\eta nh}$. I would not know very much to add to what I said then and I confess that Brücke's publication, which in other respects is highly instructive, has not shaken me the least in my convictions on this point. Brücke starts out from the fact that the Old Greek grammarians intended the same distinction with their division of the letters into $\underline{ph\eta\epsilon\eta\eta}$ and $\underline{aph\eta\eta}$, as he makes in connection with the Indian grammarians between voiced and voiceless sounds. But just one condition should have prevented him from making this assumption. The Old Greek grammar does not merely have $\underline{ph\eta\epsilon\eta\eta}$ and $\underline{aph\eta\eta}$ but also $\underline{h\eta\eta\eta\eta}$. Now what shall we do with these? By Brücke's view they must have been intermediary between voiced and voiceless sounds. Admittedly there is no such thing. We maintain the assumption therefore that reproduces $\underline{ph\eta\epsilon\eta\eta}$ as $\underline{vocales}$, $\underline{h\eta\eta\eta\eta}$

as semivocales, and $\underline{aph\eta\eta}$ as \underline{mutae} . By $\underline{vocales}$, the vowels are understood; by semivocales those sounds, which are formed through the narrowing of the speech organs. The division of the latter into $\underline{kh\eta\eta}$ (tenues), $\underline{das\eta}$ (aspiratae), and \underline{mesa} (mediae) we explain as follows: $\underline{gr\eta\eta\eta}$ $\underline{kh\eta\eta}$ designates the letter, whose sound is cut off sharply without after-sounding; $\underline{das\eta}$ designates the stop with a strong air gust after the opening of the closure; finally \underline{mesa} designates a sound, which to be sure does not have the strong after-sounding of $\underline{gr\eta\eta\eta}$ $\underline{das\eta}$, nor also the sharp cutting off of all after-sounding like the $\underline{gr\eta\eta\eta}$ $\underline{kh\eta\eta}$. From this assumption one can best explain the development, which not only the $\underline{das\eta}$, but also the \underline{mesa} have undergone in New Greek.

7. If we take these results as a basis, which the investigation of the Sanskrit and Old Greek aspirates has furnished us, we find that our present High German language actually does not have any aspirates. The essence of the aspirates consisted therein, that it was a stop with an undeveloped after-sounding. In this class our \underline{f} , $\underline{\beta}$, and \underline{ch} (in \underline{sprich} as well as in \underline{Spruch}) do not belong. For they are continuant sounds (continuae), produced through narrowing, not closure of the speech organs. Neither are our \underline{pf} and our \underline{z} (= $\underline{t\beta}$) aspirates. To be sure, they begin with a stop, but do not follow this with such an only half-developed after-sounding as we described above (§ 5), but rather a clear, fully-developed spirant. Our \underline{pf} and \underline{z} are therefore double sounds, which the Indian and Greek aspirates were not.

8. The Germanic languages of the Gothic stage no longer have a guttural aspirate; of the labial, they have preserved only a small part, and these medially. On the other hand, they have the dental aspirate initially as well as medially. The \underline{h} and \underline{f} , which these languages have in the positions where we might normally expect aspirates, are not aspirates but spirants. A remnant of the labial aspirates, Old Saxon possesses in its medial \underline{b} . All of the older Germanic languages of the Gothic stage have the dental aspirate \underline{th} (\underline{p}). It has, however, been partly lost in the modern languages such as Swedish, Danish, and Low German; in others its change and eventual loss has been going on for centuries, as in English, which still shows a slight trace of the genuine old aspirate only in those instances, where the pronunciation of the \underline{th} begins with the stop.

9. If we relate what we learn about the nature of the aspirate from the Indian and Greek grammarians with the results of etymological research, we recognize by a clear example how a real history of sound changes only results from the combination of scientific determination of sounds and etymological comparison of words. In place of the Greek and Sanskrit aspirates we find etymologically the soft (=voiced=breathed) stop in the Germanic languages of the Gothic stage. For example:

Greek kh	=	Gothic g	(e.g. <i>khéo</i> , Gothic <i>giuta</i>);
Greek th	=	Gothic ð	(e.g. <i>thúra</i> , Gothic <i>daúr</i>);
Greek ph	=	Gothic b	(e.g. <i>phérō</i> , Gothic <i>baíra</i>).

The same change is repeated for the second time in the relationship of High German to the Germanic languages of the Gothic stage. But only the dental *th* of the Gothic stage changes to High German *d*; the *h* does not go to *g*, nor the *f* to *b*. While the numerous Gothic *th*'s consistently becomes *d* in High German (Gothic *thanjan*, High German *denen*, Gothic *thata*, High German *daž*, etc.), the *h* and *f* remain unchanged (Gothic *haubith*, High German *haupt*; Gothic *harjis*, High German *heer*; Gothic *fōtus*, High German *fuf*; Gothic *faran*, High German *fahren*). What can be clearer than this process? The true aspirate contains the stop in itself, which remains after the cessation of its after-sounding. The Greek-Indian aspirates therefore become soft stops in Gothic, and similarly, centuries later Gothic *th* becomes High German *d*. On the other hand, the spirants *h* and *f* do not contain such a stop and consequently do not become High German *g* and *b*, but remain as they are.

10. We still have to show how precisely a media came from the aspirate. There is, of course, no question of a general necessity. The hard aspirate can also leave the hard stop by giving up its after-sounding. Such has been the case of the Old Norse *th* in Swedish. According to a very widespread but erroneous theory, one is inclined perhaps to say that it is impossible for aspirates, as we conceive of them, to begin with a soft stop. One will say: "The hard stop requires a greater amount of air than the soft. Now if the quantity of air pouring forth is increased further with the aspirate, how can it possibly begin with a soft stop?" But this argumentation is based on an erroneous physiological assumption. The hardness of the stop is dependent, to be sure, upon the amount of air emitted, but not upon this alone; it is at the same time also dependent upon the further condition, that the expelled current of air finds a firm closure of the speech organs, which can be opened only by strong pressure. If on the other hand the closure yields somewhat in firmness while the mass of onrushing air pressure either remains the same or even increases, two phenomena happen, which condition each other. First of all, a part of the breath rushes out only after the stop is opened and so creates the circumstances necessary for producing the true aspirate. Secondly, the stop will lose some of its hardness precisely through this premature yielding of the closure. For only the breath, which rushes on before the opening of the closure, conditions the hardness of the sound. So we see almost before our very eyes, the hard, non-aspirated stop (*tenuis*) gradually becoming through further intensification, an aspirate with

a softer stop. For it is, in fact, the further strengthening of the breath beyond that of the *tenuis*, which causes the earlier opening of the closure. In this way the phonetic-historical series *t - th - dh - d* can result, as well as, more directly, the group *t - dh - d*. Old Saxon provides us with the documentary proofs for the whole process.

Notes

1. Grundzüge der Physiologie und Systematik der Sprachlaute, by Ernst Brücke. Wien, 1856.
2. I agree here with Brücke's views.
3. The noise caused by the narrowing of the glottis has been explained thus: "the vocal cords are not set into motion to produce tone, but rather the air as it passes through them causes a friction noise" (Brücke, p. 8). If my observation does not mislead me, this is not exactly the situation. For when one passes from a singing tone to the noise of whispering, one notices that the latter is not produced at the same point as the singing tone, but somewhat further up.
4. In this expression I deviate somewhat from the usual usage.
5. This opposition of blowing and breathing extends far beyond the distinction of sounds, which is actually only one manifestation of it. There are, moreover, two ways of whistling, one by breathing, the other by blowing. Whoever whistles by blowing, he will obstinately maintain that it is impossible to whistle and sing simultaneously. And he is right, insofar as he is speaking only of his own way of whistling. If, however, his assertion is extended to every way of whistling, then he will be easily refuted by the breather-whistler, who will whistle the soprano of a song to him while simultaneously singing the alto.
6. Compare Brücke, pp. 7; 31; 55ff.
7. These two classes are distinguished by the possibility of combining the singing tone with one, which the other does not permit. This is the usual difference in utterance. We will see, however, that for the hearer these two classes overlap under certain conditions, in that a soft blowing produces an effect similar to simple breathing.
8. It is naturally not my intention above to exhaust the diverse types of sound change. Otherwise, sound change through analogy, for example, would also have to be treated. But I would prefer to reserve this and other related questions for another occasion.
9. I made a suggestion toward this end in Frommanns Deutsches Mundarten, 1857, and should like to recommend once again this

suggestion as well as this most valuable journal to all those informed about language.

10. Grundzüge etc., p. 117.
11. It is understood that in these polemics the otherwise very meritorious works of this excellent linguist are not being impugned.
12. Die Aspiration und die Lautverschiebung. Eine sprachgeschichtliche Untersuchung von Rudolf von Raumer. Leipzig, 1837.
13. Brücke, Grundzüge etc., p. 82.
14. Bopp, Kritische Grammatik der Sanskrita-Sprache, Berlin, 1834, p. 15 ff.
15. Brücke, p. 83.
16. Pāṇinis acht Bücher grammatischer Regeln, Her. von Böhlingk. Bd. I. Bonn, 1839, p. 3.
17. I transcribe the Dévaṅgarī letters in accordance with Bopp.
18. See the edition of this Prātiçākhyā by Regnier, Études sur la Grammaire védique in Journal Asiatique. Paris, 1856. Février-Mars, p. 169.
19. Regnier, op. cit., p. 194.
20. The Languages of the Seat of War in the East. London, 1855, p. XXXII.
21. P. 83.
22. That is, the just cited words of Max Müller.
23. Compare also my publication: Über deutsche Rechtschreibung. (Vienna, 1855), p. 65 ff.
24. To repeat the extensive proof, which I gave in my article on aspiration and the sound shift in support of my view would require that I merely reprint here the greater part of what I said there. For were I to leave out a single ancient quotation or an associated argument, then the exposition given there would only lose in effectiveness.

CHAPTER EIGHT

AUGUST SCHLEICHER

INTRODUCTION TO A COMPENDIUM OF THE
COMPARATIVE GRAMMAR OF THE INDO-EUROPEAN,
SANSKRIT, GREEK AND LATIN LANGUAGES

From Compendium der vergleichenden Grammatik der Indogermanischen Sprachen (Weismar: Hermann Böhlau, 1871),
xlviii, 329 pp., pp. 1-9

Schleicher is generally regarded as totally superseded. Since he flourished immediately before the neogrammarians, it is scarcely remarkable that their reputation has eclipsed his. Probably the most commonly maintained segment of his writings is his model for displaying languages, the family tree, though it too is held to be superseded by other interpretations of language spread and interrelationships, such as the wave theory. In part Schleicher seems supplanted because so many of his ideas were taken over by his successors.

1. Even though the Stammbaum in its simple form falls language interrelationships, Sherman Kuhn has pointed out it is the model by which genealogical classifications have been achieved.
2. The reconstructed form of a proto-language, rather than the earliest known form of a selected language which has developed from it, is now the accepted way of indicating linguistic relationships. In Indo-European linguistics Schleicher broke the practice of citing Sanskrit for this purpose and introduced the starred form.
3. But possibly the most important influence he has had is that on the neogrammarians — his aim (credited to them) to account for relationships to the extent possible and then to admit residues. In his brief sketch of the history of Indo-European linguistics, Compendium 15-16, he has the following comment:

At present two tendencies confront each other in Indo-European linguistics. The adherents of the one have taken as their principle strict adherence to sound laws (e.g. G. Curtius in Leipzig, Corssen in Berlin, the