

Pāṇini's View of Meaning and its Western Counterpart

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Pāṇini's name is widely known among linguists these days. Many know that this ancient Indian linguist wrote a grammar which has been described as "one of the greatest monuments of human intelligence" by Leonard Bloomfield (1933:11). This admiration concerns Pāṇini's analysis of the Sanskrit language.

The semantic aspect of Pāṇini's grammar, on the other hand, is a relatively neglected topic. Yet it is not without importance. It has become clear in recent years that meanings are the input of Pāṇini's grammar (Buiscool 1939:16; Kiparsky & Staal 1969:84; van Nooten 1969:244; Bronkhorst 1980, 1982:303; Joshi & Roodbergen 1980:viii). That is to say, Pāṇini's grammar produces correct utterances on the basis of a set of meanings. These meanings give rise to grammatical elements — morphemes if you like — which undergo further transformations until, in the end, they are all joined up to form a sentence.

I say sentence on purpose, because the end result of a Pāṇinian derivation is not normally a word. Of course, occasionally a sentence consists of a single word, as when other words have fallen prey to ellipsis. To keep the discussion simple, I'll briefly describe, in outline, the Pāṇinian derivation of a single word, *dāsyāmi*.

This word means "I shall give"; it expresses, for Pāṇini, the meanings "giving", "future", "singular number", and "first person". To be exact, the last of these meanings, "first person", is not really a meaning in Pāṇini's scheme. This will become clear in the derivation.

As said before, these meanings are the input. The meaning "giving" gives rise to the element *dā*, in accordance with the traditional list of verbal

roots, plus meanings, which accompanies Pāṇini's grammar (Dhp. I.977).^{*} Subsequently the meaning "future" justifies the suffix *lṛṭ* (P. 3.3.13 with *bhaviṣyati* from 3.3.3). *lṛṭ* in its turn requires the augment *syā* (P. 3.1.33) and is itself replaced by *mi* (P. 3.4.78). This last replacement requires the meaning "singular number" (P. 1.4.102) and the presence of the pronoun 'I' — or rather, its Sanskrit equivalent (P. 1.4.101 with 107). It is however specified that this pronoun does not have to be present bodily; in the case of ellipsis of the pronoun the ending *mi* can be maintained.

The whole derivation can be visualised as follows

	input
<i>dā</i>	"giving"
<i>dā-lṛṭ</i>	"future"
<i>dā-sya-lṛṭ</i>	
<i>dā-sya-mi</i>	"singular number"
	presence of pronoun 'I'

The lengthening of *a* in *dāsyāmi*, finally, is a purely phonological process which need not detain us here. As a matter of fact, the above example has been chosen partly because it contains a minimum of phonological transformations, unlike many other derivations.

It will be clear that the meanings of *dāsyāmi* are divided as follows over the constituent parts:

<i>dā</i>	—	<i>syā</i>	—	<i>mi</i>
"giving"				1st p. sg.
<hr/>				
"future"				

A similar derivation gives rise to the form *aśrauṣam* "I heard". The meanings are here divided as follows:

<i>a</i>	—	<i>śrau</i>	—	<i>ṣ</i>	—	<i>am</i>
		"hearing"				1st p. sg.
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"past"						

It is not possible now to study Pāṇini's treatment of meaning in greater detail. The derivations which we have discussed so far allow us already to discern some of its basic presuppositions. Linguistic utterances, be they sentences or words, are agglutinations of expressive elements. The meaning of the utterance is the accumulation of a number of 'primitive' meanings.

This is in itself not very remarkable. Pāṇini's grammar must be understood in the context of its time and culture. The Brahmanical texts which we possess from that time, and which — or at least some of which — were known to Pāṇini, contain many 'etymologies'. These are not etymologies in the modern sense of the term, but rather attempts to reach the essence of the thing denoted on the basis of the constituent parts of the denoting word. To be more precise, it was assumed that similar words denote similar things; similar parts of otherwise different words refer to similar aspects of otherwise different things. This approach to language found its classic exposition in a work called *Nirukta*, which used this approach to find the meanings of unknown words. The *Nirukta* dates from roughly the same period as Pāṇini's grammar; most probably it is somewhat younger than the latter. (On the shared concerns of Pāṇini and the *Nirukta*, see Bronkhorst 1981; on the chronological relationship between the two, see Bronkhorst 1984:8-9.)

As said before, Pāṇini's grammar must be understood against the background of the etymologies in the Brahmanical literature of his age. The Brahmanical etymologists looked upon the constituent parts of words as the real meaning bearers; Pāṇini, as we saw, did the same thing.

I would like to add one more observation at this point. In Pāṇini's grammar the ultimate meaning bearers are not always identical with the constituent parts of the words — to be precise, they are not always identical with the constituent parts of the surface forms of the words. In the course of a derivation grammatical elements are not infrequently replaced by others. The ending *am* in *aśrauṣam*, for example, replaces *mi* (as in *dāsyāmi*) in the course of the derivation. Other elements are dropped in the derivations: the 3rd p. sg. Aor. *avādīt* "he spoke", for example, lost the Aorist marker *s*, which is visible in the plural *avādiṣuḥ*. The level of language, therefore, which directly expresses the meanings in accordance with Pāṇini's grammar, is not the surface form, but a deeper level, information about which is provided by Pāṇini's grammar. I shall return to this point later in this paper.

I am not going to say more about Pāṇinian derivations. All I wish to add is that the influence of Pāṇini on later Indian thought on language and meaning has been enormous. Part of later Indian thought on meaning can be considered an elaboration of the basis provided in Pāṇini's grammar: it discusses the relative importance of the Pāṇinian meaning elements in a sentence, and deals with questions like what priority they take in the "verbal understanding" (*śābdabodha*) which results from a sentence.

It is true that others rejected the individual grammatical elements and their separate meanings and regarded them as mere grammatical fictions. One thinks here in the first place of the linguistic philosopher Bhartṛhari — who may have lived in the 5th century C.E. The true meaning bearing unit, according to Bhartṛhari, is the sentence. In the present paper these and other opinions are of no interest to us. I have briefly introduced Pāṇini's view of meaning and propose now to turn to a Western parallel. .

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The idea of ascribing meanings to the constituent parts of words is not unknown to the West. We find it already in Plato's dialogue *Cratylus*, and in a number of later authors down to the 19th century.

It is not my intention to discuss the history of these ideas in the West, which were frequently, as in India, connected with some kind of etymologizing. I shall rather turn immediately to one of its last representatives, viz., Franz Bopp (1791-1867).

Bopp is best known as the founder of comparative Indo-European linguistics. Due to his influence this branch of linguistics embodied, until the 1860's, ideas which show remarkable similarities to those which we discussed in the context of Pāṇini (Kiparsky 1974).

Briefly stated, Bopp came to consider the Indo-European languages, and Sanskrit in particular, as agglutinations of meaningful elements. To quote Kiparsky: "Bopp actually seems to have held that in the proto-language the primitive semantic elements were by and large expressed by separate morphemes." (Kiparsky 1974:176.) "A historical explanation of an inflected form was to him a demonstration that the form was derived from a proto-form in which each of the primitive concepts into which its meaning was analyzable was expressed by a separate morpheme." (Kiparsky 1974:177.)

The meaningful elements were divided into two groups: verbal roots and pronominal roots. Together these two types of roots account for the declensions and conjugations of words. The roots, according to Bopp, represent the 'primary ideas'. The question why the primary ideas are expressed by those roots and not by others, Bopp doesn't dare to address; he speaks in this context of 'the secret of the roots' (Bopp 1845:V). But it is clear to him that 'the whole body of fundamental ideas' is expressed by the monosyllabic roots (Bopp 1845:97). In the oldest state of the Sanskrit family of languages, he explains, "the root appears as a circumscribed nucleus ... which surrounds itself with foreign syllables ... whose destination is, to

express the secondary ideas of grammar which the root cannot express" (Bopp 1845:98).

Regarding the formation of verbs, Bopp observes: "Languages of a structure similar to that of the Greek, Latin &c." — needless to add that this includes Sanskrit — "can express by one verb ... a whole logical proposition, in which, however, that part of speech which expresses the connection of the subject with its attribute, which is the characteristic function of the verb, is generally omitted or understood." (Bopp 1820:23) Some verbal forms, however, preserve all their essential elements, and Bopp's analysis of *āśrauṣam* "I heard" illustrates well his ideas (Bopp 1820:51). Bopp divides this form into three parts:

āśrau — s — am

āśrau, according to Bopp, is an organic modification of the verbal root *śru* "to hear", with the same meaning. *s* represents the *verbum abstractum* "to be". *am* represents number and person, and — as Bopp came to think soon — is really a pronoun, a pronominal root. For Bopp, then, the finite verb *āśrauṣam* is an agglutination of three 'roots', each of which carries its own meaning; their combination means something like "I am hearing". Agglutination — Bopp writes to Humboldt in 1820 — is really the spirit of the Sanskrit language ("Zusammensetzung, sowohl in den frühesten Elementen als in späterer Wortbildung, ist wirklich ganz der Geist der Sanskrit-Sprache." Lefmann 1897:7, letter of 5.3.1820; cited by Sternemann 1984:22).

Another example is *dāśyāmi* "I shall give". Bopp analyses it as follows (1820:47f.):

dā — s — ī — ā — mi

Here *dā* is the verbal root "giving", *s* is the copula, *mi* the personal pronoun, while *āī* signifies "to wish".

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Which were the influences that induced Bopp to view the Indo-European languages, and the Indo-European proto-language in particular, in this special way? It has been argued "that Bopp's fundamental conceptions are derived from the theoretical-mathematical scientialistic rationalism of which Leibniz was the last representative" (Verburg 1950:248; on Leibniz's ideas about language, see Schulenburg 1973). Others have pointed at the similarity of ideas, with Johann Christoph Adelung (1732-1806), the first volume of whose *Mithridates* — the only volume he could complete himself

— appeared as late as 1806 (Arens 1969:150-51, 178). Bopp's fundamental division of languages seems to point to a connection with Adelung. Bopp distinguishes three classes of languages, the first two of which he describes as follows:

[The first] class comprises Chinese, where all is hitherto bare root, and the grammatical categories, and secondary relation after the main point, can only be discovered from the position of the roots in the sentence. Secondly, languages with monosyllabic roots, which are capable of combination, and obtain their organism and grammar nearly in this way alone. The chief principle of the formation of words, in this class, appears to me to lie in the combination of verbal and pronominal roots, which together represent, as it were, body and soul. ... To this class belongs the Sanskrit family of languages ... (Bopp 1845:102-103)

This classification — or better: this part of the classification — finds a close parallel in Adelung's *Mithridates*, where, especially in the *Vorrede* and *Einleitung*, the development of language from single syllables to composite forms is described. Monosyllabic languages — Adelung mentions Chinese and 'the languages of south-east Asia' — are more primitive and more original than multisyllabic languages.

We have seen that Bopp, too, comes close to the idea of a development of language from monosyllabic to composite. Like Adelung, he seems to look upon the languages of India and Europe as developments out of an original monosyllabic language.

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It is not my intention to give a verdict on the question which authors influenced Bopp: Leibniz, Adelung, both, or neither. The problem is that we do not know for certain that Bopp read either of these two authors. We do know, however, that he was aware of the work of the Indian grammarians. He had become acquainted with it through the existing Sanskrit grammars written by Europeans, among which I like to mention the one by Colebrooke (1805). In point of fact, Bopp was the first who "made the grammar [of Sanskrit], formerly a maze of Indian subtlety, as simple and as attractive as that of Greek or Latin" (Martineau 1867:203). We have also seen that from the semantic point of view Pāṇini and Bopp show remarkable similarities. It seems safe to conclude that Bopp's view on the structure of the Indo-European languages was to at least some extent influenced by Pāṇini and his school, the more so since Colebrooke's grammar preserves this feature of Pāṇini's work.

Pāṇini's influence on Bopp in other respects is generally recognized. Brough, for example, wrote in 1951:

It has ... been recognized that the Pāṇinian analysis of Sanskrit into a system of roots, stems, and suffixes pointed the way to the method which has prevailed in Indo-European studies to the present day. It is true that roots and suffixes were not entirely new concepts to Europe, but it remains doubtful whether the method would have been applied with such thoroughness if it had not been for Pāṇini's example. (Brough 1951:402)

This means that Bopp took from Pāṇini the latter's method of analysis, as well as his semantic ideas.

Bopp refers often to what he calls 'the Indian grammarians', not infrequently to emphasize a point where he disagrees with them. Some passages indicate however that Bopp did not reject all that the Indian grammarians had done; according to him, they had gone far, but not far enough. This is clear, for example, from the following passage, which was first published in 1824:

The Indian grammarians carefully observed and completely developed the euphonic effects of terminations and suffixes on the final letters of what precedes; but these grammarians didn't go so far as to consider the grammatical forms themselves as arisen or modified under the influence of euphonic rules. The reason is that they didn't occupy themselves with the origin of grammatical forms. It was enough for them, e.g., to know and to indicate that *an* designates the third person plural in the different tenses. They didn't ask where this *an* comes from, what it means in this form. Had they asked, their means would probably have enabled them to find out that *an* stands for *ant* ... (Bopp 1972:2)

It is not necessary to emphasize the differences between Bopp and Pāṇini. Their analyses of the same word are often far apart. The few examples which we have considered illustrate this sufficiently. But in spite of these differences, and besides them, are the similarities. Both Pāṇini and Bopp search essentially for the ultimate meaning bearers of the Sanskrit language. Both find them in a hypothetical layer which is not in all respects identical to the surface forms of the language. Bopp identifies this postulated deeper layer with an earlier — perhaps the earliest — form of the language, whereas we have no reason to believe that Pāṇini entertained such views.

The similarities between Bopp's and Pāṇini's approaches to the Sanskrit language allow us to count Pāṇini among the influences that worked on Bopp in this essential aspect. In point of fact, from among the

sources that have been proposed to explain Bopp's ideas on semantics, Pāṇini is the one best established, better than Adelung and Leibniz.

Note

- * In the paper the following abbreviations are used:
 Dhp. *Dhātupāṭha*, as found in Böhtlingk (1887).
 P. Pāṇinian *sūtra*, as found in Böhtlingk (1887).

References

- Adelung, Johann Christoph. 1806. *Mithridates oder allgemeine Sprachkunde*. Erster Theil. Berlin: Voss.
- Arens, Hans. 1969. *Sprachwissenschaft. Der Gang ihrer Entwicklung von der Antike bis zur Gegenwart*. 2 Bde. Frankfurt/M: Athenäum Fischer.
- Bloomfield, Leonard. 1969 [1933]. *Language*. London: George Allen & Unwin.
- Böhtlingk, Otto. 1971 [1887]. *Pāṇini's Grammatik*. Hildesheim & New York: Georg Olms.
- Bopp, Franz. 1889 [1820]. "Analytical Comparison of the Sanskrit, Greek, Latin, and Teutonic Languages". *Internationale Zeitschrift für Allgemeine Sprachwissenschaft* 4.14-60 (Reprinted from *Annals of Oriental Literature* 1820, 1.1-65)
- . 1845. *A Comparative Grammar of the Sanscrit, Zend, Greek, Latin, Lithuanian, Gothic, German, and Slavonic Languages*. Transl. from the German principally by Lieutenant Eastwick. Conducted through the press by Horace H. Wilson. London: Madden & Malcolm.
- . 1972. *Kleine Schriften zur vergleichenden Sprachwissenschaft. Gesammelte Berliner Akademieabhandlungen 1824-1854 (Opuscula, Band 5)*. Leipzig: Zentralantiquariat der DDR.
- Bronkhorst, Johannes. 1980. "The Role of Meanings in Pāṇini's Grammar". *Indian Linguistics* 40.146-157.
- . 1981. "Nirukta and Aṣṭādhyāyī: Their shared presuppositions". *Indo-Iranian Journal* 23.1-14.
- . 1982. Review of Joshi & Roodbergen 1980. *Indo-Iranian Journal* 24.302-305.
- . 1984. "Nirukta, Uṇādi Sūtra, and Aṣṭādhyāyī". *Indo-Iranian Journal* 27.1-15
- Brough, John. 1951. "Theories of General Linguistics in the Sanskrit Grammarians". *Transactions of the Philological Society* 1951.27-46. (Reprint: Staal 1972:402-414. The page numbering follows the reprint.)
- Buiskool, Herman E. 1939. *The Tripādī. Being an abridged English recast of Pūrvatrāsiddham* (An analytical-synthetic inquiry into the system of the last three chapters of Pāṇini's Aṣṭādhyāyī). Leiden: Brill.
- Colebrooke, Henry T. 1805. *A Grammar of the Sanscrit Language*. Volume I. Calcutta: Honorable Company's Press.
- Joshi, Shivaram D., & J.A.F. Roodbergen. 1980. *Patañjali's Vyākaraṇa-Mahābhāṣya, Vibhaktiyāhnika* (P. 2.3.18 — 2.3.45). (Publications of the Centre of Advanced Study in Sanskrit, Class C, 12.) Pune: Univ. of Poona.
- Kiparsky, Paul. 1982 [1974]. "From Paleogrammarians to Neogrammarians". *Kiparsky* 1982:175-188.
- . 1982. *Explanation in Phonology*. (Publications in Language Sciences, 4.) Dordrecht: Foris.
- , & Johan F. Staal. 1969. "Syntactic and Semantic Relations in Pāṇini". *Foundations of Language* 5.83-117.
- Lefmann, Salomon. 1897. *Franz Bopp, sein Leben und seine Wissenschaft*. Nachtrag. Briefwechsel zwischen Franz Bopp und Wilhelm von Humboldt (1819-1835). Berlin: Georg Reimer.
- Martineau, Russell. 1867. "Obituary of Franz Bopp". *Transactions of the Philological Society* 12.305-312. (Reprint: Sebeok 1966.200-206.)
- Schulenburg, Sigfrid von der. 1973. *Leibniz als Sprachforscher*. Mit einem Vorwort herausgegeben von Kurt Müller (*Veröffentlichungen des Leibniz-Archivs*, 4.). Frankfurt/M.: Vittorio Klostermann.
- Sebeok, Thomas A., ed. 1966. *Portraits of Linguists. A Biographical Source Book for the History of Western Linguistics, 1746-1963*. Vol. 1: *From Sir William Jones to Karl Brugmann* (Indiana University Studies in the History and Theory of Linguistics). Bloomington & London: Indiana Univ. Press.
- Staal, Johan F., ed. 1972. *A Reader on the Sanskrit Grammarians*. Cambridge, Mass.: MIT Press.
- Sternemann, Reinhard. 1984. *Franz Bopp und die vergleichende indoeuropäische Sprachwissenschaft. Beobachtungen zum Boppschen Sprachvergleich aus Anlass irriger Interpretationen in der linguistischen*

Literatur (Innsbrucker Beiträge zur Sprachwissenschaft, Vorträge und Kleinere Schriften, 33.). Innsbruck.

van Nooten, Barend A. 1969. "Pāṇini's Theory of Verbal Meaning". *Foundations of Language* 5.242-255.

Verburg, Pieter A. 1950 "The Background to the Linguistic Conceptions of Franz Bopp." *Lingua* 2.438-468. (Reprint: Sebeok 1966:221-250.)