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Pāṇini's grammar: from meaning to utterance*

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One of the questions that occupied me while I was S. D. Joshi's student and for some time afterwards concerned the general workings of Pāṇini's grammar. I came to think that the numerous references to meanings in the *Aṣṭādhyāyī* were too often overlooked by scholars, and that these references to meanings might play an essential role in derivations. I collected evidence supporting the view that meanings constitute the input of Pāṇinian derivations, the output being linguistic utterances, primarily sentences. Once this position established, at least to my own satisfaction, I concentrated on its possible consequences. If meanings are all that important in Pāṇini's grammar, one might expect that they are clearly indicated. This is indeed the case for practically all grammatical elements introduced, but the situation is less clear where nominal stems and verbal roots are concerned. Pāṇini's grammar and its appendices do not in general give the meanings of nominal stems. This is not surprising, because a list of the kind *gaur gavi*, *aśvaḥ aśve*, *puruṣaḥ puruṣe* would decidedly look superfluous. Verbal roots, on the other hand, are accompanied by meaning entries in the *dhātupāṭha*, which is what we would expect in view of the important role which meanings presumably play. However, there is a tradition which maintains that these meaning entries in the *dhātupāṭha* are not original, that they have been added by someone at a later date. I decided to make an in-depth study of the reliability of this tradition and arrived at the conclusion that a judicious evaluation of the evidence does not support it: meaning entries are an authentic and original part of the *dhātupāṭha*.

My understanding of the unidirectional nature of grammatical derivations starting from meanings has met with approval from a number of Pāṇinian scholars, some of whom expressed similar ideas, both before and after my paper came out (1980).¹ Cardona (1999: 298 n. 75) has recently gone to the extent of suggesting that I, like van Nooten before me, tried to prove something which "was well known and did not require being proved anew". The idea, on the other hand, that meaning entries were an original part of the *dhātupāṭha* has drawn little attention. Both my positions have been explicitly criticized on at least one

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¹ Buiscool, 1939: 16; Kiparsky & Staal, 1969; van Nooten, 1969; Joshi & Roodbergen, 1980: viii ff.; 1981: 70 f.; Kiparsky, 1982: 26 ff.; Deshpande, 1987; 1990; 1992.

occasion each. I propose to briefly discuss the alternative views, and then turn to some new evidence that has a bearing on the issue of meaning entries in the dhātupāṭha.

The view that meanings are the starting point of the derivational process has been criticized in a recent article by Jan E. M. Houben (1999). Houben's criticism has two components. First he considers some of the arguments that have been presented by different authors in support of the initial position of semantic elements, and finds them less than convincing. Next he presents some reflections on the practical use of the Aṣṭādhyāyī, already in Pāṇini's time, and on its users; these reflections lead him to some conclusions as to what Pāṇini's grammar must have been, and done, in the hands of its users. Let us first consider what are, according to Houben, the weaknesses of the arguments in support of an initial position for semantic elements in the derivational process.

Houben directs his criticism first of all against an article by Kiparsky and Staal from 1969, from which he cites two passages, which I will repeat here. These two authors distinguish four levels which a grammatical derivation will pass through. About these levels they state the following (Kiparsky & Staal, 1969: 84; cited Houben, 1999: 26):

The derivation of a sentence starts at level (1) from its meaning. A set of rules then specifies the *kāraka* relations. Pāṇini next introduces the cases or other morphological categories which correspond to these *kāraka* relations. Lastly he introduces the actual phonological forms which express these morphological categories, thereby reaching level (4).

Houben is surprised that, after this general depiction of the workings of Pāṇini's grammar, the same article by Kiparsky and Staal ends with the following remarks (1969: 107-08; cited Houben, 1999: 26):

Pāṇini's grammar is an explicit set of rules for deriving the phonetic form of sentences from their semantic form via two intermediate stages which bear significant similarities to the deep and surface structure levels of generative grammar. The semantic form of sentences is characterized mainly in terms of a set of semantic relations between the meanings of the verb and its various adjuncts in the sentence. *To a large extent these relations remain sketchy, ...* It does not appear that Pāṇini intended to generate semantic representations. To the extent that the semantic level is developed and its categories specified, it is taken for granted, and

no attempt is made to characterize the set of possible semantic representations by any rules. (my italics, JB)

Houben then adds the following comments of his own (1999: 26-27):

One wonders how the semantic level can be placed at the basis and, as far as derivations are concerned, at the beginning of the sophisticated grammar of Pāṇini, while it is admitted at the same time that this semantic level is very sketchy, and that Pāṇini makes no attempt to characterize the set of possible semantic representations by any rules.

Houben's comments are interesting because they start from the assumption that in Pāṇini's "sophisticated grammar", as he calls it, the basic semantic level should not be very sketchy and should have been characterized by rules. Elsewhere in his article Houben protests, rightly in my opinion, against the notion of Pāṇini as an "isolated genius" (p. 34), and of his grammar as the product of "pure science". Houben also observes that "it may be disputed whether modern theory has ever produced satisfactory formalizations of semantics in a natural language" (p. 45). In maintaining that the basic semantic level should not be sketchy and should be characterized by rules, Houben himself would seem to be falling in the trap of assuming that Pāṇini's grammar should be perfect. Starting from the assumed perfection of the Aṣṭādhyāyī, and perhaps from his conviction that its author was a genius, Houben uses the insufficiencies which he finds in the semantic level as evidence against an interpretation in which the semantic level is the point of departure of the derivational process.

Houben has the same objection which he has against the position of Kiparsky and Staal in connection with the position which I expressed in my article in 1980. It is not necessary to go into details. I will rather, once again, cite a short passage from Houben's article (1999: 29):

The objection to the Kiparsky & Staal model of Pāṇini's grammar applies also to the one suggested by Bronkhorst, although Bronkhorst uses a different terminology. Just as a semantic level with sketchy representations of semantic relations can hardly be accepted as forming the basis and starting point of Pāṇini's grammar, in the same way the terms which Bronkhorst considers to be Pāṇini's 'semantic

elements' are too vague and insufficient to initiate the procedure of Pāṇini's grammar and to direct them with precision towards the desired utterances.

In other words, Pāṇini's grammar is perfect, or almost perfect, and the fact that the semantic elements are too vague and incapable to lead with precision to the desired utterances supposedly proves that these semantic elements cannot be the point of departure of derivations. Houben does not criticize the arguments in favor of an initial semantic level in derivations themselves; he merely draws attention to the weaknesses — or rather: the incompleteness — of Pāṇini's grammar which this model brings to light.

One may feel sympathetic toward Houben's approach and grant that an interpretation in which no such weaknesses show up, and which accounts for all the same features of the Aṣṭādhyāyī, is to be preferred to the one which accepts a semantic level as point of departure. Houben prefers to situate Pāṇini's grammar in a historical context of users who had reasons of their own to study and use this grammar. He puts it as follows (p. 38): “If we place Pāṇini's grammar in its contemporary context, it cannot be maintained that it starts with meanings or with semantics. *The grammatical procedures start with the user*, a person about whom we can say a few things from the outset.” (my italics, JB) Having discussed what he thinks we know about the user, Houben then continues (p. 40):

When these abilities and conditions of the user of Pāṇini's grammar are taken into account, it cannot be maintained that it starts with mere meanings or with an abstract semantic level. Rather, it could be said that Pāṇini's grammar starts with a *provisional statement*, namely, the provisional statement which the user has in mind or which has already been uttered (either by the user of the grammar or by someone else) in a certain context. In the course of the derivation of the words of the provisional statement, the user is at crucial points asked to refer to it and to make certain judgments and decisions — up to a certain point where he can transfer control to the grammar in order to arrive at the correct, desirable form.

It is not my intention to find fault with Houben's article, which contains many interesting and important observations. I do think, however, that he here confuses two altogether different issues. Pointing out how Pāṇini's grammar was used, perhaps right from the beginning, is not the same as determining what its internal logic is like. I would like to illustrate this with a simple example drawn from my experience as a teacher of Sanskrit.

Most, perhaps all, available grammars of Sanskrit teach the rules of sandhi in such a manner that a diligent student will be able to apply them while composing sentences in Sanskrit. Most users of those grammars, however, have no intention to ever compose anything whatsoever in Sanskrit; their aim is to understand texts that have been composed by others, usually long ago. That is to say, few users of Sanskrit grammars use the rules of sandhi as taught. They rather use them the other way round, so as to dissolve the sandhi which they find in their texts. And yet no Sanskrit grammar known to me takes the point of view of the reader. All of them present the rules of sandhi as if the users of those grammars intended to create compositions in Sanskrit, which they don't. This means that no amount of information about the modern users of Sanskrit grammars will allow us to predict how the rules of sandhi are actually presented in those grammars. Worse, information about the modern users of Sanskrit grammars may lead us astray in our expectations regarding the way in which these grammars will teach sandhi.

This example shows that the workings of a grammar do not necessarily tell us much about the way it is used. One can however maintain that they tell us something about what is felt to be natural. The natural order of sandhi is from separate words to joined words. Pāṇini may have felt that the natural order of a derivation is from meanings to utterances, independently of the question whether the users of his grammar would follow that order.

Houben may very well be right in his observations about the original users of Pāṇini's grammar. Unfortunately this information tells us nothing whatsoever about the way in which this grammar actually works. Its actual workings cannot be discovered by finding out who its users were and what they wanted. It can only be discovered by analysing the grammar itself. And the analyses that have been carried out in this connection put semantics at the beginning of derivations.

Houben ends up proposing a model of Pāṇini's system which is after all not all that different from the ones he criticizes. He argues convincingly that semantic elements in the widest sense — he distinguishes between semantics, pragmatics and intentionality — may exert an influence right through the derivation up to its final stages. This seems to me interesting and important, but not necessarily or inherently related to the way in which the grammar was used or was meant to be used in practice.

It is legitimate to ask why Pāṇini chose this particular way of presenting derivations. I have already suggested that Pāṇini may have felt that this was the natural order of derivations. At this point we may insist, with Houben, that we should try to place Pāṇini in his historical and cultural context and stop treating him as an isolated genius. It will indeed be interesting to look for cultural presuppositions, which were perhaps not normally

expressed in an explicit manner, that may explain why Pāṇini found this the natural order of derivations.² Such cultural presuppositions may be found, as I suggested years ago, by trying to understand the role of meanings in Pāṇinian derivations against the background of a particularly widespread phenomenon in late-Vedic literature: etymologizing. I will not enter into details here, but recall that the etymologizing which we find in the Vedic Brāhmaṇas, in Yāska's Nirukta and elsewhere is based upon the assumption that the meanings of words result from combining the meanings of their parts.³ Combining elementary meanings was apparently not looked upon as problematic; combining the elements that give expression to them, i.e. the morphemes, was. Pāṇini's grammar shows how this happens in the case of regular derivations. Understanding the Aṣṭādhyāyī in this way does not — contrary to what Houben suggests (1999: 31-32) — amount to claiming that Pāṇini's grammar was primarily intended to propound some abstract, theoretical ideas or truths while denying the practical value it may have had in the life of people. The two issues seem to me unrelated.

My conclusions⁴ regarding the meaning entries in the dhātupāṭha to the extent that they were there from the beginning have not found general acceptance.⁵ Houben, in the same article as above (1999: 29 n. 7), qualifies them as “unlikely”; Wujastyk (1996: 391) ignores them;⁶ Cardona (1984: 81 n. 13; 1999: 141 f.) rejects them. Unfortunately no one seems to have studied my arguments in any detail; no attempts to refute them are at any rate known to me. This is not the occasion to review these arguments. I will however use the occasion to briefly discuss the way in which Cardona deals with the question.

In his book *Recent Research in Pāṇinian Studies*, Cardona (1999: 141) sums up the situation in the following words:

A major piece of evidence indicating that meaning entries did not occur in the original dhātupāṭha is what Kātyāyana says in his first two vārttikas on [Pāṇini] 1.3.1 ... Bronkhorst [(1981)] considers this and other evidence from the Mahābhāṣya and attempts to show that the evidence does not require one to conclude that

² In this context it may be relevant to draw attention to two statements by Patañjali in his Mahābhāṣya, already referred to by van Nooten (1969: 246), to the extent that words depend on meaning, and not vice versa; Mahābh I p. 114 l. 14 (on P. 1.1.46 vt. 4): *arthanimittaka eva śabdaḥ*; III p. 253 l. 14 (on P. 7.1.33 vt. 5): *arthanimittakena nāma śabdena bhavitavyam*.

³ See Bronkhorst, 1981a; 1998.

⁴ In Bronkhorst, 1981.

⁵ An exception is Staal, 1995.

⁶ He merely states: "Perhaps one thousand years after Pāṇini's creation of the Dhātupāṭha, the list was supplemented by the addition of a brief meaning lexeme added to each root."

Patañjali knew a dhātupāṭha without meaning entries. Cardona (1984) once more took up the major Mahābhāṣya evidence and concluded that, on the contrary, this indicates the dhātupāṭha received by earliest Pāṇinīyas did not have meaning entries.

Cardona singles out for attention, here and in his earlier article, the Mahābhāṣya passage which constitutes the at first sight most convincing reason to believe that there were *no* meaning entries in the original dhātupāṭha. Kātyāyana and Patañjali here cite the unit *bhvedh*, which combines the first and second roots of the dhātupāṭha: *bhū* and *edh*. This mention of *bhvedh* might be taken to show that the roots in the original dhātupāṭha were not separated from each other. The present dhātupāṭha with meaning entries *does* however separate the roots; the roots *bhū* and *edh* occur here as: *bhū sattāyām edha vṛddhau*. This might seem to justify the conclusion that, since originally nothing separated the roots, there were no meaning entries in the original dhātupāṭha.

I have argued in my 1981 article that the situation is not quite as simple as this. Cardona on the other hand, who accepts the above line of reasoning, should be expected to be of the opinion that the original dhātupāṭha began with *bhvedh*.⁷ Surprisingly, this is not his position. He concludes (1984: 83)⁸: “Pāṇini's dhātupāṭha originally listed verbs separately, without sandhi substitutions, and also without meaning entries.” In other words, he agrees with me that the original dhātupāṭha did *not* begin with *bhvedh*, and that the roots in the original dhātupāṭha *were* listed separately. He does think that the dhātupāṭha to which Kātyāyana and Patañjali allude began with *bhvedh*, but he denies the same for the dhātupāṭha which Pāṇini himself adopted. Cardona therefore, in order to maintain his position, has to assume that the dhātupāṭha known to Kātyāyana and Patañjali was different from the one known to Pāṇini. It is of course but a small step from this to the conclusion that Kātyāyana and Patañjali here refer to something different from the original dhātupāṭha, or indeed: that they do not directly refer to the formal dhātupāṭha at all, but to the long compound which one could form on the basis of this dhātupāṭha and which would replace *bhūvādayaḥ*; this long compound would of course begin with *bhvedh*. Seen in this way, the present passage from the Mahābhāṣya does not provide us with information about Pāṇini's list of verbal roots. Since this passage constitutes the only early evidence for a dhātupāṭha without meaning entries, evidence which is moreover contradicted by other evidence

⁷ As does Bhaṭṭoji Dīkṣita's Śabdakaustubha on P. 1.3.1 (ed. Gopāl Śāstrī Nene, reprint Varanasi: Chowkhamba Sanskrit Series Office, 1991, vol. II p. 49): *pāṇinis tu 'bhvedha' ityādī apāthīd iti bhāṣyavārttikayoḥ spaṣṭam*.

⁸ Similarly Cardona, 1997: 86.

derived both from Pāṇini's grammar and from the Mahābhāṣya (not to mention the fact that the tradition of added meaning entries is unknown to grammatical authors until Kaiyaṭa), Cardona's reflections do in fact, unintentionally, add an argument in support of my position.

Those who maintain that meaning entries *were* added later will have to make clear when this remake supposedly has taken place. This is no easy task, for the tradition that they were added is late (it is first mentioned by Kaiyaṭa), whereas earlier authors, such as the authors of the Kāśikā-vṛtti, clearly consider the meaning entries authoritative and therefore original. The fact that the dhātupāṭha of the Cāndra Vyākaraṇa has the same meaning entries as the Pāṇinian dhātupāṭha would oblige one to date the addition of meaning entries in the early centuries of the common era.

How early exactly? Where classical Sanskrit literature is concerned, one can not really hope to go back further than Aśvaghōṣa, the Buddhist author of the Saundarananda and the Buddhacarita.⁹ Aśvaghōṣa was acquainted with a dhātupāṭha, and it can be shown that he knew a dhātupāṭha with meaning entries.

Consider first Saundarananda 12.9, which reads:

*babhūva sa hi samvegaḥ śreyasas tasya vṛddhaye/
dhātur edhir ivākhyāte paṭhito 'kṣaracintakaiḥ//*

Johnston (1928: 67-68) translates this as follows:

For that agitation enured to increasing his tendency towards the highest good, just as the root *edh* is said by grammarians to take *vṛddhi* in its verbal form.

In a note (text p. 155) Johnston explains that “[t]he reference is to [Pāṇini] 6.1.89 [etypedhatyūthsu] which lays down that the roots *edh* and *i* take *vṛddhi* in exception to the general rule”. Some years later, in the introduction to his translation of the Buddhacarita, Johnston (1936: lxviii) expressed a different opinion, which he owed to Sten Konow: “[Saundarananda 12.9] not only refers to the rule in vi.1,89, which lays down that the root *edh* takes *vṛddhi* in exception to the general rule, but seems also to allude to the dhātupāṭhas which explain this root as used in the meaning *vṛddhau*”. We have seen already that the present dhātupāṭha begins with: *bhū sattāyām, edha vṛddhau*.

⁹ If, as is often maintained, Aśvaghōṣa lived before Kaṇiṣka, he must have lived, in view of Harry Falk's (2001) recent findings, before 120 C. E.

It must be admitted that the second line of Aśvaghōṣa's verse is obscure, and Johnston's initial translation is approximate at best. The expression *ākhyāte* in particular looks puzzling and does not easily fit either of the two interpretations proposed. It does normally mean 'verb' or 'verbal form', but Johnston's interpretation "the root *edh* is said by grammarians to take *vṛddhi* in its verbal form" makes no sense whatsoever. P. 6.1.89 does not prescribe *vṛddhi* for *edh* in its verbal form, but after a preposition ending in *-a* or *-ā*. The word *paṭhita*, on the other hand, strongly suggests that Aśvaghōṣa refers here to a, or the, dhātupāṭha, for clearly in a dhātupāṭha *dhātus* are *paṭhita*. If, moreover, we agree with Johnston that *akṣaracintaka* (lit. "those who think about syllables") refers to grammarians, then the second line speaks about "the verbal root *edh* that has been taught/enumerated by the grammarians". With regard to the puzzling expression *ākhyāte*, we may take recourse to the meaning 'motive' that can be expressed by the locative (P. 2.3.36 vt. 6 [*nimittāt karmasamyoge*]; Filliozat, 1988: 87, §31b). Aśvaghōṣa's second line then speaks of "the verbal root *edh* that has been taught/enumerated by the grammarians in view of a verbal form". This makes sense, because the aim of the enumeration of verbal roots, which cannot as such be used in the language, is the creation of finite verbal forms, which can. However, in order to reach a full understanding of the second line we have to add some words from the first, presumably *babhūva vṛddhaye*. The verb *bhū* followed by a dative can express the meaning 'belong to' 'be conducive to'. Since Aśvaghōṣa is here playing with words, we are free to literally interpret his verse as follows:

For that agitation was conducive to (*babhūva* + dative) the increase[d tendency] toward the highest good on his part, just as the verbal root *edh* that has been taught/enumerated by the grammarians in view of a verbal form belongs to (*babhūva* + dative) [the meaning] 'increase' (*vṛddhi*).

If this interpretation is correct, Aśvaghōṣa's acquaintance with a dhātupāṭha in which the root *edh* figured along with the meaning entry *vṛddhau* is beyond doubt.

The second passage to be considered occurs in the *Buddhacarita*. *Buddhacarita* 11.70 illustrates nine senses of the root *av*. This verse reads:

*1avendravad divy 2ava śaśvad arkavad guṇair 3ava śreya ih 4āva gām 5ava/
6avāyur āryair 7ava satsutān 8ava śriyaś ca rājann 9ava dharmam ātmanah//*

Johnston (1936: 163) translates:

“**1**Be happy like Indra, **2**shine ever like the sun, **3**flourish with your virtues, **4**understand the highest good in this world, **5**rule the earth, **6**obtain long life, **7**protect the sons of the good with the Āryas, and **8**enter into the glories of sovereignty, O king, **9**observe your own *dharma*.”

Johnston explains in a footnote (n. 70): “According to the grammarians (dhātupāṭha, i. 631, etc.) the root *av* has eighteen senses, many of them probably assumed for etymological purposes, and ... there can be no doubt that Aśvaghoṣa intends it to be understood in nine different ways here. ... The translation is ... necessarily tentative.” Chlodwig H. Werba, in the handout accompanying his *Habilitationsvortrag* of 23 June 1997, cites in this connection dhātupāṭha I.631 in the following manner: *ává 7rakṣaṇa-gati-kānti-1prīti-trpty-4avagama-8praveśa-9śravaṇa-5svāmyartha-yācanakriyā+icchā-2dīpty-6avāpty-ālīṅgana-himsā-dāna-bhāga-3vṛddhiṣu*. He further points out that the last imperative of the verse should have been translated: “listen to the *dharma* for your own sake / on your own”. It is clear that many of the meanings apparently used by Aśvaghoṣa are not normally used in connection with the root *av*, but they all figure among the meanings accompanying this root in the Pāṇinian dhātupāṭha. The conclusion seems unavoidable that Aśvaghoṣa knew this (or a closely similar) dhātupāṭha, and that he used it to show off his grammatical knowledge.

Both these cases show that Aśvaghoṣa knew a dhātupāṭha with meaning entries. This implies that those who wish to believe that these meaning entries were added after Patañjali, have to situate the author of this presumed transformation (who was called Bhīmasena according to Bhaṭṭoji Dīkṣita¹⁰ and Nāgeśa Bhaṭṭa) within the short period of time that separates Patañjali from Aśvaghoṣa. They can however save themselves this trouble by looking more closely into the arguments which suggest something different altogether.

¹⁰ So his Śabdakaustubha on P. 1.3.1 (ed. Gopāl Śāstrī Nene, reprint Varanasi: Chowkhaba Sanskrit Series Office, 1991, vol. II p. 49).

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Abbreviations:

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