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The variationist Pānini and Vedic: a review article*

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(1) The main aim of Kiparsky's book can be briefly stated: to show that the words $v\bar{a}$, $vibh\bar{a}s\bar{a}$ and $anyatarasy\bar{a}m$ in Pāṇini's Aṣṭādhyāyī do not — as has always be supposed — all mean the same thing, viz. just 'optionally', but rather have three different meanings, viz. 'preferably' $(v\bar{a})$, 'preferably not' $(vibh\bar{a}s\bar{a})$ and 'either way' $(anyatarasy\bar{a}m)$. And it can be said that the author has established this his thesis beyond reasonable doubt. He has thus added a case¹ to show that even the oldest surviving commentatorial tradition has no claim to complete authenticity.

Kiparsky establishes his case by testing his hypothesis against (i) Pāṇini's own usage in the Aṣṭādhyāyī, (ii) Vedic literature, (iii) early Classical Sanskrit. The agreement between expectation (on the basis of Kiparsky's theory) and actual usage is always great. It is greatest in the Aṣṭādhyāyī itself, where Kiparsky could find but a single *example* of the use of a less-favoured form, against forty-three *rules* which were "applied in the text only with the favoured option as predicted, without any exceptions" (p. 55).

Further support Kiparsky derives from P. 1.1.44: $na\ veti\ vibh\bar{a}s\bar{a}$. This definition of $vibh\bar{a}s\bar{a}$ in terms of $v\bar{a}$ is clearly in accord with Kiparsky's hypothesis ('preferably not' ($na\ v\bar{a}$) is the meaning of $vibh\bar{a}s\bar{a}$). Kiparsky dedicates a full chapter (VI) to forestall a possible objection, viz. that $P\bar{a}nini$'s $samj\tilde{n}\bar{a}$ rules are not systematic, by showing that they are.

This same thoroughness characterizes most of Kiparsky's arguments. This becomes especially clear where he deviates from the tradition regarding what words are to be carried over by *anuvṛtti* into following sūtras. Instead he offers general rules on *anuvṛtti*, which are extensively exemplified; see pp. 44 f., 151 f., 197 f. and *passim*.

It is obvious that Kiparsky's hypothesis, once accepted, can itself be used for further investigations. Kiparsky is aware of this, and one of the possibilities which he points at is "that we can also use this more exact information to get a firmer idea of Pāṇini's date" (p. 16). In the course of his book Kiparsky repeatedly recurs to this question of Pāṇini's date. Since I think that here he has missed some essential [274] points, I wish to dedicate the

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Another such case has been brought to light in Bronkhorst, 1980.

remainder of this review to that question, and to the value of the new evidence offered in Kiparsky's book. At numerous places Kiparsky indicates that in his opinion Pāṇini lived after the completion of Vedic literature. I shall argue that this point of view may have to be somewhat modified.

(2) Regarding the rules of the Aṣṭādhyāyī Kiparsky rightly remarks that "we cannot use them as information on Pāṇini's sandhi usage, since nothing guarantees the authenticity of the present text in that regard" (p. 19). In a footnote on the same page he specifies that "there are some facts which virtually guarantee its inauthenticity: there are obligatory sandhi rules which are never observed in the text: 8.3.32 ṅamo hrasvād aci ṅamuṇ nityam requires a copy of a final ṅ, ṇ or n after a short vowel to be obligatorily (nityam) added before a following vowel, e.g. kurvan āste > kurvan nāste. Accordingly, 6.1.77 should not read iko yaṇ aci, but iko yaṇ ṇaci, and so on." Consequently Pāṇini's sandhi rules, and the occurrence of vā, vibhāṣā and anyatarasyām therein, cannot be tested against the text of the Astādhyāyī.

With regard to *sandhi* in Classical Sanskrit Kiparsky is equally careful: "the external *sandhi* of Classical Sanskrit manuscripts obviously has no claim to represent the author's original text, but has been modified freely by the copyists" (p. 79).

But in comparing Pāṇini with the Vedic language, five out of Kiparsky's nineteen cases deal with *sandhi*, or better, with orthoepy in one form or another; they are cases 6, 12, 17, 18, 19. Is the manuscript tradition here enough reliable to warrant this?

We have in the Prātiśākhyas evidence that much of Vedic literature has indeed been preserved in a remarkably reliable fashion since the time those Prātiśākhyas were written. Most detailed information is obtained from the Rgveda-Prātiśākhya, which shows that the Rgveda in that time differed but little from its present form, even in details of orthoepy.² However, the fixed form which the Vedic Saṃhitās have obtained in the times of their respective Prātiśākhyas is the outcome of a long process, during which their form, at least as regards details of *sandhi* etc., was not fixed. Elsewhere (Bronkhorst, 1981b) I have studied this process in as far as it concerns the Rgveda in some detail. The most interesting conclusion (in the present context) which I could reach there is that Pāṇini stands somewhere in the middle of this process, in a time when the orthoepy of the Rgveda had not yet been settled upon. There can be no doubt that in Pāṇini's time also the other Vedic Saṃhitās had not yet reached their present shape where these details are concerned.

But this means that strictly speaking we cannot test Kiparsky's hypothesis by comparing Pāṇini's *sandhi* rules and the *sandhi* actually used in the Vedic Samhitās as we

² The differences that do exist are accounted for by the fact that the Rgveda-Prātiśākhya did not primarily describe the text belonging to 'our' Śākala Śākhā, but the one belonging to the Śaiśirīya Śākhā. See Bronkhorst, 1982a.

have them.³ It is rather the other way round: We need Pāṇini's rules, together [275] with a correct understanding of $v\bar{a}$, $vibh\bar{a}s\bar{a}$ and $anyatarasy\bar{a}m$, in order to find out what orthoepy Pāṇini considered correct for the Vedic Samhitās.⁴

This brings us to an important point. Pāṇini's rules on Vedic sandhi do not necessarily describe the sandhi which was actually used in the Vedic texts which Pāṇini had before him. Rather, they describe the sandhi as it ought to be according to Pāṇini. This is confirmed by the circumstance that Pāṇini sometimes gives the opinions of others besides his own, e.g., in P. 8.3.17-19. In the context of Vedic sandhi we therefore prefer not to follow Kiparsky's suggestion (p. 4) to translate $v\bar{a}$ 'often' and $vibh\bar{a}s\bar{a}$ 'rarely'. We must here prefer the translations $v\bar{a}$ 'preferably' and $vibh\bar{a}s\bar{a}$ 'marginally, preferably not'.

(3) The question presents itself if perhaps also the other Vedic rules tell us what Pāṇini thought ought to be, rather than what he found to be the case in Vedic literature. This question may, at first sight, look absurd, since Vedic literature is usually considered pre-Pāṇinian, and fixed but for such rather minor details as *sandhi* etc. But is this correct? It is at least conceivable that part of Vedic literature — say some of the Brāhmaṇas, Āraṇyakas and Upaniṣads⁵ — were still to be written, or were being written, in Pāṇini's time. In this case indications in the Aṣṭādhyāyī like *chandasi* 'in sacred literature' would not exclusively refer to the language of works which had been composed long before Pāṇini, but also to the language that should be used when works of a certain kind were still to be composed. In other words, the rules on Vedic would then not only describe the language laid down in the scriptures, but also prescribe the correct forms to be used when composing more such scriptures.

There is *a priori* nothing against this possibility. I have elsewhere (Bronkhorst, 1981a) argued at length that it is not correct to ascribe an awareness of linguistic development to the ancient Indian grammarians. In particular Vedic and classical Sanskrit were not looked upon as precursor resp. successor in time.⁶ This implies that Vedic was looked upon as the language proper for a certain kind of literature, even if that literature was still being, or to be, composed. In this connection it is important to recall that "the

⁴ Since the Aṣṭādhyāyī is particularly closely allied to the Rgveda, Pāṇini's *sandhi* rules may help us to get a precise idea of the orthoepy of the Rgveda in Pāṇini's time, at least in the circles to which Pāṇini belonged. Kiparsky's hypothesis enables us to choose between options. Conversely, if Pāṇini's grammar was already early in its history handed down as part of the Rgvedic tradition, as it was later, we have an explanation of the fact that its own *sandhi* deviated from what it prescribes at as early a time as Patañjali's (see Kielhorn, 1885: 199 (202)). For we know that the orthoepy of the Rgveda went through a process of development which extended until after Pāṇini. Perhaps the orthoepy of the Aṣṭādhyāyī developed along with it.

³ This is of course even more true for the remainder of Vedic literature.

⁵ We may even think of the White Yajurveda Saṃhitā, which was not used by Pāṇini (Thieme, 1935: 73 f.).

⁶ Kiparsky rightly observes: "Pāṇini probably did not think of the Vedas as representing an older stage of Sanskrit" (p. 56), but does not draw any conclusions from this.

language of the sacred texts ... was not only known from old manuscripts, but, as we are apt to forget, was actually used during the sacrificial rites (*yajñakarmaṇi*, in Pāṇ. 1.2.34) and in the daily recitations (*anvadhyāyam*, in Nir. 1.4 opposed to *bhāsāyām*)" (Thieme, 1935: 67).

I shall now briefly survey some of the arguments which have been brought forward to show that Pāṇini postdates Vedic literature, or certain parts of it:

Liebich (1891: 22-37) took one thousand finite verbs from each (i) Aitareya Brāhmaṇa, (ii) Bṛhadāraṇyaka Upaniṣad, (iii) Āśvalāyana and Pāraskara Gṛhyasūtra, (iv) Bhagavadgītā. These verb forms he compared with Pāṇini's grammar, in order to find out which of these texts came closest to the language described in the [276] Aṣṭādhyāyī. This led him to the conclusion that both the Gṛhyasūtras are closest to Pāṇini, that the Aitareya Brāhmaṇa and Bṛhadāraṇyaka Upaniṣad preceded him, and that the Bhagavadgītā came later.

Interestingly, Liebich's conclusions depend upon the assumption that forms accounted for by Vedic rules cannot be considered as belonging to Pāṇini's time. If we reject this assumption, the results of Liebich's own investigation lead to conclusions quite different from his. In that case, the Aitareya Brāhmaṇa retains 9 (out of 1000) forms which cannot be accounted for by Pāṇini's grammar, the Bṛhadāraṇyaka Upaniṣad 31, the two Gṛhyasūtras 42, the Bhagavadgītā 37 (Liebich, 1891: 34). And if we follow Liebich in excluding certain other forms from consideration (for various reasons), these numbers become respectively 6, 27, 41, 37. In plain language this means that now the language of the Aitareya Brāhmaṇa is closest to Pāṇini.

Earlier Liebich (1886a; 1886b) had brought to light the far-reaching agreement between the use of cases in the Aitareya Brāhmaṇa and Pāṇini. Here too Liebich (1886b: 278, 309) argues for an early date of the Aitareya Brāhmaṇa from the fact that some constructions in it are expressly designated as Vedic in the Aṣṭādhyāyī, an argument which is invalid once we assume that Vedic was still in use in Pāṇini's time. Note that 'pre-Pāṇinian' anu in a temporal sense (Liebich, 1886b: 281) recurs in (post-Pāṇinian) Pāli (Franke, 1890: 80). The close agreement between the use of the aorist in the Aitareya Brāhmaṇa and the Aṣṭādhyāyī has been pointed out by Bhandarkar (1868: 416-19; 1885: 160-61).

Keith (1920: 42-44) argues for a date of the Aitareya Brāhmaṇa long before Pāṇini, on a number of grounds. The most interesting one is, no doubt, that the Aitareya Brāhmaṇa (iii.12), by ascribing too high a number of syllables to a phrase, appears to date from before the orthoepic diaskeuasis of the Rgveda. The same is true of the Aitareya Āraṇyaka (i.3.4). Keith concludes from this that the Aitareya precedes Śākalya, who in his turn precedes Pāṇini. That this conclusion is unwarranted, since the orthoepic diaskeuasis of the Rgveda had not come to a close until long after Śākalya and Pānini, has been sufficiently

demonstrated elsewhere (Bronkhorst, 1981b). The argument based on the language of the Aitareya Brāhmaṇa which is older than Pāṇini's *bhāṣā* is of course invalid in the present context. That Yāska knew the Aitareya Brāhmaṇa is not here of interest, for the question of Yāska's date vis-à-vis Pāṇini remains open (cf. Cardona, 1976: 270-73). The only argument that remains is that Pāṇini may refer to this Brāhmaṇa in P. 5.1.62 as "the Brāhmaṇa with forty Adhyāyas" (cf. Weber, 1876: 48). But this argument by itself cannot of course carry much weight.

Wecker's (1906) investigation purporting to show that the Chāndogya Upaniṣad and the Bṛhadāraṇyaka Upaniṣad are older than Pāṇini is of poor quality. His arguments are circular: whenever he finds a deviation from Pāṇini in these [277] Upaniṣads, the conclusion is drawn that the deviations concerned are pre-Pāṇinian! This even happens where the evidence suggests another conclusion, as in the following statement (Wecker, 1906: 18): "Vielleicht ist diese Zusammenstellung: A[kkusativ] im Veda — I[nstrumental] in einzigen Upaniṣads — A[kkusativ] bei Pāṇini, ein Indizium, dass die betreffenden Upaniṣads zwischen Veda und Pāṇini anzusetzen sind." And on p. 59 we read: "*jaghanena* wird Chānd. Up. II, 24, 3 mit G[enitiv] gebraucht ... anal. 24, 7.11 — Nach der Kāśikā ... ist bei den Adverbien auf -*ena* A[kkusativ] und G[enitiv] erlaubt. Wäre der G[enitiv] erst späteres sprachgut, so wäre auf Grund dieser Stelle Chānd. Up. sowohl unter Bṛh. Ār. Up. wie unter Pāṇini zu setzen. Allein auch hier glaube ich, dass die Angabe der Kāśikā nicht eine verfeinerte Weiterentwicklung bezeichnet, sondern dass sie einen von Pāṇini nich mehr anerkannten Sprachgebrauch ergänzend vermerkt." No comments are necessary!

(4) If we agree with Keith (1920: 46) that the Aitareya Brāhmaṇa is one of the oldest of the Brāhmaṇas, we can sum up the preceding section by saying that none of the evidence adduced by the research surveyed conflicts even with the rather extreme assumption that Pāṇini is close in time to the older surviving Brāhmaṇas, provided that we can believe that indeed Vedic was a language known and for certain purposes still actively used in Pāṇini's time. Can we believe this?

Some support for this belief can be derived from P. 4.3.105, which speaks of "Brāhmaṇa and Kalpa works uttered by ancient [sages]" (*purāṇaprokteṣu brāhmaṇakalpeṣu*), thus implying that there also were Brāhmaṇa and Kalpa works uttered by not so ancient sages.⁷ But for a more interesting and convincing case we return to Kiparsky's book.

P. 6.1.209-210 deal with a special accent, which applies preferably not $(vibh\bar{a}s\bar{a})$ in sacred literature (chandasi) (209), and obligatorily (nityam) in mantra (210). Kiparsky

 $^{^7\}text{This}$ contradicts Kiparsky's remark that "[f]or Pāṇini, of course, there was no question of 'earlier' or 'later' Vedic texts" (p. 68).

rightly observes that since "[m]antra refers to the metrical portion of Vedic literature, ... this limits the scope of the more general term *chandas* to the remainder, i.e. Vedic prose" (p. 69). He then draws an inference: "There is no way around the conclusion that $P\bar{a}nini knew$ a sizeable portion of accented prose — which today survives only in unaccented form and perhaps has been in part lost altogether" (p. 69; K.'s italics). The inference seems sound, but there is a difficulty.

I do not for a moment doubt that writing was known, and used, already before Pāṇini (see Bronkhorst, 1982b). But to assume that accents were indicated before, or contemporaneously with, Pāṇini, seems unacceptable. There are two reasons for this, both discussed by Thieme (1935: 120-30). The first is that Pāṇini's grammar itself was only known in unaccented form to Patañjali and before him, even though accents play a crucial role in his grammar. The second is that "a [278] variety of accenting systems [are] in existence, which change from Saṃhitā to Saṃhitā; this suggests "that written accents are an invention of a comparatively young age, that they did not belong to the stock of the alphabet" (Thieme, 1935: 129-30).

How then did Pāṇini know the Vedic accents, especially where they deviated from the accents of his *bhāṣā*? In the case of *mantra*s we may assume that he would ask Brahmins who could recite the *mantra* concerned, if he was not himself one of them. But Vedic prose, i.e. Brāhmaṇas etc., was never memorized the way the Vedic Saṃhitās were, and are. We must accept that Pāṇini could make pronouncements on the accents of Vedic prose on the basis of his acquaintance with its language, just the way he could make pronouncements about the accents of his *bhāṣā*.

In this connection we should recall that the whole of the Aṣṭādhyāyī purports to describe the Vedic language (as well as the *bhāṣā*), except for the few places where this is explicitly denied. This becomes particularly clear in P. 6.1.180-181. Rule 180 prescribes a certain accent, and rule 181 adds: *vibhāṣā bhāṣāyām* "preferably not in the *bhāṣā*". P. 6.1.180 must of necessity be about Vedic (so Kiparsky, p. 129), even though there is no indication whatever to that effect. The same is true of P. 8.2.97, for the same reason.

(5) It is time to see in how far the evidence contained in Kiparsky's book and pertaining to Pāṇini's date allows us to say anything more definite about the position of Pāṇini relative to Vedic literature. As said above, Kiparsky assumes that for Vedic "like us, [Pāṇini] had to rely on what he found in the texts" (p. 8). Is this assumption supported by the evidence produced by Kiparsky?

⁸ This fact is known to Kiparsky (p. 240), but not taken account of on p. 69.

Kiparsky broaches the topic in connection with P. 2.3.25 *vibhāṣā guṇe 'striyām* (p. 95).9 The meaning of this rule Kiparsky describes as follows: "A cause (*hetu*) which is a property (*guṇa*), i.e. expressed by an abstract noun, can marginally have the ablative endings, except in the feminine, e.g. *vīryāt* (or preferably *vīryeṇa*) *muktaḥ* 'released by heroism'." Regarding actual usage, Kiparsky tells us (p. 96): "In the older language, the ablative of cause never appears in abstract nouns." "[It] does not occur before the Bṛhadāraṇyaka-Upaniṣad. In the Āpastamba-Śrautasūtra it is frequent only in book 24, which is a later addition ..." "In later Sanskrit, the ablative of cause is ... extremely common." Kiparsky concludes: "The present rule reflects a period *after* cause in abstract nouns began to be expressible by means of the ablative, but *before* this became favoured over the instrumental. Judging by the evidence of this rule, then, Pāṇini must be dated within a period delimited by the older Upaniṣads (in particular, the Bṛhadāraṇyakopaniṣad) and the older Śrautasūtras (in particular, the main body of the Āpastamba-Śrautasūtra)."

Is this conclusion compelling? Clearly not! Time and again Kiparsky's own book shows that less favoured forms or expressions are often not attested in the literature. This means that the evidence of the present rule indicates as date for Pāṇini "a period delimited by the older Upaniṣads ... and the Śrautasūtras" (whatever that may precisely mean) *or earlier*.

A number of facts seem to favour the second alternative, according to which Pāṇini's date is earlier rather than later than the oldest Upaniṣads. I collect the following ones from Kiparsky's book:

- (i) On p. 87 Kiparsky observes that Pāṇini considers *ubhaya* preferably not (*vibhāṣā*) a pronoun before nom. pl. *Jas*, and therefore preferably a noun. However, "[u]bhaya (almost always plural) is ... only declined as a pronoun in the Classical language". Kiparsky is puzzled and speculates: "It is possible that Pāṇini forgot about the nominative plural here. However, I rather think that he intended nom. pl. *ubhayāḥ* to be derivable in his grammar. The form occurs in the Rgveda (seven times, of which six have the augmen[t] *asUK*, viz. *ubhayāsaḥ*), along with *ubhaye* (6x). Thus, it may have still been current in Pāṇini's time, although it is hard to believe that it was still the *favoured* form." Can this not be taken as an indication that Pāṇini is not as far removed in time from the earlier strata of Vedic literature as has often been supposed?
- (ii) P. 3.3.62 prescribes preferably $(v\bar{a})$ aP after has 'laugh' to express state or action $(bh\bar{a}ve)$: hasa. The alternative form is $h\bar{a}sa$, formed with $GHa\tilde{N}$. The form hasa occurs in

⁹ Kiparsky's text leaves out *guṇe*, a misprint not corrected in the "Addend [sic] and Corrigenda" at the end of the book.

Vedic only, *hāsa* is the commoner form in Classical Sanskrit. Kiparsky (p. 110) looks upon this case as a counter-instance to his hypothesis. We need not, if we date Pānini earlier.

- (iii) P. 6.3.88 (*vibhāṣodare*) prescribes marginally (*vibhāṣā*) substitution of *sa* for *samāna* when compounded with *udara*, and followed by the suffix *ya*. Kiparsky observes (p. 134): "In fact, *sodarya* 'co-uterine' is by far the more common form beginning with the Sūtra literature. I could find *samānodarya* only in Ait. Br. 3.3.7. Pāṇini's preference here does not agree with Classical Sanskrit usage." True! But it does agree with the assumption that Pāṇini lived at a time not far removed from the Aitareya Brāhmana.
- (iv) P. 6.4.43 (*ye vibhāṣā*) prescribes marginally, among other things, a passive *khāyate* of the root *khan*, besides *khanyate*. Says Kiparsky (p. 136-37): "The form *khanyate* is overwhelmingly favoured in Classical Sanskrit. The option *khāyate* is, in practice, restricted to Vedic (TS: 6.2.11.1, ŚB. 3.5.4.1), though we must assume on the strength of Pāṇini's rule that it had not quite died out in his time." Perhaps the reason is that Pāṇini's time was not all that far removed from those Vedic scriptures.

Against these four cases there are some which seem to point in the opposite direction:

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- (i) P. 5.4.130 allows for a marginal $\bar{u}rdhvaj\tilde{n}u$ 'with raised knees', besides a preferred $\bar{u}rdhvaj\bar{a}nu$. Only $\bar{u}rdhvaj\tilde{n}u$ occurs in the older literature (MS, Ait. Ār.) and it still predominates in Sūtra works. $\bar{u}rdhvaj\bar{a}nu$, on the other hand, has gained the upper hand in Classical Sanskrit. Remarks Kiparsky (p. 124): "It is noteworthy ... that the usage of the $S\bar{u}tra$ literature represents in this respect an older standard than Pāṇini." (It is worth observing that this rule, which is embarrassing also to Kiparsky, is not commented upon, or used, in the Mahābhāṣya (Lahiri, 1935: 68), and can be removed from its context without any difficulty. It may therefore be one of the additions which are known to have been made to the Aṣṭādhyāyī after Patañjali (Bronkhorst, 1983, esp. §§ 2.4 2.5, 6.2).)
- (ii) In P. 5.4.144 (Kiparsky, p. 124) Pāṇini expresses preference for *śyāvadanta* over *śyāvadat*. "*śyāvadanta* ... is common in Classical Sanskrit, ... [ś]yāvadat seems to be mainly restricted to Vedic. Classical Sanskrit agrees with Pāṇini's preference."

Kiparsky has repeatedly (pp. 88, 143, 146, 149) occasion to observe that "Pāṇini stands at the threshold of the Classical period" (p. 149). This conflicts in no way with the view that in his time Brāhmaṇa or other Vedic works were still being composed. For according to the view at present investigated, Vedic and the earliest Classical Sanskrit (if I may call it thus) existed for a while side by side. And I cannot but feel that the evidence of which I am aware nowhere contradicts, and to some extent even supports, this view.

(6) It is understandable that Kiparsky, and so many others with him, find it hard to think of the Aṣṭādhyāyī as contemporaneous with the Brāhmaṇas, those storehouses of magical thought. Pāṇini, they like to believe, had outgrown those archaic modes of thought, and attained to something very close to our modern scientific way of thinking. Kiparsky nowhere says this explicitly, but that this is his view is clear from his characterization of the Nirukta as an "archaic work ... which [is] definitely pre-Pāṇinian in content and approach, though [it] may not antedate Pāṇini in real time as well" (p. 213). The Nirukta, as is well-known, contains a collection of 'fanciful etymologies', in which also the Brāhmaṇas abound.

I think that this way of looking at the Aṣṭādhyāyī is mistaken and anachronistic. I have elsewhere (Bronkhorst, 1981a) tried to show that "the Nirukta and the Aṣṭādhyāyī can be looked upon as rational elaborations of the same set (or closely similar sets) of presuppositions" (p. 12). These presuppositions, it should be noted, can only be understood in the light of what we know about magical thought. There is therefore not even here any reason to reject the possibility that both the Aṣṭādhyāyī and literature of the Brāhmaṇa type originated in the same time, and among the same people. And it may be a healthy rectification of our notions of 'primitive' thought, to know that "one of the greatest monuments of human [281] intelligence" (as the Aṣṭādhyāyī has been called) is based on, and is in a way the product of, magical thinking.

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