One of the striking features of intellectual discussions of Sanskrit authors in the centuries preceding South Asia's colonial period is the importance of semantic issues, and the sophistication with which these are approached. Major philosophical and religious topics are commonly discussed with reference to the semantic properties of relevant terms. The sophistication had developed in various directions, especially in the directions of grammar, logic, and exegesis, each with a long history in the Sanskrit tradition. The proper evaluation of discussions taking place "on the eve of colonialism" generally requires familiarity with the intellectual achievements in these directions. Major landmarks in the Sanskrit tradition pertaining to semantics have been reviewed in Houben 1997a. At this place a brief evaluative survey is given with special attention to the period presently under discussion.

2. The emergence of semantics

2.1. In the Sanskrit tradition, semantic problems have been studied along all possible parameters: in the dimension of linguistic units (from phonemes, words, sentences, to elaborate literary works), in the dimension of ontological doctrines which try to answer the question 'what is real?' (attributing different degrees of reality to external objects, universals, mental entities, 'meanings of words'
etc.), in the dimension of epistemological doctrines which try to answer the question 'what can we know?' (Epistemology, in this context, includes the study of logic and language as sources of reliable knowledge.) The viewpoint of the speaker and of the listener were taken into account, introspective 'psycho-linguistic' arguments were considered, factors of linguistic and pragmatic context were analyzed, different types of speech utterances (propositional statements, imperatives, poetic language) were studied, numerous theories and various systems of knowledge representation were developed, criticized and refined.

2.2. The earliest beginnings and attempts to solve semantic problems are largely lost. Even very early texts like the Mīmāṁsā-Sūtra and Pāṇini’s grammar clearly represent the sophisticated culminations of long traditions dealing with problems of language and meaning. Eight landmarks in the Sanskrit authors’ concerns with semantic problems are of major significance. In the Brāhmaṇa-texts, the Nirukta, and the Mīmāṁsā, authors try to attribute meaning to each and every element in the sacred tradition of texts and rituals. Meanings are found, created and attributed 'across the board'. The Brāhmaṇa-texts address the whole field of sacred texts and rituals, and provide speculative comments; the Nirukta deals mainly with difficult Vedic words which are explained with the help of derivations from verbal roots; the Mīmāṁsā focuses on the interpretation of words and sentences in ritual prescriptions. It can be said that the wish to see meaning everywhere and the aversion to meaninglessness initiated the first attempts to deal with semantic problems in a systematic way; but it was not conducive to the development of very sophisticated semantic theories. The Mīmāṁsā-system does reach a high level of sophistication in its classical form, but is greatly indebted to the grammatical tradition in its linguistic analysis.

2.3. Important semantic insights arise from attempts by grammarians, especially Pāṇini (fourth century B.C.E.), not to attribute but to exclude meanings from the word-forms which are central in his grammar. Pāṇini's formal description of Sanskrit
provides a solid foundation for profound analyses and discussions of semantic issues in the ages to come. An important point is that Pāṇini's grammar is not primarily dealing with traditional, sacred texts any more, like the Brāhmaṇas, Nirukta and Mīmāṃsā; he makes the language of the well-educated the central object of his grammar. The relation between semantics and syntax in Pāṇini's grammar is an important issue in modern Pāṇini-research.

2.4. While Pāṇini creates clarity on the side of the formal description of language, the challenges of Buddhist and Jaina authors contribute to clarifications in the dimensions of the ontological and epistemological claims of Brahminical authors. In addition, the Buddhists and Jainas have their own text-traditions, and develop accompanying semantic, exegetic and grammatical traditions of their own.

2.5. In the Vākyapadīya of the 5th century grammarian and philosopher Bhartṛhari we find for the first time (among presently extant works) a comprehensive treatment of semantic issues along all possible linguistic, ontological and epistemological parameters. The Vākyapadīya, "work dealing with the sentence and the word," is, in fact, a topical commentary on points of grammatical and especially philosophical interest in Patañjali's Mahābhāṣya, which is itself "the Great Commentary" on Pāṇini's grammar. Thus, Bhartṛhari discusses numerous theories of word, sentence, and their meanings, and investigates all major notions and categories in Pāṇini's grammar, taking into account the diverse philosophical viewpoints current in his time. It has been suggested that there was no progress in Indian linguistics after Pāṇini (Itkonen 1991). But a study of the sources will reveal that the historically situated statements and discussions of Pāṇini, Patañjali and Bhartṛhari do show a kind of progress, even if this concerned mainly the limited area of semantics and philosophy of grammar rather than strictly the grammatical description, and even if whatever progress had taken place was de-emphasized in view of the value attributed to traditionality. However, Pāṇini himself constituted a major landmark not just for grammar but for South Asian thought, just as
Patañjali and especially also Bhartṛhari. Progress was there at least in the sense that after each of these landmarks grammar and philosophy could not be the same as before: an irreversible development had taken place.

2.6. After Bhartṛhari, however, no strong tradition focussing on semantic problems follows. Bhartṛhari influences other branches of learning such as poetics, and stimulates the reflection on semantic theories in different schools of thought. The Buddhist 'epistemological school' develops semantic theories in the context of an elaborate and sophisticated system of epistemology and (to an important extent formalized) logic. He also has his followers among the grammarians, who turn the semantic concerns of grammar which Bhartṛhari discussed on a "perspectivistic" basis (cf. Houben 1995a, 1995b, 1997b), into a system of doctrines touching on ontological and epistemological matters.

2.7. Semantics in the Sanskrit tradition never becomes the well-defined domain of a separate discipline. Rather, it remained the battle-field par excellence for exegetes, logicians and grammarians with various backgrounds and philosophical commitments. What is at stake -- especially also in scholarly discussions "on the eve of colonialism" -- are mainly problems of the ontological and epistemological status of linguistic, semantic, and "real-world" entities. In addition, implications for exegetic issues pertaining to the sacred ritual texts play a role. Here we find the traces of confrontations with Buddhists and Jainas who rejected the Brahminical sacred texts, and it is the (irrational) authoritativeness of the tradition and its sacred texts which representatives of Brahminical orthodoxy such as the Mīmāṁsakas seek to defend with their (rational) arguments (cf. Halbfass 1988:325).

2.8 Even then we cannot say that progress stopped after Bhartṛhari, who represents an unequalled summit in philosophical and theoretical richness and maturity in dealing with semantic issues. Bhartṛhari formulated his insights in his main work the Vākyapadiya in the form of metrical verses (kārikās). This form
perfectly suits the scholarly practice of his time, but it has contributed to what we may regard as a lack of terminological strictness. It has led to interpretational problems not only for modern scholars, but demonstrably already for post-Bhartṛhari scholars in the grammarian's tradition and in various schools of thought.

It was only a few centuries after Bhartṛhari that, thanks especially to the efforts of Buddhist and Brahminical logicians, a sophisticated specialized language and terminology were developed for discussing semantic problems and theories of verbal understanding. This facilitates further progress in the form of more sophisticated discussions of the classical issues. These discussions are in full swing when the "eve of colonialism" period is drawing near. The polemics and discussions were carried on with intelligence and logical rigor and the theories and concepts brought forward have often potential value beyond the particular Indian cultural and historical context in which they arose.

3. "Semantics" in intellectual discussions "on the eve of colonialism"

3.1 In the two-and-a-half centuries preceding the colonisation of the Indian sub-continent, semantic issues continued to be of crucial importance in the discussions between different philosophical schools, not only those traditionally focussing on language, texts, and logic, but also more religiously and soteriologically oriented schools such as Vedānta. The formal categories in these discussions are still mainly those established in grammar (Pāṇini), and investigated, semantically and philosophically, in Bhartṛhari's Vākyapadiya. An important area of investigation is śābdabodha, "verbal knowledge" or "understanding from language": the cognition which arises from linguistic input. The linguistic input should meet several conditions in order to properly give rise to śābdabodha (cf. Raja 1969:149-87). Three conditions, since long mentioned in the Mīmāṃsā, were considered to be relevant in all schools: the linguistic items should possess ākāṅkṣā "(syntactic and
semantic) expectancy", yogyatā "suitability", i.e. "consistency of sense", and āsatti "proximity" (they should not be too far apart, or separated by other items). Sometimes a fourth condition is mentioned, viz. that the listener should have a general knowledge of the purport of the text (tātparyajñāna).

3.2 The precise definition and analysis of 'verbal knowledge' had since long been an important issue for Nyāya-thinkers, as one of their major concerns was the delimitation of the four sources of reliable knowledge (pramāṇas) accepted by them (cf. Houben 1997a, section 7.2; 2000). Generations of Nyāya-philosophers, in a dialectical relation with various other schools, contributed to the theory of the pramāṇas. A new era in Nyāya-philosophy, viz. the era of Navya-Nyāya or "neo-logic", had started in the early fourteenth century CE with the work of Gaṅgeśa. Gaṅgeśa's terminology is much more precise and sophisticated than ever before. While Gaṅgeśa's predecessor Udayana (11th century) was still in discussion with Buddhists, these have become of little importance in Gaṅgeśa's work, which seems to have Brahminical scholars as its main public. As Gaṅgeśa makes extensive use of the syntactic properties of the Sanskrit language, modern scholars felt inspired to seek special devices to demonstrate the accomplishments of Gaṅgeśa and his followers to those not familiar with the intricacies of Sanskrit grammar, for instance by transposing the formulas of the Navya-Nyāya philosophers into the language of formal logic (cf. e.g. Ingalls 1951; Staal 1988: 221-226; Matilal 1968; Subba Rao 1969).

3.3 The precise terminology developed in Navya-Nyāya was soon adopted and adapted by the thinkers of other schools, who used it to express and develop the basic concepts of the pramāṇas according to their own doctrines. In view of the irreversible developments taking place on account of this terminological renewal also outside Nyāya among grammarians, Mīmāṃsakas and Vedāntins, Gaṅgeśa's work is to be considered another landmark in South Asian thought in general, and thought on semantic issues in particular. Important representatives of the various schools are Gadādharā (Navya-
Nyāya), Khaṇḍadeva (Mīmāṁsā), Kaunḍabhaṭṭa (grammar), and Dharmarāja (Advaita Vedānta), all belonging to the 17th century, and all accepting Pāṇini's formal system of language description as well as the analytic style developed in Navya-Nyāya. The contrast with the preceding period when a less rigorous scholarly terminology was dominant is reflected in the names Navya-Mīmāṁsakas and Navya-Vaiyākaraṇas, next to the Navya-Naiyāyikas, for the representatives of Mīmāṁsā, grammar and Nyāya in this period.

3.4 An inkling of the sophistication of the ensuing discussions which follow between the thinkers of mainly Mīmāṁsā, Nyāya and grammar making use of the powerful technical terminology can be had from studies on śābdabodha like those by Jha (1986, chapter 6) and Matilal (1988), on which the following brief and simplified account is based. For more detailed studies one may see Subba Rao 1969, Cardona 1975, Deshpande 1978 and 1981, Gerschheimer 1996: 88-99.

For the grammarian, the verbal knowledge arising from a sentence is an indivisible whole, an intuitive "flash of understanding" (pratibhā), which can be subdivided into words only secondarily. In this subdivision, however, of which it is accepted beforehand that it can be done in various ways, they take the verb as the main word. Other words are in one way or the other related to this main meaning-bearing element, the verb. This is in accordance with the way Pāṇini's grammar works with kārakas "factors in an action" which are related in different ways to the kriyā "action" of the verb in the sentence. Hence, if the grammarians are urged to make explicit the way the meaning-elements are related in a divided sentence, they will take the verb meaning, which is a certain activity, as the central element around which all other elements are clustered. Suppose we have the following Sanskrit sentence (vākya):

\[ V \quad rāmaḥ \ annaṁ \ pacati \ "Rāma \ cooks \ rice". \]

If the grammarians are to give an analytic description of the verbal knowledge (śābdabodha) arising from (V), they would say something like the following (different and more detailed analyses...
are possible but to avoid too much complexity they are not resorted to here):

ŚB1  vartamāna-kālīna-rāma-abhinna-kartṛka-anna-karmaka-pākah

It is the activity of cooking, taking place in the present time, having an agent which is identical with Rāma, having an object which is identical with rice.

This expression is based on the analysis of the sentence rāmah annam pacati into elements such as stem, root, affix, ending, and the attribution of well-defined meanings to each linguistic element. Also the type of relation can be indicated in precise terms (here: affix -ka "having"; -abhinna- "which is identical with"). The central element in this analysis is the meaning expressed by the verb pacati, or, to be more precise, the meaning of the verbal root pac, "to cook" i.e. "activity conducive to softening and moistening (of the thing cooked)". The verbal ending (a)ti indicates (among other things) that the activity takes place in the present time. The agent of the action is expressed by the grammatical subject rāmaḥ (further analysable as rāma + ṛ), the object of the action is the grammatical object annam (further analysable as anna + am).

For the Mīmāṃsā-thinkers, as for the grammarians, the verb is the central element in a sentence. However, while the grammarians take the verbal root and the activity expressed by it as more important than the verbal ending and its meaning, to the Mīmāṃsā-thinkers it is the latter which is of prime importance. In accordance with their emphasis on the importance of Vedic injunctions, they hold that the basic meaning of all verbs is a "creative urge" (bhāvanā, from the causative of bhū, "to be, become") which stimulates action in accordance with the prescriptions. This basic creative urge is expressed—transmitted to the listener—by the verbal ending, not by the verbal root which merely qualifies this creative urge. This and some other considerations lead the Mīmāṃsakas to accepting a structural description of the verbal knowledge (ŚB) arising from sentence V such as the following (different descriptions are, again, possible):
It is the creative urge which is conducive to cooking, taking place in the present time, having the same substratum as the agenthood residing in Rāma, having as object rice.

For the thinkers of Nyāya, it is not the verb which is the central element in the sentence but, generally speaking, the noun in the first ending (nominative). Hence, their description of the structure of the verbal knowledge arising from sentence V could be as follows (a great number of alternative descriptions of this and similar sentences have been proposed in the history of Nyāya):

It is Rāma who possesses the volitional effort conducive to cooking which produces the softening and moistening which is based in rice.

Underlying all descriptions is the presupposition that the main structural relation in the sentence is that between qualifier and thing to be qualified (viśeṣaṇa-viśeṣya). The difference lies in the decision what is to be taken as the main thing to be qualified: for the grammarians it is the verbal root and its meaning, a specific action; for the Mīmāṁsaka it is the verbal ending and its meaning, the creative urge (bhāvanā); for the Nyāya-thinker it is the word in the first ending (nominative).

3.5 The various ways of interpreting the sentence have implications for the authoritativeness of sacred texts and for the relations and relative strengths of prescriptions such as mā hiṁsyāt, "one should not kill" and agniṣomīyam paśum ālabheta "he should take [and kill] the sacrificial animal for Agni and Soma." In reaction to Buddhists and others rejecting the authority of sacred texts the school of Mīmāṁsā had since long adopted the position that the sacred prescriptions have a time-less status and validity, and that they are to be followed by those for whom they are intended. The killing of the sacrificial animal is in this view a good deed because it is prescribed, in spite of the general injunction not to kill. In the
ancient school of Sāṁkhyā, on the other hand, it was held that killing is bad and brings sin, even if it is for a "good" purpose and the total effect of the sacrifice is regarded to be positive. The position of the grammarian Nāgeśa, just as ancient grammarians having affinity to the Sāṁkhyā view (cf. Mahābhāṣya on 4.1.3 and Vākyapadīya 3.13), is in accordance with the ancient Sāṁkhyā thinkers (cf. Gune 1994, Houben 1999).

4. Conclusion: some questions

It is hardly possible to make anything approaching a fair assessment of the achievements in the Sanskrit tradition regarding semantics and problems of linguistic meaning, even if we limit ourselves to the works that are in some form available in a (often by no means critical) edition and neglect the major works that have not even been edited. Among the reasons is also that, at least as far as the philosophical aspects of semantics are concerned, it is difficult to find a reliable platform of 'latest research' in modern Western philosophical semantics, on the basis of which such an assessment could be made (cf. the remarks Halbfass made with regard to ontology and the question of being in the Western and the ancient Indian tradition, Halbfass 1992:11).

The modern possibility to test knowledge representation systems in computer applications has added new, less philosophical and more pragmatic dimensions to modern studies in at least part of the field of semantics. It has provided new criteria to evaluate the achievements in the Sanskrit tradition. Although this re-evaluation has not yet led to any significant breakthroughs in computer applications as was hoped especially since an article by Briggs (1985), the appreciation of the achievements of ancient and pre-modern authors is definitely on the increase. According to Staal,

We can now assert, with the power of hindsight, that Indian linguists in the fifth century B.C. knew and understood more than Western linguists in the nineteenth century A.D. Can one not extend this conclusion and claim that it is probable that Indian linguists are still ahead of their Western colleagues and may continue to be so in
the next century? Quite possibly; all we can say is that it is
difficult to detect something that we have not already
discovered ourselves. (Staal 1988:47)

If there is any area where we may expect to find the ancient Sanskrit
authors (in the field of grammar, logic and exegesis) to have been,
with hindsight and at least in some respects, ahead of modern
developments, it is in the field of semantic theory and the
development of systems of knowledge representation.

But with all this it should not be forgotten that, as observed
above, semantics in the Sanskrit tradition never became the well-
defined domain of a separate discipline. The exegetes, logicians and
grammarians that dealt with semantic issues were first of all
disputing on the ontological and epistemological status of linguistic,
semantic, and 'real-world' entities. It is obvious that the status of
entities such as the jātī ("class") has implications in the field of
social relations. For the Buddhist position in earlier centuries this
has recently been investigated by Eltschinger (2000). The question
may be asked to what extent such implications play a role in
discussions "on the eve of colonialism" – in, for instance, the
conceptualizations of jātī by Navya-Naiyāyikas and neo-
grammarians? Can it be said that still in the 17th and 18th centuries
ethical positions (relating to the authoritativeness of ancient texts
and to the problem of killing) are formulated in a framework going
back to the confrontations between Brahminical and Buddhist
authors? Did scholarly discussions contain no explicit reflection of
the changed social and religious landscape where the Buddhists had
disappeared and the Muslims had acquired a strong presence? If so,
does this testify to the suitability of the framework which can deal
with any group rejecting the authority of the Vedas – originally
designed to deal with nāstika-opponents, later on easily applied to
new invaders and the beliefs they tenaciously adhered to? Or does it
point to an exceptional degree of traditionalism? If the latter, is there
any relation between this traditionalism and the Vedic ritual in
which most of the authors are to some degree engaged – cf. my
forthcoming paper on "The Brahmin Intellectual: History, Ritual
and 'Time out of Time' "? Or, as I argued with regard to the shift
from rationalism to traditionalism in early Sāṅkhya (Houben 2001),
has the laborious method of knowledge transmission, which requires a considerable devotion to the tradition – originally tedious rote-learning, later on in addition the careful reproduction of manuscripts, also when Europe was already making intensive use of the printing press for centuries – contributed to a "natural selection" and strengthening of the traditionalist outlook? To address these and similar questions not just as invitations to free speculation will require a large amount of research in the sources pertaining to the 16th-18th century Sanskrit scholars.
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