

BIBLIOTHÈQUE MÉTROPOLITAINE BUCAREST

TRAVAUX DE
SYMPOSIUM
INTERNATIONAL
LE LIVRE. LA ROUMANIE.
L'EUROPE.

Troisième édition – 20 à 24 Septembre 2010

TOME III : La troisième section
– ÉTUDES EURO- ET AFRO-ASIATIQUES –

ÉDITEUR BIBLIOTHÈQUE DE BUCAREST
BUCAREST – 2011

From Orality to Writing: Transmission and Interpretation of Pāṇini's Aṣṭādhyāyī

MADHAV M. DESHPANDE

1. Emergence of writing in ancient India and Pāṇini's knowledge and /or use of writing

During the last two decades, extensive research has appeared dealing with the origin of scripts in ancient India, and the chief participants in this research, namely Harry FALK, Oskar von HINÜBER, and Richard SALOMON, have not only discussed the question of the origin of Kharoṣṭhī and Brāhmī script, but have also considered available literary references in the ancient Indian literature that have been taken by the various authorities to infer an awareness of the art of writing. This includes references in the Aṣṭādhyāyī of Pāṇini. Pāṇini knows the word *lipi*, which conventionally refers to script, and teaches (cf. P. 3.2.21) the formation of the term *lipikara*, along with *libikara*, both presumably in the sense of scribes or writers. In another rule (cf. P. 4.1.49), Pāṇini teaches the derivation of the feminine formation *yavanānī*, and according to Kātyāyana's Vārttika (*yavanāl lipyām*), this formation refers to the script of the Yavanas. Oskar von HINÜBER (1989: 57) suggests the meaning of "painter" for the term *lipikara*, but given the later Sanskrit use of *lipi* in the sense of script, and the Old Persian cognate *dipi* in the same sense, it seems most likely that Pāṇini was aware of some form of script used in his vicinity. The most likely scripts in the vicinity are Aramaic and Greek, attested in Aśokan inscriptions in the Gandhāran area, shortly after Pāṇini. While there seems to be an emerging consensus that Brāhmī is a Mauryan invention, it appears that there may have been earlier forms of Kharoṣṭhī in existence in that area for some time before the Mauryas, and, while there is no direct evidence to



support this claim, Pāṇini may have been familiar with some of these early forms of Kharoṣṭhī, along with awareness of scripts like Aramaic and Greek. Richard SALOMON (1998: 11ff) has reviewed the earlier debate regarding Pāṇini's awareness of some form of script, and he sees "no reason to rule out Kharoṣṭhī which therefore may well date back to the mid-fourth century B.C. or quite possibly even earlier" (p. 13). However, even if we were to assume that some earlier form of Kharoṣṭhī was known to Pāṇini, based on our knowledge of the earliest attested forms of this script we can conclude that such an early form of Kharoṣṭhī would only be approximate orthography (e.g., geminates represented by single consonants, vowel length left unmarked) for Sanskrit, and would be largely inadequate to capture the complex oral features of Pāṇini's Aṣṭādhyāyī. In a personal communication to me, SALOMON says: "Anyway, by the time of Patañjali, i.e. 2nd century B.C. (?), neither Brāhmī and Kharoṣṭhī had developed the sort of refinements that would permit the texts concerned to be recorded in full detail – or rather, that is how it looks on the basis of the epigraphic record, which however is no doubt far from the whole story – it is merely the part of the story that we have, and a rather sparsely documented one for this period for that matter. I find it quite plausible that by Patañjali's time Sanskrit could be written quite adequately, though probably not perfectly, in either script". SALOMON appropriately reminds us that even the later scripts do not represent Pāṇini's metalanguage perfectly.

Among the Pāṇinian scholars, the early Indologists Max MÜLLER, WEBER, ROTH and GOLDSTÜCKER engaged in a long debate on whether Pāṇini not only knew writing, but whether Pāṇini's grammar would even be possible without some form of writing. GOLDSTÜCKER especially saw signs of writing everywhere in Pāṇini's grammar. Not only does he refer to Pāṇini's rules providing for the derivations of *lipikara* and *yavanānī*, he sees allusions to writing in Pāṇini's use of forms of the root *drś* "to see" to refer to linguistic phenomena such as deletion (cf. *lopa* "deletion" defined as *adarśana* "becoming invisible", P. 1.1.60 (*adarśanaṃ lopaḥ*), and he understands Pāṇini's term *grantha* (cf. P. 4.3.87, *adhikṛtya kṛte granthe*) as referring to written texts. GOLDSTÜCKER even asserts (1860, 1965: 57): "His [=Pāṇini's] third and last mode [of indicating an *adhikāra*] consists in putting the sign of a *svarita* – **which was not intended for pronunciation**". There are few takers today for GOLDSTÜCKER's interpretations, but that does not violate a judicious assumption that Pāṇini was most likely familiar with some form of early writing, and that, as suggested by scholars



like SALOMON, such an early form of writing was in all probability seriously inadequate to render into writing all the complex details of Pāṇini's oral metalanguage built into the text of the Aṣṭādhyāyī. Among modern scholars of Pāṇini, SCHARFE (2009) has argued this case in great detail. After a detailed investigation, SCHARFE concludes (2009: 29-30): "We might speculate that he used such writing, inadequate as it was, to help in organizing his material; but it is hard to imagine that his grammar could have been written down adequately. The grammar was passed on orally, with pitch accents and nasalized vowel tags (along with consonantal tags) added on as markers. A *svarita* accent marked an *adhikāra* "heading", and roots were marked in the Dhātupāṭha with *udātta*, *anudātta* or *svarita* accents to indicate various peculiar features. Vowels that served as indicative tags (*anubandha* or, in Pāṇini's terminology, *it*) were nasalized. None of these articulative features have survived in our text of the Aṣṭādhyāyī. If a written form of the grammar was handed down along with the oral transmission, it would have played a secondary role in backing up the student's memory. There is no way in which the pitch accents and nasalization could have been indicated".¹ While I agree with much of SCHARFE's analysis and conclusions, in what follows, I would like to present a critical survey of how the Pāṇinian tradition responded to the inadequately transmitted text of the Aṣṭādhyāyī, and how the ambiguities in the text were used as opportunities for attempts to tweak the statements of grammar to derive perceived advantages. I will also show that in spite of the dedicated efforts of the traditional commentators, certain textual ambiguities ultimately cannot be resolved, and that modern efforts to re-engineer an accented text of the Aṣṭādhyāyī do not necessarily take us back to a historical reality.²

¹ Also see: SCHARFE (2009: 31): "Did Kātyāyana still have an oral tradition of the accents (*svara*) and nasalized tags (*anubandha*), when he in his *vārttika* 13 on I 3 1 demanded the recitation of the root list (*dhātu-pāṭha*) to show these technical accents and tags? Or did he only know a Dhātupāṭha in a form similar to the one now commonly attached to the *Siddhāntakaumudī*, where groups of roots are called "accented and having unaccented tags" etc., i.e. where the inherent characterization by recitation has been replaced by verbal description?"

² There are several other issues relating to the transmission of the text of the Aṣṭādhyāyī that I am not going to discuss in this paper. For a spectrum of these issues such as interpolations, inconsistencies, textual criticism, etc., see: SCHARFE (1971), BIRWÉ (1958), AKLUJKAR (1983), WITZEL (1986) and (2007), and BRONKHORST (2008) and (2009); also many publications of S.D. JOSHI and ROODBERGEN discussing their idea that several major sections of the Aṣṭādhyāyī



2. Two well-known principles stated by the Kāśikāvṛtti

The two most well known maxims oft-quoted in Pāṇinian commentarial literature are (a) *pratiññānunāsikyāḥ pāṇinīyāḥ*, and (b) *pratiññāsvaritāḥ pāṇinīyāḥ*. The first maxim is found in the Kāśikāvṛtti on P.1.3.2 (*upadeśe 'j anunāsika it*). This rule says that nasal vowels (*ac*) found in the grammatical elements provided by Pāṇini are designated as *it* “marker sounds”. For example, the verb root *edh* is presumed to have been given by Pāṇini in his root-list (*dhātupāṭha*) as *édhā*, where the first vowel is Udātta, but non-nasal, while the second vowel is Anudātta and nasal. The nasality of the vowel indicates that this is a marker sound. The Anudātta vowel as a marker indicates that this root takes Ātmanepada endings (cf. P.1.3.12, *anudāttaṇita ātmanepadam*). Referring to this phenomenon of a nasal vowel as a marker, the Kāśikāvṛtti says: *pratiññānunāsikyāḥ pāṇinīyāḥ* “For the Pāṇinians, nasality (of vowels) is recognized (only) by asserted convention (*pratiññā*)”. This statement is also found in some manuscripts of the Paribhāṣāpāṭha attributed to Vyāḍi (*Paribhāṣāsamgraha*: 42), though it is not found in the Paribhāṣāsūcana attributed to the same author. This statement can be read as the admission by the Pāṇinian tradition that the nasal vowels were not identifiably available in the transmitted text of the Aṣṭādhyāyī, and their presence is recognized only secondarily on the basis of assertions of authorities like Kātyāyana and Patañjali.

P.1.3.11 (*svaritenādhikārah*) says that an expression marked with a Svarita accent continues to be read in the subsequent rules. For example, the word *pratyayaḥ* in P.3.1.1 is continued in hundreds of subsequent rules. Referring to this phenomenon, the Kāśikāvṛtti on this rule says: *pratiññāsvaritāḥ pāṇinīyāḥ* “For the Pāṇinians, the Svarita accent [on grammatical expressions provided in the rules] is recognized (only) by asserted convention (*pratiññā*)”. This is also found in some manuscripts of Vyāḍi’s Paribhāṣāpāṭha (*Paribhāṣāsamgraha*, p. 42), but is not found in the Paribhāṣāsūcana attributed to Vyāḍi. This statement can also be read as an admission by the Pāṇinian tradition that such a marking with a Svarita accent was not identifiable in the received text of Pāṇini’s Aṣṭādhyāyī, and the presence of such Svarita marker vowels can only be recognized from the conventional teaching of grammatical authorities. While we are unsure if the exact wording of these two maxims pre-

such as the Taddhitas, compounds, and the Vedic rules may have been later additions. For comprehensive bibliographical references and critical reviews, see CARDONA (1976) and (1999).



dates the Kāśikāvṛtti, the message of these two statements is in accord with what one finds in the oldest commentators of Pāṇini's grammar, namely Kātyāyana and Patañjali.

3. Textual issues going back to Kātyāyana and Patañjali

As we have noted at the beginning, even if we assume that Pāṇini knew an early form of Kharoṣṭhī and even if we assume that he used it to write down his Aṣṭādhyāyī, the written text would be substantially inadequate to represent the complex oral features of the text of the Aṣṭādhyāyī. It would not be able to represent vowel length, geminates, and, we can almost be certain, not be able to represent accents or nasality of vowels. Coming down to Kātyāyana and Patañjali, one may assume that they were familiar with some form of Brāhmī. However, as SCHARFE (2009: 44) correctly notes, "The new script noted the proper lengths of vowels and allowed somewhat better writing of consonant clusters. But there were no signs for pitch accents or most nasalizations". SCHARFE further notes, "Many Vedic texts lost their accentuation when they were eventually written down and their oral transmission was interrupted; those Vedic texts that are showing accents and nasalizations use signs that are post-Pāṇinian, probably even very much later than Pāṇini. We must assume that Kātyāyana and Patañjali similarly received an imperfect tradition: a written text without accents and technical nasalizations, without definite sentence breaks, aided perhaps by some limited instruction on how the rules are to be applied".³ While we have no direct access to the original oral text of the Aṣṭādhyāyī as composed by Pāṇini, nor do we possess manuscripts of the Aṣṭādhyāyī going back to Pāṇini, a careful review of the grammatical works of Kātyāyana and Patañjali give us ample clues about the state of the text as they received. Given the fact that they come from the post-Aśokan period, and from a relatively southern and eastern region of India as compared to Pāṇini's homeland in the northwestern corner of the sub-continent, one would have to assume that they were familiar with some form of Brāhmī writing, and yet their works do not make any reference to a written form of the Aṣṭādhyāyī. We can infer from their discussions that several important oral features

³ Also see, SCHARFE (2009: 66-69): "The written sign for *pluta* vowels is attested only rather late and was not available, when Pāṇini's grammar was first written down....One has to wonder, how the nasalized semivowels in Mahābhāṣya vol. I, p.16, would have been written in the early Brāhmī script".



of the Aṣṭādhyāyī were already lost in the text they had received, and that they could not rely on either oral or written sources to recover information about these lost features.⁴

4. Explicit pro-orality assertions from Pāṇini to Patañjali

Kātyāyana and Patañjali make no reference to a written form of Pāṇini's grammar, nor do they explicitly bring in any consideration of the written form of language. Patañjali explains that the language or a linguistic expression is a form of sound or sound-sequence that is received by the ear, manifested by the use of a speaker, discerned by the intellect of the listener, and in essence is a segment or a feature of *ākāśa* "space", which is traditionally believed to be the medium for sound.⁵ Among the alternatives discussed by Kātyāyana and Patañjali regarding the sounds of Sanskrit as they are listed in the Śivasūtras, there is a proposal that the sounds as listed in the Śivasūtras, e.g. *a i u (ṇ)*, stand for a generic phonetic shape that covers all variants that share this generic phonetic shape. For example, the sound *a* as taught in the Śivasūtra *a i u (ṇ)* refers to all eighteen varieties that differ in the features of accents, quantity and nasality. Patañjali uses the expression *avarṇākṛtir upadiṣṭā* "the generic phonetic shape of *a* that is taught [in the first Śivasūtra]"⁶ and the term *upadeśa* is explained by him clearly as referring to the act of pronunciation (*diśir uccāraṇakriyaḥ*)⁷. There is no reference to writing of these sounds, though one may observe the historical fact that at least the early forms of Kharoṣṭhī did not distinguish vowel length in

⁴ There are some features that cannot be written down even with our currently available scripts like Devanāgarī. For instance, the final rule of the Aṣṭādhyāyī (P.8.4.68) is simply stated as *a a*. The rule teaches the replacement of an open *a* by a close *a*, as it is actually found in the usage of Sanskrit. Within the grammatical derivation, the short *a* is treated as an open sound, so that it can become homogenous (*savarṇa*) with *ā*, which is an open sound. There has been no written representation of the distinction between an open and a close *a*. We understand the distinction only from the commentarial discussions.

⁵ *śrotropalabdhir buddhīnirgrāhyaḥ prayogeṇābhijvalita ākāśdeśaḥ śabdaḥ /*, Mahābhāṣya, vol. 1:87 (Nirṇayasāgara edn.).

⁶ Vārttika 39: *ākṛtigrahaṇāt siddham*, and Patañjali: *avarṇākṛtir upadiṣṭā sarvam avarṇakulaṃ grahīṣyati, tathavarṇākṛtiḥ tathovarṇākṛtiḥ /* Mahābhāṣya, vol. 1:88 (Nirṇayasāgara edn.).

⁷ *diśir uccāraṇakriyaḥ / uccārya hi varṇān āhopadiṣṭā ime varṇā iti /*, Mahābhāṣya, vol. 1:72 (Nirṇayasāgara edn.). Bhartṛhari says that unless the Svarita accent is pronounced, how else can it be indicated, cf. Mahābhāṣyadīpikā: 231: *anuccāryamāne aśakyāḥ svaritāsaṅgaḥ /*.



writing, and that there is some interesting correspondence in the patterns of representing vowels seen in Pāṇini's Śivasūtras and the features of early Kharoṣṭhī. Pāṇini, Kātyāyana and Patañjali use visual terminology to refer to oral phenomena. For example, the term *rūpa* "form" refers to the phonetic form, and the term *sarūpa* "with the same form" refers to words that share the same phonetic form.⁸ In Kātyāyana's terminology, the sounds *a* and *ā* share the same *ākṛti* "common form" or *rūpa* "form or shape".⁹ Certain expressions are seen or not seen (*dr̥ṣṭa*, *dr̥ṣyate*)¹⁰ in the world, and in saying such things the grammarians are using visual language to refer to observation of oral phenomena. The deletion of a grammatical item (*lopa*) is defined by Pāṇini as *adarśana* "invisibility" of that item (P.1.1.60). The context makes it quite clear that these are phonetic "seeings" or observations of phonetic facts, and do not imply a hidden reference to writing as claimed by GOLDSTÜCKER. One may wonder as to why Pāṇini uses *adarśana* "not seeing" rather than *aśravaṇa* "not hearing" to refer to the phenomenon of deletion. One may possibly suspect that the presence of the script in the environment of Pāṇini, Kātyāyana and Patañjali encouraged such a usage of the visual language to refer to oral expressions, but at the same time, we must recognize the strict stand of orality assumed by these grammarians. References to a seer seeing a hymn in his trance-like state abound in earlier literature going all the way back to the Ṛgveda. Patañjali quotes a verse from the Ṛgveda (1.71.4a: *uta tvaḥ paśyan na dadarśa vācam uta tvaḥ śṛṇvan na śṛṇoty enām*) which says that a common person, though capable of seeing, does not see the mysterious speech, nor does a person capable of hearing hear it. But a Vedic sage is said to see a hymn or a song (*sāman*), and the word *ṛṣi* "sage" is derived by Yāska from the root *dr̥ś* "to see" (Nirukta 2.11: *ṛṣir darśanāt*). Pāṇini also refers to a *Sāman* or a Vedic song being seen by a sage (P.4.2.7: *dr̥ṣṭam sāmā*), while other texts are referred to as spoken by someone (P.4.3.101: *tena proktam*), but there is no explicit category of written language. This tells us that we need to be very careful in interpreting the visual terminology used by Pāṇini and others to refer to linguistic phenomena, and not immediately infer a reference to written language.

Here is Patañjali's description of how Pāṇini composed his

⁸ Cf. P.1.1.68 (*svam rūpaṃ śabdasyāśabdasaṃjñā*) and P.1.2.64 (*sarūpāṇām ekaśeṣa ekavibhaktau*).

⁹ Mahābhāṣya, Vol I:89 (Nirṇayasāgara edn): Vārttika 41: *rūpasāmānyād vā*.

¹⁰ The verb *dr̥ś* is used to refer to observed usage in P.3.2.178, P.3.3.130, P.3.2.75, P.6.3.137, P.3.2.101, etc.



grammar: “The authoritative teacher, holding the sacred *darbha* grass in his hand and sitting in a clean/pure (*śuci*) place facing the east, produced the rules of his grammar with great effort. As such, it is not possible that even a single sound would be worthless, let alone a whole rule”.¹¹ In this imagined description of Pāṇini, there is no scope for written language. Pāṇini’s grammar was part of the Vedic tradition, and Patañjali gives a graphic description of how a mistake of accent was handled by a teacher. On P.1.1.1 (*vṛddhir ādaic*), Kātyāyana says that the sound *ā* has a marker *t* attached to it so that, by rule P.1.1.70 (*taparas tatkālasya*), it can stand for its homogeneous varieties of the same length, but different in accent and nasality. This must be so, since properties like accent and nasality are distinctive, and without a special effort, one instance of *ā* will not stand for another instance of *ā* differing in accent or nasality.¹² Patañjali further inquires into what is meant by distinctiveness of accent and nasality of a vowel: “The accents like Udātta are distinctive. How do we know that accents like Udātta are distinctive? This is what we see in the world. When a student (reciting the Vedic texts) utters an Anudātta accent, where he needs to utter the Udātta accent, the teacher of that Vedic text slaps him, saying: ‘You are doing something different’ ”.¹³ Here the context is quite clear. The Vedic texts are taught and learned entirely in the context of orality, and the text of Pāṇini is being interpreted within such an educational atmosphere. The fact of writing, known to us from other sources, is in the deep background, unacknowledged and perhaps unappreciated, while orality is in the foreground of this educational setup. The presence of writing in the deep cultural background is also inferable from the inclusion of *likhita-pāṭhaka* “one who reads from a written text” among the six worst Vedic reciters in the Sarvasammata-Śikṣā (verse 36).¹⁴

¹¹ Mahābhāṣya, Vol. I: 143 (Nirṇayasāgara edn.): *pramāṇabhūta ācāryo darbhapavitrapāṇiḥ śucāv avakāṣe prāṇmukha upaviśya mahatā prayatmena sūtrāṇi praṇayati sma / tatrāśakyaṃ varṇenāpy anarthakena bhavitum, kim punar iyatā sūtreṇa /*

¹² Mahābhāṣya, Vol. I: 152 (Nirṇayasāgara edn.): Vārttika 1 on P. 1.1.1 (*ākārasya taparakaraṇaṃ savarṇārtham*), Vt. 2 (*bhedakatvāt svarasya*), Vt. 3 (*bhedakatvād guṇasya*).

¹³ Mahābhāṣya, Vol. I: 152 (Nirṇayasāgara edn.): *bhedakā udātādayaḥ / kathaṃ punar jñāyate bhedakā udātādaya iti? evaṃ hi dr̥śyate loke – ya udāte kartavye ’nudāttaṃ karoti khaṇḍīkopādhyāyas tasmai capeṭāṃ dadāti, anyat tvaṃ karoṣīti /*

¹⁴ Cited by W.S. ALLEN (1953: 16, fn. 4): *gūṭī śīghrī śiraḥkampī tathā likhita-pāṭhakaḥ / anarthajñō ’lpakaṇṭhas ca ṣaḍ ete pāṭhakādhamāḥ //*. While “one reading from a written text” is included among the worst reciters, along with “one who does



We don't know the date of this text, but even assuming that attempts to write down the Vedic and ancillary texts were being made at the time of Kātāyana and Patañjali, their orthodox preference for orality would have left such written versions in the realm of unappreciated and unused materials. Later I would return to possible signs for the impact of the presence of writing in the cultural background of the grammarians.

5. Traisvaryā or Ekaśruti Pāṭha for the Śivasūtras & the Aṣṭādhyāyī

In order to figure out the form in which the Śivasūtras and the Aṣṭādhyāyī were known to Pāṇinian commentators, we will review certain important discussions. These discussions simultaneously reveal uncertainty regarding the form of these texts as known to these commentators, but they also reveal how these commentators are trying their best to come to terms with the fact of uncertainty by proposing different alternative possibilities, and evaluating those possibilities in terms of their feasibility, as well as the benefits that may or may not be derived from those alternative reconstructions. The famous maxim repeated often by Patañjali says: *vyākhyānato viśeṣapratipattir na tu sandehād alakṣaṇam* – “Clarity on specific points may be reached on the basis of traditional explanation, and there is no reason to assume the rules to be ineffective due to the presence of doubt”.¹⁵ This statement of Patañjali reveals the two sides of the situation. While admitting the fact of doubts regarding many points, the tradition pushes ahead with explanations to overcome the uncertainty created by those doubts. Therefore, we need to reconstruct the nature of these doubts as well as the attempts of the tradition attempts to get over these doubts through imaginative and purposeful reconstructions of Pāṇini's text.

What was the nature of the oral texts of the Śivasūtras and the Aṣṭādhyāyī as known to Kātāyana and Patañjali, and then to the subsequent commentators? Let us first consider the question of the sounds as they are listed in the Śivasūtras. While the Śivasūtras list most of the consonants of Sanskrit, among the vowels, they do not list long or prolonged varieties of simple vowels, nor do they list variants of these

not understand the meaning” (*anarthajñā*), the remaining four worst reciters are all within the realm of orality: *gītī* “one who makes a sing-song recitation”, *śīghrī* “one who (unnecessarily) hastens the recitation”, *śiraḥkampī* “one who shakes his head”, and *alpakaṇṭha* “one who has a weak throat”. While the negatively rated presence of writing in the background is admitted, most of the criticism is launched at the performers of oral recitation.

¹⁵ Mahābhāṣya, Vol. I: 57 (Nirṇayasāgara edn.).



vowels that differ in accents (i.e. Udātta, Anudātta, and Svarita), nor do they list vowels with nasality. All these unlisted varieties of Sanskrit sounds are desirable to be made known by the grammar, and, keeping this in mind, Kātyāyana says that if the purpose of the Śīvasūtra listings is to make known all the desirable sounds of Sanskrit, then one must list simple vowels that are long and prolonged as well as sounds as they have the three different accents and nasality.¹⁶ If this is what Kātyāyana is demanding to be done, this implies that the sounds of the Śīvasūtras as they were received did not include any of these distinctions. Kaiyaṭa on this Vārttika understands this statement to imply that the received version of the Śīvasūtras was given in *ekaśruti* “monotone”, and hence all the three accent distinctions of Udātta, Anudātta, and Svarita must be expressly listed separately.¹⁷ Nāgeśa disagrees with Kaiyaṭa’s understanding of Kātyāyana’s proposal. Nāgeśa also believes that Kaiyaṭa is proposing that, not only the Śīvasūtras, but the entire text of the Aṣṭādhyāyī is originally given in *ekaśruti* “monotone”. In Nāgeśa’s own opinion, the text of the Aṣṭādhyāyī, as well as the Śīvasūtras, is given with all three accents (*traisvarya*). Now, assuming that the Śīvasūtras are given with three accents, why would Kātyāyana propose that one must make an explicit listing of vowels with all three accents and nasality? Nāgeśa’s answer is that when we assume that the vowels of the Śīvasūtras are given with accents, that simply means that a given vowel will have one of the three possible accents, and the varieties with other two accents will still have to be listed. Even when we admit that Pāṇini provided vowels in the Śīvasūtras with accents, we don’t quite know which of the three accents he used, and hence Kātyāyana’s proposal for listing varieties with all three accents is still justified.¹⁸ Vaidyanātha Pāyaguṇḍe, commenting on Nāgeśa’s Uddyota, agrees with his teacher that the text of the Aṣṭādhyāyī is nowhere found in monotone (*ekaśruti*), and that this is the final verdict (*siddhāntamata*).¹⁹ We may note that

¹⁶ Mahābhāṣya, Vol. I: 73 (Nirṇayasāgara edn.): Vārttika 20 on the Śīvasūtras says: *iṣṭabuddhyarthaś ceti ced udātānūdāttaśvaritānūnāsikadīrghapluṭānām apy upadeśaḥ /*

¹⁷ Kaiyaṭa’s Pradīpa says: *ekaśrutyaḥ hi sūtrāṇāṃ pāṭhāt sarveṣāṃ udātādīnāṃ upadeśaḥ kartavya ity āha*, Mahābhāṣya, Vol. I: 73 (Nirṇayasāgara edn.).

¹⁸ Nāgeśa’s Uddyota says: *traisvaryapāṭhe tu dvayor eva kartavyatām vaded ity arthaḥ /... traisvaryeṇa pāṭhe ’pi anyatarapāṭhe ’nyasya kartavyatvābhiprāyeṇa sarveṣāṃ grahaṇam ity anye*, Mahābhāṣya, Vol. I: 73 (Nirṇayasāgara edn.).

¹⁹ Vaidyanātha’s Chāyā: *nanu traisvaryeṇaiva pāṭho naikaśrutyaḥ aṣṭādhyāyī kvāpi tathā pāṭho ’thāpi kathaṃ dṛṣṭāntenātरेष्टासādhanam ataḥ siddhāntamataṃ āha*, Mahābhāṣya, Vol. I: 73 (Nirṇayasāgara edn.). For a critique of Nāgeśa’s view, see



the Vedic reciters who recite the text of the Aṣṭādhyāyī today recite it with the three accents (*traisvarya*), and that Vaidyanātha may be referring to such observed recitation. Later we will take a look at the received accented recitation of the Aṣṭādhyāyī by the Vaidika reciters. On the other hand, it is possible that Kaiyaṭa, perhaps coming from a different region like Kashmir, was not aware of the accented recitation of the Aṣṭādhyāyī. Probably, he knew the text of the Aṣṭādhyāyī only in monotone, and hence he proposed the explicit listing of all varieties differing in three accents, and nasality, and that these features were deemed to be distinctive (*bhedakagūṇa*).²⁰

Patañjali, on the other hand, seems to advocate a contrary position.²¹ After reviewing both the positions that the features like accents and nasality were distinctive or non-distinctive, Patañjali's verdict is that they are non-distinctive. What Patañjali means to say is that whatever features of accent and nasality that appear in the received oral text of the Aṣṭādhyāyī by sheer necessity, in the sense that one cannot utter a sound without some of these features, these features as articulated are not intentionally meant. To prove his point, Patañjali cites P.7.1.75 (*asthidadhisakthyakṣṇām anañ udāttaḥ*). This rule prescribes the substitute *an(anī)* for the final *i* of the nominal stems *asthi* etc., but it explicitly says that this substitute is Udātta (*ananī udāttaḥ*). Patañjali's point is that if the accents as uttered in the oral text of the Aṣṭādhyāyī were intentional, Pāṇini could have simply uttered this substitute with the Udātta accent (*án*), and there would be no need for Pāṇini to explicitly say in words that this substitute is Udātta. This is a very important argument, and it transcends the question of whether the text of the Aṣṭādhyāyī was written down or was purely oral. Patañjali's argument would lead us to the heart of Pāṇini's own composition of the

Yudhiṣṭhira MĪMĀMSAKA (1973: 229). He supports Kaiyaṭa's *ekaśruti* view.

²⁰ This also appears to be the understanding of Bhartrhari, see Mahābhāṣyadīpikā: *iṣṭabuddhyarthaś ca varṇānām upadeśaḥ / upadeśe hi sati yathābhūta uccāritas tathābhūtaḥ sādhaso viparītāḥ tv asādhava iti sādhatvapratipattiyartham api kartavya upadeśa iti / udātādīnām apy upadeśaḥ kartavyaḥ / ete hi varṇā ekaśrutya paṭhitāḥ /*

²¹ Mahābhāṣya, Vol. I: 153 (Nirṇayasāgara edn.): (*ākṣepabhāṣyam*) *ubhayam idaṃ guṇeṣūktam - bhedakāḥ, abhedakā iti / kim punar atra nyāyam? (siddhānta-samādhāna-bhāṣyam) abhedakā guṇā ity eva nyāyam / kuta etat? yad ayam "asthidadhisakthy-akṣṇām anañ udāttaḥ" ity udātta-grahaṇam karoti, taj jñāpayaty ācāryo 'bhedakā guṇā iti / yadi hi bhedakā guṇāḥ syuḥ, udāttam evocārayet /* Of the two views discussed by Patañjali, the tradition seems to take the *abhedakā guṇāḥ* as his final view, and this appears as an acknowledged Paribhāṣā in several works, cf. Paribhāṣasamgraha.



Aṣṭādhyāyī. Pāṇini's explicit prescription for the Udātta accent of the substitute *an* can possibly mean either that the text of the Aṣṭādhyāyī was basically given in monotone (*ekaśruti*), and that special accent markings had to be explicitly stated, or that the text of the Aṣṭādhyāyī was given with some normal accentuation of Sanskrit, and yet whenever Pāṇini wanted to ensure a specific accentuation, he needed to make it explicit, because the normal accentuation of the sūtras could not assure the desired result. The explicit prescription of Udātta can thus be seen as overriding the normal accent patterns. Kaiyaṭa on this passage of the Mahābhāṣya explores both the alternatives. Even if one assumes that the sūtras of the Aṣṭādhyāyī were accented like normal Sanskrit, the very normality of these accents would make them unintentional (*avivakṣita*), and hence by the normal rules of substitution, one could get some other accent for the substitute *an* for the final *i* of the listed words. In the present case, the stem is originally accented as *ásthi*, which makes the final *i* sound an Anudātta sound. Unless explicitly stated, as P 7.1.75 does, the substitute *an* for the Anudātta *i* would naturally become Anudātta (cf. P.1.1.50: *sthāne 'ntaratamaḥ*), because the substitute closely copies the features of its original. Thus, Kaiyaṭa says that we would need such explicit specifications of accents and nasality, whether we assume that the Aṣṭādhyāyī carried the natural accents (*traisvarya*) of Sanskrit that were unintentional, or if we assume that the text of the Aṣṭādhyāyī was basically in monotone (*ekaśruti*).²² Nāgeśa, commenting on Kaiyaṭa, prefers the first alternative, namely that the Aṣṭādhyāyī carried the normal accents (*traisvarya*), with occasional segments in monotone (*ekaśruti*), and he rejects the assumption that the entire Aṣṭādhyāyī was produced by Pāṇini in monotone. On the other hand, he also says that students recited the Aṣṭādhyāyī (and other Vedāṅgas) in his days in monotone, like the accentless texts of the Brāhmaṇas. But this condition of monotone recitation did not reflect the original state of the Aṣṭādhyāyī.²³ But underlying this assertion of Nāgeśa of an Aṣṭādhyāyī

²² Pradīpa on Mahābhāṣya, Vol. I: 153 (Nirṇayasāgara edn.): *yady evaṃ katham anyatroktam "udātta-nipātanaṃ kariṣyata" iti, yāvatā tatrāpy avivakṣā prāpnoti / naiṣa doṣaḥ, tatrāpi sthānentaratamavacanād ādeśasya yaḥ svarāḥ prāptaḥ tasmīn uccārayitavya udāttoccāraṇam prayatnena vivakṣārthaṃ vijñāyate / evam anunāsikasya prayatnādhikeyenocāraṇam tad vivakṣārtham eva / uñāḥ ūṃ iti yathā / anye tv āhuḥ - ekaśrutyā sūtrāṇi paṭhyanta iti kvacid udāttoccāraṇam tad vivakṣārtham iti /*

²³ Uddyota on Pradīpa on Mahābhāṣya, Vol. I: 153 (Nirṇayasāgara edn.): *anye tv ity arucibījam... sampūrṇāṣṭādhyāyī ācāryeṇaikaśrutyā paṭhitety atra na mānam / kvacit kasyacit padasyaikaśrutyā pāṭho yathā dāṇḍināyanādīsūtre aikṣvāketi / etāvad eva bhāṣyāl labhyate / yady apy adhyetāra ekaśrutyāivāṅgāni paṭhanti brāhmaṇavat,*



text with normal accents of Sanskrit is the assumption that such normal accents of this text were not intentional, and that they would not become operative in grammatical derivations without explicit statements such as the one found in P.7.1.75.

To get a sense of the uncertainty of accent markings in the received text of the Aṣṭādhyāyī, let us consider issues raised by Pāṇini's rule 1.1.70 (*taparas tatkālasya*). The previous rule (P. 1.1.69: *aṅ-udit savarṇasya cāpratyayah*) says that the *aṅ* sounds [= *a, i, u, r, l, e, o, ai, au, [h], y, v, [r]* and *l*, as listed in the first six Śivasūtras] and sounds marked with a marker *u* stand for themselves and the class of their homogeneous sounds [*savarṇa*, cf. P.1.1.9: *tulyāsyaprayatnaṃ savarṇam*], if they are not *pratyayas* "affixes". Thus, for example, a non-affixal *i* stands for the class of eighteen homogeneous sounds that share the same point of articulation (*sthāna*) and internal articulatory effort (*prayatna*), but differ in length [short, long, prolonged], accents [Udātta, Anudātta, Svarita] and nasality [nasal or non-nasal]. In P.1.1.1 (*vṛddhir ādaic*), the vowels *ā* [= *āt*] and *ai* and *au* [= *aic*] are given the designation Vṛddhi. What is the reason for attaching the marker *t* to *ā*, and also perhaps to *aic* as well? P.1.1.70 (*taparas tatkālasya*) explains the function of the marker *t*. It says that a *t(a)-para* sound stands only for the homogeneous varieties of the same length. How to interpret the expression *t(a)-para* in this rule?²⁴ While the interpretation of this expression as a Bahuvrīhi compound in the sense "that which is followed by *t*" fits most contexts in Pāṇini's rules, and is applicable to the expression *āt* in P.1.1.1, Patañjali argues that the expression *aic* [= *ai* and *au*] in this rule that follows *t* [cf. *ā-t-aic*] also needs to be treated as being *tapara*. To get the sense "that which follows *t*", Patañjali derives it as a Tatpuruṣa compound.²⁵ We will not discuss here the reasons why Patañjali feels the need to interpret *tapara* both as a Bahuvrīhi as well as a Tatpuruṣa. Would such a double interpretation, or alternative interpretations, be possible if Patañjali had access to a genuinely accented text of the Aṣṭādhyāyī? That seems unlikely. As

tathāpi vyākhyānato 'nunāsikatvādivad udātanipātanādijñānam ity āhuḥ /

²⁴ In DESHPANDE (1972), I have discussed in detail this question and concluded that the expression *tapara* in this rule historically can only mean "a sound that is followed by the marker *t*."

²⁵ Mahābhāṣya, Vol. I: 101 (Nirṇayasāgara edn.): *tapare guṇavṛddhī / nanu ca taḥ paro yasmāt so 'yaṃ taparaḥ / nety āha, tād api paras tapara iti /*. Patañjali's comment extends to both *aic* [in P.1.1.1] and *eṅ* [in P.1.1.2] where these expressions follow the marker *t*. Compare Siddhāntakaumudī on P. 1.1.70 (p. 9): *taḥ paro yasmāt sa ca tāt paraś ca uccāryamānasamakālasyaiva saṃjñā syāt /*.



Patañjali himself has noted, change of accent can decide whether an expression is a Bahuvrīhi or a Tatpuruṣa. A Tatpuruṣa compound has its final syllable Udātta, while in a Bahuvrīhi, the first member of the compound retains its Udātta.²⁶ Had the text of the Aṣṭādhyāyī been fully accented, if the word *tapara* was *ādyudātta* [= *tápara*], it would then be a Bahuvrīhi, but if it were an *antodātta* [= *tapará*], then it would be a Tatpuruṣa. Patañjali would not have been able to offer a double interpretation of the expression *tapara*, had the text of the Aṣṭādhyāyī known to him been fully accented. So in this instance, the absence of accentuation in the received text of the Aṣṭādhyāyī seems to have allowed Patañjali to offer interpretations of Pāṇini's rule that go beyond Pāṇini's own intentions.²⁷ There are other instances of expressions of uncertainty about the accentuation of particular expressions in the Aṣṭādhyāyī scattered in the Mahābhāṣya.²⁸ How did Patañjali attempt to figure out what the accentual markings may have been in Pāṇini's rules? SCHARFE (2009: 42) remarks: "Patañjali had no knowledge where the pitch accents and nasalized tags were placed in the Aṣṭādhyāyī. He had to reconstruct their existence and position from his knowledge

²⁶ For Patañjali's discussion of the examples *indraśatru* and *sthūlapṛṣatī*, see Mahābhāṣya, Vol. I: 24-27 (Nirṇayasāgara edn.). Here Patañjali insists that the knowledge of accents is critical in making a proper decision about the meaning of the word. With respect to the example *sthūlapṛṣatī*, Patañjali says: *asandehārthaṃ cādhyeyaṃ vyākaraṇam / yājñikāḥ paṭhanti – sthūlapṛṣatīm āgnivāruṇīm anaḍvāhīm ālabheteti / tasyāṃ sandehaḥ – sthūlā cāsau pṛṣatī ca sthūlapṛṣatī, sthūlāni pṛṣanti yasyāḥ seyaṃ sthūlapṛṣatīti / tāṃ nāvaiyākaraṇaḥ svarato 'dhyavasyati – yadi pūrvapadaprakṛtisvaratvaṃ tato bahuvrīhiḥ, atha samāsāntodātattvaṃ tatas tatpuruṣa iti /*. For an explanation of the example *indraśatru*, see Pradīpa on Mahābhāṣya, Vol. I: 28-29 (Nirṇayasāgara edn.).

²⁷ Kaiyaṭa evidently realizes the difficulty in this dual interpretation of *tapara* offered by Patañjali, and so he avoids saying that Patañjali is interpreting the same expression in two ways. He says that the double meaning is obtained either by repetition of the rule (*tantra*), where each repeated instance is interpreted differently, or by assuming that the expression *tapara* in the rule is an Ekaśeṣa compound of *tápara* and *tapará* [cf. Pradīpa and Uddyota on Mahābhāṣya, Vol. I: 101 (Nirṇayasāgara edn.). My Sanskrit teacher in Pune, the late Pandit N.N. Bhide, used to fervently believe that it was the same Patañjali who was the author of the Yogasūtras and the Mahābhāṣya, and that Patañjali had special yogic insight into the original understanding of Pāṇini's rules. But when confronted with the example of Patañjali's double interpretation of *taparas tatkālasya*, he started having doubts about Patañjali's yogic abilities.

²⁸ On P.7.2.44 (*svaratisūtisūyatidhūnūdito vā*), Patañjali says: *kim punar iyaṃ prāpte vibhāṣā āhosvid aprāpte?... yadi svaratir udāttaḥ tataḥ prāpte, athānūdattas tato 'prāpte*, (Mahābhāṣya, vol 3: 137, Motilal Banarsidass, 1967).



of the desired forms and from a study of internal consistencies”. In several cases, using his knowledge of the desired outcomes, Patañjali proposes accentuations of particular expressions using the future tense *svarayiṣyate* “it shall be read with a Svarita”. Such instances indicate that Patañjali is proposing to create a version of the Aṣṭādhyāyī that is different from the received text, and yet, in his opinion, best suits the needs of the proper derivation.²⁹

6. Specific issues with marking segments of rules with Svarita

An important case of uncertainty regarding Pāṇini’s formulations of his rules is his use of the Svarita accent to mark a segment of a rule to indicate that it continues into subsequent rules. P.1.2.11 (*svaritenādhikāraḥ*) says that an *adhikāra* “continuing expression” is marked with a Svarita accent. This is clearly a metalinguistic use of accent as a marker.³⁰ An expression is marked with Svarita so that it need not be repeatedly mentioned in the subsequent rules (Vārttika 1: *adhikāraḥ pratiyogaṃ tasyānirdeśārthaḥ*). There are obviously several questions regarding this procedure. How is this Svarita marked? Does this Svarita marker override the natural accentuation of words in the rules of the Aṣṭādhyāyī, or does it stand out on the background of an otherwise monotone recitation? This has not been clarified anywhere in the Aṣṭādhyāyī. Secondly, Kātyāyana raises another question, namely limit of the continuity of an expression marked with Svarita. Kātyāyana says that we have no way of knowing how far such an expression marked with Svarita is to be continued (Vārttika 4: *adhikāraparimāṇājñānaṃ tu*). To answer this question, Patañjali comes up with an alternative reading of this rule. The rule should not be (or should not only be?) read as *svaritena adhikāraḥ*, but (also?) as *svarite na adhikāraḥ* “a segment marked with Svarita shows the limit of an Adhikāra” cf. Mahābhāṣya, Vol. II: 146 (Nirṇayasāgara edn.). Note, however, that this interpretation is proposed with *evaṃ vakṣyāmi* “I will say this”.

²⁹ For a discussion of some instances of *svarayiṣyate* in the Mahābhāṣya, see SCHARFE (2009: 42). SCHARFE (p. 43) says: “Patañjali received the Aṣṭādhyāyī in a written form, where pitch accents and nasalizations were not marked – as in so many Vedic texts”. I am not entirely convinced that Patañjali received the text of Pāṇini in a written form. What we can say is that even if we assume that there was written transmission of Pāṇini’s text, such a written text would have been inadequate to reflect many features of the oral complexity of the Aṣṭādhyāyī.

³⁰ For the details of this rule and its operation, see CARDONA (1968). Also BRONKHORST (2009: 270ff).



This probably means that this is a novel reading of the rule. It also indicates the state of the text of the Aṣṭādhyāyī as received by Patañjali, namely a text without breaks between words or even rules. I shall deal with this aspect later. However, it is quite clear that Patañjali did not quite know how exactly the Svarita was marked in Pāṇini's text and how it was to be interpreted. He proposes to read Svarita markings where he thinks it can have some benefit, and yet the use of the future tense indicates that these are novel readings and not merely explanations of received textual features.³¹ Finally, unable to justify a viable purpose for the use of Svarita to mark a continuing expression, Patañjali says that this rule is needed, because the word *adhikāra* can be understood to mean "some extra dispensation" (*adhikaḥ kāraḥ*), and he provides some instances of exceptions to normal procedures that he believes can be accounted for by reading a segment with Svarita. All these proposals are given in future tense, and indicate that they are proposals to extend the grammatical procedures, and not explanations of received Pāṇinian texts or traditions.³²

To cite a case of hypothetical interpretation of an *adhikāra* marked with Svarita, let us consider P.2.1.1 (*samarthaḥ padavidhiḥ*) "A grammatical operation relating to nominal and verbal forms [ending with case endings or finite verb endings (*padas*)] applies under the conditions of semantic-syntactic relations". Patañjali opens his discussion of this rule with the question: "Is this an *adhikāra*, or is this a *paribhāṣā*? If it is treated as an *adhikāra*, the words of this rule do not have to be repeated in subsequent rules, but if this is an interpretive maxim, it will apply wherever conditions for its application occur".³³ Patañjali then asks about what one would need to do to make sure that this is an *adhikāra*. His answer is: *adhikāre sati svarayitavyam* "if this is (to be) an *adhikāra*, then a Svarita marking would have to be added". Kaiyaṭa explains that this is a proposal to read a Svarita on the word

³¹ Mahābhāṣya, Vol. II: 147 (Nirṇayasāgara edn.): *gostriyor upasarjanasya ity atra... strīgrahaṇam svarayīṣyate* /. Also see: BRONKHORST (2009: 273).

³² Mahābhāṣya, Vol. II: 148 (Nirṇayasāgara edn.): *adhikaḥ kāraḥ – pūrvavipratīṣedhās ca na paṭhitavyā bhavanti – "guṇavṛddhyautvatṛjvadbhāvebhyo num pūrvavipratī-ṣiddham," "numaciratṛjvadbhāvebhyo nuṭ" iti / num-nuṭau svarayīṣyete / tatra svaritenādhikaḥ kāro bhavatīti numnuṭau bhaviṣyataḥ /*. Also see SCHARFE (2009: 42).

³³ Mahābhāṣya, Vol. II: 313-314 (Nirṇayasāgara edn.): *kim punar ayam adhikāraḥ āhosvīt paribhāṣā? kaḥ punar adhikāraparibhāṣayor viśeṣaḥ? adhikāraḥ pratiyogaḥ tasyānirdeśārtha iti yoge yoge upatiṣṭhate / paribhāṣā punar ekadeśasthā satī kṛtsnam śāstram abhijvalayati pradīpavat /*.



samartha, a new proposal rather than an explanation of the rule as received, and that this proposal, if put into effect, would make the word *padavidhiḥ* in this rule unnecessary. If *samartha* is an *adhikāra* (marked with Svarita), then it will automatically continue into the subsequent rules, and there is no need to state *padavidhiḥ* as the condition for its application. So we clearly understand several aspects of this situation. First, it is clear that Patañjali was not in possession of an accented text of the Aṣṭādhyāyī, either oral or written. But he felt free to make new proposals to read accent markings into the received text, if they seemed beneficial, even if such new proposals made other parts of the original statements useless.³⁴

This still leaves one question unanswered. While Patañjali proposes to read a Svarita accent on the word *samartha*, it is not made clear as to how exactly this accent feature is supposed to be displayed. This brings us back to the earlier discussion of whether the text of the Aṣṭādhyāyī was originally given in monotone, with special accent markings provided as highlights, or whether the text carried all the normal accentuation of Sanskrit, in addition to the accent markings used for metalinguistic purposes. If we assume the alternative of a basic text in monotone, with special accent markings standing out on the background of this monotone, then it simplifies how a Svarita can be added to an otherwise monotone expression. Even in this alternative, we are not yet sure as to which syllable of the word *samarthaḥ* would carry this Svarita, and this has not been clarified by any commentator.

On the other hand, if we assume that the original text of the Aṣṭādhyāyī carried all the normal accents (*traisvarya*), with additional special accent and nasality markings, then the situation becomes far too complex. S.D. JOSHI (1968:8) explains this situation: “How an *adhikāra* is uttered with *svarita* is not clear from P.1.3.11 *svaritenādhikāraḥ*. The original accentuation of the successive vowels of the word *samarthaḥ* is *anudātta*, *udātta*, *svarita*, by P.6.2.139 (the *udātta* of *ārtha* is retained in *samārtha*) and by P.8.4.66 (the vowel following after *udātta* takes *svarita*). Whether the *adhikārasvarita* is different from the original *svarita* or whether all vowels of the word *samartha* will take *svarita*

³⁴ Mahābhāṣya, Vol. II: 313-314 (Nirṇayasāgara edn.): On P. 2.1.1 (*samarthaḥ padavidhiḥ*): *kim punar ayam adhikāraḥ, āhosvit paribhāṣā?... kaḥ punar atra prayatnaviśeṣaḥ? adhikāre sati svarayitavyam / paribhāṣāyām tu sarvam apekṣyam /*. On this passage of the Mahābhāṣya, Pradīpa says: *svaritaguṇa-yuktaṃ samarthagrahaṇam paṭhitavyam ity arthaḥ /... padavidhigrahaṇam cātra pakṣe na kartavyam ity arthād uktam bhavati /*



is nowhere clear in *Mbh*". While I agree with the statement of the dilemma as presented by JOSHI, I am not certain we are in a position to talk about "the original accentuation" of the Aṣṭādhyāyī. What JOSHI has demonstrated is how an expression in the Aṣṭādhyāyī would be accented, if all normal accent rules of Pāṇini were applied to it. However, this does not allow us to call such reconstructions "original" by any means. Elsewhere, S.D. JOSHI and J.A.F. ROODBERGEN state their assumption that the Aṣṭādhyāyī was "an accented text. We hope to deal with this question in a separate publication".³⁵

Assuming that the Aṣṭādhyāyī and its ancillary texts like the Dhātupāṭha were accented texts, we can get some further insight into whether such accentuation could have been normal Sanskrit accentuation, as described by the accent rules of Pāṇini himself, or it may have deviated from the normal rules of accent, as the grammar of Pāṇini's metalanguage deviates from the grammar of normal Sanskrit in numerous instances. I will discuss here only one instance to illustrate this issue. P.1.3.12 (*anudāttaṅīta ātmanepadam*) says that those verb roots listed in the Dhātupāṭha that are marked either with an Anudātta vowel or with a marker *ñ* take the Ātmanepada endings. P.1.3.72 (*svaritaṅītaḥ kartrabhiprāye kriyāphale*) says that the verb roots that are marked either with a Svarita or with a marker *ñ* take the Ātmanepada endings if the fruit of the action denoted by the verb is intended for the agent of that action. Additionally, as a rule of normal accentuation, P.8.4.66 (*udātād anudāttasya svaritaḥ*) says that an Anudātta syllable occurring after an Udātta syllable becomes Svarita. To illustrate this last rule, consider the first two words of the Ṛgveda: *agnīm ṛle*. The accentuation of these words as given in the Padapāṭha is *agnīm* and *ṛle*. Both the vowels of *ṛle* are originally Anudātta. Now, when we look at the Saṃhitā of the Ṛgveda, we see the application of P.8.4.66. The first vowel (*ī*) of *ṛle*, coming immediately after the Udātta syllable of *agnīm* is changed into a Svarita, and the accented Saṃhitā reads: *agnīmṛle*. With this Vedic pattern of accentuation, fully justified by Pāṇini's accent rules, let us consider an example of a root listed in the Dhātupāṭha.

³⁵ S.D. JOSHI and J.A.F. ROODBERGEN, *The Aṣṭādhyāyī of Pāṇini*, Vol. I, Introduction: 6. As for marking an *adhikāra* with a Svarita accent, S.D. JOSHI and Saroja BHATE (1984: 3) conclude: "Kātyāyana and Patañjali are often in the dark about which vowels in the grammar are provided with *svarita* accent indicating the status of *adhikāras* in the system. *Svarita* is decided by means of interpretation (*vyākhyāna*) and not by means of the accented text". Also see JOSHI and BHATE (1984: 3, fn. 12) for further details.



The very second verb root listed in the Dhātupāṭha is *edh* (*edhate*). The Dhātupāṭha explicitly tells us that this root has an Udātta vowel (*é*) and an Anudātta marker vowel (*ā*). By P.1.3.2 (*upadeśe 'j anunāsika it*), for a vowel to be a marker (*it*) sound, it must be nasal. So, at the starting point, the accentuation of the root must be *édhā*. If this representation of the root is then further subjected to the normal accent rules of Sanskrit, such as P.8.4.66, then the final Anudātta *ā* of *édhā* must change to a Svarita, as it follows an Udātta syllable, and then we will have the root represented as *édhā^{sv}*. So now the question is what is the most likely Pāṇinian representation of this root?

1) *édhā* without further applying P.8.4.66

OR

2) *édhā^{sv}* after applying P.8.4.66

The alternative (1) clearly makes this root subject to P.1.3.12, as the Ātmanepada for this verb is desired, but then what about applying P.8.4.66? Pāṇini's grammar gives us conflicting signals about applying the normal rules of Sanskrit to the text of the Aṣṭādhyāyī. For instance, consider the received reading of P.1.3.2 (*upadeśe 'j anunāsika it*). In this rule, we have a reference to the Pratyāhāra *ac*, which is a shortform for the list of vowels in the first four Śivasūtras: *a i u ṅ, ṛ ḷ k, e o ṅ*, and *ai au c*. The rule uses the nominative singular of this expression as *ac*, before being subjected to a sandhi-rule changing it to *aj*. Now, the normal rules of derivation such as P.8.2.30 (*coḥ kuḥ*) would change the final *c* to *k*, giving us the nominative form as *ak*. Compare the nominative form *vāk* for the nominal stem *vāc*. However, if the original shortform *ac* were to change to *ak* in this fashion, it would be indistinct from the shortform *ak* which includes vowels only from the first two Śivasūtras: *a i u ṅ, ṛ ḷ k*. For this reason, Pāṇini chooses not to apply the normal rule P.8.2.30 to this formation, and this is done in order to preserve clarity of metalinguistic reference. However, the same segment *ac* is then subjected to the normal sandhi rule changing it to *aj* before the following vowel. Evidently, this change is not deemed to be confusing to the student of the Aṣṭādhyāyī. There are hundreds of such cases scattered through the text of the Aṣṭādhyāyī, where some rules of normal Sanskrit are withheld from the text of the Aṣṭādhyāyī, while others are allowed to go ahead and apply.

On the face of it, the alternative (2), achieved by applying the normal accentuation rule P.8.4.66, would make this root subject to P.1.3.72, and then it would take the Ātmanepada endings only if the fruit of the



action is intended for the agent of the action, leaving the possibility that this root could otherwise take the Parasmaipada endings. Within the Pāṇinian system, it is possible to argue that even after applying P.8.4.66, and changing the final vowel to a Svarita, this rule coming in the last three quarters of the Aṣṭādhyāyī is treated as if it never took effect, for the rest of the Aṣṭādhyāyī (cf. P.8.2.1: *pūrvatrāsiddham*). Hence, it is possible to argue that P.1.3.72 does not recognize the transformation brought about by P.8.4.66, and that the root, even if read as *édhā^v*, will still be treated as if it was *édhā* with an Anudātta marker *ā*. I am discussing this example at length just to show our ultimate inability to be sure about the exact oral shape of the Aṣṭādhyāyī and its ancillary texts like the Dhātupāṭha. This makes us aware of some intrinsic dilemmas about the text of the Aṣṭādhyāyī that are beyond the debate regarding orality and writing. Additionally, the explicit statements found all through the received Dhātupāṭha giving us accentual details verbally make us wonder if the text of the Dhātupāṭha had already lost its oral accent markings before such statements were added to an original oral Dhātupāṭha, or if from the very beginning, the basic grammatical texts were read in monotone, with special instructions about accent markings being given explicitly in verbal statements.

7. Available accented versions of the Aṣṭādhyāyī

Among the printed versions of the Aṣṭādhyāyī available to us today, there are a few versions, which show partial or full accentuation for it, and it would be important to briefly discuss these versions. Among these versions, those of KATRE (1987) and DAHIYA (1995) are essentially reconstructions of these scholars. Several reviewers of KATRE (1987) have pointed out problems in the partial and inconsistent accentuation given by KATRE. About the accents of the Aṣṭādhyāyī reconstructed by KATRE, SCHARFE (1989: 657) remarks: “Katre introduces the normal accents of Sanskrit into the text, but not consistently: *vibhāṣā* (1.1.44 etc.) is apparently never accented, nor is *ādyantau* (1.1.46)... the haphazard introduction of ordinary accents of the Sanskrit language serves no purpose”. In my review of KATRE (DESHPANDE 1989), I have shown that, for example, KATRE (*Aṣṭādhyāyī*, p. 27) translates P.1.1.70 (*taparas tatkālasya*) as: “A (vowel) phoneme followed or preceded by marker T denotes homogeneous phonemes of its time duration”. In this translation, KATRE is following the tradition going back to Patañjali, as I have discussed earlier in this paper. However,



rendering the expression *tapara* as “followed by T” (*taḥ paro yasmāt saḥ*) makes it a Bahuvrīhi compound, with the Udātta accent on *tá* of *taparaḥ*. On the other hand, the rendering “preceded by T” (*tāt paraḥ*) makes it a Tatpuruṣa, with the Udātta accent on the final syllable: *taparāḥ*. Alternative renderings going back to Patañjali were possible, as we have seen earlier, simply because the text of the *Aṣṭādhyāyī* by this time had lost its accents. On the other hand, while ostensibly trying to reconstruct its accents, KATRE still retains the alternative renderings of the tradition. KATRE’s partial accentuation reads: *Ta-paras tát-kālasya*. While giving accentuation *tát-kālasya*, indicating that KATRE thinks that this is a Bahuvrīhi compound, KATRE gives *Ta-paras* without any accents. This makes the accents provided by KATRE’s text of the *Aṣṭādhyāyī* not entirely trustworthy, and sometimes completely counter-productive.

Yajanveer DAHIYA (1995) provides an accented text of the *Aṣṭādhyāyī* that is presumably based on his own reconstruction, a point that is never made clear in the book. In his introduction (pp. 6-7), DAHIYA gives reasons for the loss of accents: “From the internal evidence of the AP it seems that Pāṇini had taught the *Aṣṭādhyāyī* to his students with a proper sense of accent. Now the question arises why it disappeared later. Many arguments can be put forward in this connection. The major argument in this regard, in the opinion of the researcher here, is the lack of Vedic studies. In Pāṇini’s time Vedic studies rested on the high pedestal. Accent plays a major role in Vedic studies. Vedic studies are generally considered difficult due to their technical nature. From Pāṇini onward people left the Vedic studies and turned to studies of classical languages where accent has not much to do, and language is free from variation of tone or pitch and where there is hardly any involvement of difference of stress; classical Sanskrit marks no accent. Owing to this reason accent disappeared from AP”. This is too specious an explanation and does not account for why the accents of the *Aṣṭādhyāyī* were already lost before the time of Kātāyana and Patañjali, who continue to deal with accent rules of Pāṇini for both Vedic and contemporary Sanskrit. DAHIYA (p. 213) himself notes: “From the internal evidence of AP it seems that Pāṇini had taught the *Aṣṭādhyāyī* to his pupils with a proper sense of accent. MB gives evidence that AP was in a monotonous accent. Kaiyaṭa by quoting some other grammarian’s viewpoint explicitly states that AP was in monotonous accent. But Nāgeśa differs here. According to him, AP was not in monotonous accent. He quotes a line in his support from



MB, i.e. *ādyudāttanipātanam kariṣyate*.... It clearly indicates that AP was in monotony accent, otherwise Patañjali would have used *kṛtam* instead of *kariṣyate* in the quotation mentioned just above. Therefore, the view of Nāgeśa is not correct. Thus, it is not acceptable to us, and it seems that AP was originally marked in monotony accent. Moreover, we have come across a statement in *Pratijñāpariśiṣṭa*, i.e. *tāna evāṅgopāṅgānām*. It means, the books which are known as *aṅga* and *upāṅga* are in monotony accent. The AP also falls under this category. I, therefore, agree with the recommendations made by Patañjali in this regard. According to him, Pāṇini taught all his aphorisms, in monotony accent. There are, however, evidences to show that the AP was at one time in monotony accent. I have, therefore, marked the accent in the original text of the AP which is appended at the close of this treatise". In this confusing statement, it is not clear why DAHIYA attempts to reconstruct the accent of the Aṣṭādhyāyī, if he agrees with Patañjali that the Aṣṭādhyāyī was originally in monotone. What "other evidences" are there? Further, DAHIYA has not given any explanation of the principles he uses to reconstruct the accents of the Aṣṭādhyāyī, and shows no awareness of specific issues like how the Svarita marking the *adhikāra* can be shown distinctively. For example, Sūtra 1.1.69 (*taparas tatkālasya*) as accented by DAHIYA (p. 240) gives *taparās* with a Tatpuruṣa accent which would give us "that which follows *t*" (*tāt paraḥ*) as the only interpretation, while it is the Bahuvrīhi interpretation that fits most occurrences of *tapara* items in the Aṣṭādhyāyī. While S.D. JOSHI (1968: 8) correctly says that the derivational accent of the word *samarthaḥ* in P.2.1.1 would be *samārthàḥ*, before one would need to think how to add a distinctive Svarita to mark an *adhikāra*, DAHIYA's (p. 244) accentuation places the Udātta accent on the last syllable, and gives no indication of whether he does or does not consider this to be an *adhikāra*, and if it is an *adhikāra*, how it would be marked with a Svarita. Thus, on the whole, DAHIYA's reconstruction of accents is not very accurate or informative.

The last accented version I would like to discuss briefly is that published by Pandit Madhav Ganesh JOSHI (1992). Regarding the accented manuscript of the Aṣṭādhyāyī used by Pandit JOSHI, S.D. JOSHI says in his preface (p. 1): "Mr. Nipanikar Shastri (= Madhav Ganesh Joshi) came in possession of the manuscript by pure chance. One day, some 50 years ago, a person came to Mr. Nipanikar Shastri's grocery shop to sell old paper useful for packing articles. Mr. Nipanikar Shastri bought the lot offered to him. Among the old papers he discovered the



manuscript, to his great surprise. Thus about the original owner and the place of origin of the manuscript nothing is known". According to S.D. JOSHI, this manuscript "is of rather recent date, somewhere between 1870 and 1930". Pandit JOSHI claims that he checked the accents as shown in the manuscript with Vedic reciters who recite the Aṣṭādhyāyī with accents and that these reciters told him that the accents of the manuscript seem to match their recitation. After checking the accents in Pandit Joshi's edition, S.D. JOSHI remarks (preface: 4): "What is the conclusion to be drawn from these observations?... The conclusion I draw from what I have noted is that the manuscript which is obviously meant as a help for pandits during recitation does not strictly follow the Pāṇinian rules for accentuation, both as regards word – or sentence accent, and as regards technical accent. But from what I heard from Mr. Nipānikar Shastri I understand that Vaidika Daśagranthī pandits like Vedamūrti Ghaisas Shastri from Poona have assured Mr. Nipānikar Shastri that the accentuation given by the manuscript is exactly that which they have learnt for purposes of recitation".

I have checked a few sample rules from Pandit JOSHI's edition. For P.1.1.70, like the version of DAHIYA, Pandit JOSHI's accentuation gives the Udātta accent on the final vowel of *taparāḥ*, which would make this into a Tatpuruṣa compound with an interpretation that is not historically accurate. It is the Bahuvrīhi interpretation of this word that is applicable to most cases of *tapara* items in the Aṣṭādhyāyī. Also for P.2.1.1 (*samarthaḥ padavidhiḥ*), Pandit JOSHI's manuscript places the Udātta accent on the last syllable of *samarthāḥ*, with no indication of a Svarita. This is at variance with the accent reconstructed by S.D. JOSHI, which places the Udātta accent on the second syllable. So, on the whole, Pandit JOSHI's edition is valuable as an authentic representation of accentuation of the Aṣṭādhyāyī in the recitation of the Vaidika reciters, but there is very little chance that it represents historically authentic accentuation.³⁶ Also one should note that neither KATRE, nor DAHIYA nor Pandit JOSHI indicates the nasal marking in the text of the Aṣṭādhyāyī. Especially the lack of the nasal marking in

³⁶ Yudhiṣṭhira MĪMĀMSAKA (1973: 230) refers to a manuscript of the Aṣṭādhyāyī where only the first Pāda was given with accents, but MĪMĀMSAKA remarks that the accents were all incorrect. He also refers to other manuscripts that contain incorrect accentuation. He believes that someone tried to add accents to the Aṣṭādhyāyī following Nāgeśa's view that the original Aṣṭādhyāyī was fully accented. However, it is likely that as pointed out by Pandit JOSHI, such accented manuscripts were used by Vedic reciters.



Pandit JOSHI's edition is significant. That means that while the Vaidika reciters maintained some sort of accent for the Aṣṭādhyāyī, its nasality for the marker vowels was lost beyond recovery. This is the area we shall now turn to.

8. Nasality not clearly marked in the received text of the Aṣṭādhyāyī

P. 1.3.2 (*upadeśe 'j anunāsika it*) says that a vowel, uttered with nasality in the grammatical items enunciated by Pāṇini, is treated as a marker (*it*). Such markers, both vocalic and consonantal, are unconditionally deleted (cf. P.1.3.9: *tasya lopaḥ*), and are not part of the phonetic shape of the grammatical item. However, Pāṇini refers to these markers when prescribing various operations in his grammar, and thus our ability to identify the existence of these markers is critical in deciding which operations can apply to a given grammatical item. I have already referred to the famous statement of the Kāśikāvṛtti on this rule that states that the Pāṇinian scholars recognize nasality of such marker vowels only by the authoritative assertion of convention (*pratijñānunāsikyāḥ pāṇinīyāḥ*). Bhaṭṭojī in his Prauḍhamanoramā says: “Though the recitation of the rules with nasality made by Pāṇini is now lost, we infer that such a recitation once existed, on the basis of the usage of the author of the Kāśikāvṛtti”.³⁷ Explaining the same rule, i.e. P.1.3.2, Bhaṭṭojī's Śabdakaustubha provides an even more detailed account of this phenomenon: “The *upadeśa* or teaching of Pāṇini includes the Sūtras, the Vārttikas, the lists of nominal stems (in the Gaṇapāṭha) and the Dhātupāṭha. In all these texts, the recitation of the nasal vowels done by the author of the Sūtras is now corrupted. For this reason, the author of the Kāśikāvṛtti says – *pratijñānunāsikyāḥ pāṇinīyāḥ*. Among the examples, we include the roots *édhā* and *spárdhā*, where due to the nasally marked Anudatta vowels, we get the Ātmanepada endings [by P.1.3.12: *anudattañita ātmanepadam*], e.g. *edhate* and *spardhate*. In deriving the [nominative singular] form *bhavān* from the root *bhū* [with the addition of the affix *śátī^{ns}* by P.3.2.124], we can get the augment *n(um)* [for the *át* of *śátī^{ns}* leading to *bhavant* > *bhavān*], because [the affix *śátī^{ns}* is marked with a nasal marker *ī^{ns}* included in the shortform] *uk* [allowing the application of P.7.1.70: *ugidacāṃ sarvanāmasthāne 'dhātoḥ*].³⁸ Since the *a* in the Śivasūtra (*lāṇ*) is [declared to be] nasal,

³⁷ *yady api sūtrakāraḥto 'nunāsikapāṭha idānīm paribhraṣtas tathāpi vṛttikārādīvyava-hārabalena yathākāryam prāk sthita ity anumīyate /*, Prauḍhamanoramā: 44-45).

³⁸ For the derivation of *bhavān*, see S.M. KATRE (1987: 866).



we can derive the shortform (*pratyāhāra*) *rā* [which includes the sounds *r* from the Śivasūtra *h(a)y(a)v(a)r(a)ṭ* and *l* from the Śivasūtra *lāṅ*]. [Similarly] we can derive the Ātmanepada forms like *avagalbhate* because [the roots] like *avagalbha* [listed] in Kātyāyana's Vārttika [3, *ācāre 'vagalbhaklībahodebhyaḥ kvib vā*, on P.3.1.11 (*kartuḥ kyaṅ salopāś ca*)] have a nasal Anudatta marker [in the reading *avagalbhā*³⁹, allowing the Ātmanepada by P.1.3.12: *anudattanīta ātmanepadam*].⁴⁰ In this interesting listing, some instances like the nasal marking with *ṛ^{ns}* in the affix *sāṭṛ^{ns}* and the nasal markings on the roots *édhā* and *spārdhā* go back all the way to Pāṇini. The nasal marking on roots like *avagalbhā* in Kātyāyana's Vārttika goes back to a novel proposal by Patañjali, and in all likelihood not part of Kātyāyana's intention. The idea to read the vowel *a* in the Śivasūtra *laṅ* with nasality is not seen in the Mahābhāṣya, but is promoted by Bhartṛhari,⁴¹ the Kāśikāvṛtti (on the Śivasūtra *laṅ*), Kaiyaṭa⁴² and the Siddhāntakaumudī, and is disputed all the way down to Nāgeśabhaṭṭa.⁴³ This shows that there is no assurance

³⁹ The reading of a nasal marker for *avagalbha* etc. in this Vārttika is explicitly proposed by Patañjali: *ātmanepadārthān anubandhān āsaṅkṣyāmīti / galbha klība hoḍa /*, and Kaiyaṭa: *vākye 'kārasyanudattatvānunāsikatve pratijñāyete iti bhavaḥ /*, Mahābhāṣya, Vol. III: 42 (Nirṇayasāgara edn.). Note the use of the future form *āsaṅkṣyāmi* in the Mahābhāṣya passage, indicating that this is a novel proposal, rather than an explanation of things as they are.

⁴⁰ Śabdakaustubha (Vol II-Fas. 5-10: 55 (ed. by Gopal SHastri NENE), Chowkhamba Sanskrit Series): *sa ca (upadeśaḥ) dhātupāṭhaprātipadikapāṭhau sūtravārttike ca / tatra śāstrakṛtā paṭhitasyāpy anunāsikasya pāṭha idānīm apabhraṣṭaḥ / ata evāhur vṛttikārāḥ – "pratijñānunāsikyāḥ pāṇinīyāḥ" iti / tatra edha, spardha ity ādāv anudattettvād ātmanepadam / edhate, spardhate / "bhavati" ity atrogītvān num / bhavān / "laṅ" sūtre akārasyettvād rapratyāhārasiddhiḥ / "ācāre 'vagalbhaklībahodebhyaḥ" (Kā. Vā.) iti vārttike 'vagalbhāder anunāsikatvenānudattettvāt taṅ / avagalbhate ity ādi /*

⁴¹ Mahābhāṣyadīpika: 43: *tatrānubandhā hala eva / ayaṃ tv ekaḥ ajanubandhaḥ / laṅ iti lakāre akāraḥ / uraṅ rapara ity atra ca ṛkāralakārayo ralaparavārthaḥ /*

⁴² Mahābhāṣya, Vol. I: 226 (Nirṇayasāgara edn.): *īkārasya laparatvaṃ vakṣyāmi /*; Pradīpa: *laparatvam iti vyākhyāsyāmīty arthaḥ / rapara ity atra ra iti laṅ iti rakārākāreṇa pratyāhāra āsrīyate /*

⁴³ Uddyota on Pradīpa on Mahābhāṣya, Vol. I: 226 (Nirṇayasāgara edn.): *anye tu laṅsūtrasthākārasyanunāsikatve 'to lrāntasyetry atra bhagavān pāṇinir lakāraṃ nocārayet pratyāhāreṇaiva nirvāhāt / tasmād apūrvam vacanam kāryam ity eva bhāṣyāśaya ucīta ity āhuḥ /*. Śivadatta KUDĀLA, the editor of the Nirṇayasāgara edition of the Mahābhāṣya appends an extensive note to reject Kaiyaṭa's suggestion. We may also note that there are several manuscripts listed in various catalogues with the title Rapratyāhārahāṇḍana.



that the commentarial suggestions for reading a nasal vocalic marker go back to Pāṇini himself, and this shows that the received text of Pāṇini, written and/or oral, did not carry such assured nasal markings.

Another proposal for nasalization is seen in the Mahābhāṣya on P.7.1.25 (*aḍ ḍatarādibhyaḥ pañcabhyaḥ*).⁴⁴ Here the rule proposes the addition of *-ad* to forms like *katara* in neuter giving us the form *kataraḍ* for the nominative and accusative. Kātyāyana worries that, especially in the neuter nominative derivation *katara+su*, when *su* is replaced with *ad*, we would have *katara+ad* leading to *kataraḍ* as the form, instead of the desired *kataraḍ*. To avoid this problem, Kātyāyana wants to get rid of the *a* of *ad* by marking it as a nasal *ā*. This would make it an *it* sound and be subsequently deleted. Such a proposal essentially raises the question as to why Pāṇini should have stated the replacement as *ad* to begin with, and gives us little assurance that this nasal vowel was a feature of Pāṇini's own formulation.

9. Nasal marking for some consonants in the Aṣṭādhyāyī?

The uncertainty about the exact phonetic form of the transmitted text of the Aṣṭādhyāyī allowed the commentators to conveniently read various features into the text in order to resolve certain perceived problems. In a few cases, we notice that the commentators propose to read the consonants *y* and *v* with nasality. There is no special rule in Pāṇini's grammar attributing a specific function to such nasal *ỹ* and *ṽ*. However, by distinguishing *y* from *ỹ*, and *v* from *ṽ*, the commentators intend to fine tune Pāṇini's rules to avoid certain perceived problems.

P.7.1.1 (*yuvor anākau*) says that the items *yu* and *vu*, occurring as part of the Pratyayas "affixes", are replaced by *ana* and *aka*, respectively. Such replacements are seen in formations like *karaṇa* and *kāraka* [*kṛ+lyu* > *kṛ+ana* > *k=kar+ana*; *kṛ+ṇvul* > *kṛ+aka* > *kār+aka*]. Nothing in the context of P.7.1.1 directly restricts *yu* and *vu* to certain affixes, or excludes other affixes or even verb roots. We do not want the affixes in forms like *bhuj-yu*, *kam-yu*, and *śam-yu* to be replaced with *ana*. Similarly, we do not want the verb root *yu* in forms like *yu-tvā* or *yu-taḥ* to be replaced with *ana*. How can we limit the scope of *yu* and *vu*

⁴⁴ Mahābhāṣya on P.7.1.25 (*aḍ ḍatarādibhyaḥ pañcabhyaḥ*), Vol. III: 28, Motilal Banarsidass edn: Vārttika 1: *adbhāve pūrvasavarṇapratīṣedhaḥ /...* Vārttika 2: *siddham anunāsikopadhatvāt /*; Bhāṣya: *siddham etat / katham? anunāsikopadho 'cśabdaḥ kariṣyate /*. Note the use of the future form *kariṣyate* to make this novel proposal. This indicates that this is not a received textual feature of Pāṇini, but a new feature proposed by Kātyāyana.



referred to in this rule to only those instances where such replacements with *ana* and *aka* are desirable? Realizing this difficulty, Kātyāyana comes up with a series of proposals.

Vārttika 3 on P.7.1.1 (*anunāsikaparatvāt siddham*) proposes that *u* in *yu* and *vu* in this rule be read as a nasal *ũ*. Thus the rule would only propose the replacements of *yũ* and *vũ* in the affixes to *ana* and *aka* respectively, and not for instances of *yu* and *vu* with a non-nasal *u*. This procedure would obviously require that the *u* of those affixes like *lyuṭ* and *ṇvul*, where this rule of replacement needs to apply, would have to be read as a nasal *ũ*. This may resolve some problems, but may create other problems, as this nasal *ũ* would be treated as a marker (*it*) sound, and all the other operations that apply to items marked with *ũ* would undesirably apply to formations derived with affixes like *lyuṭ* and *ṇvul*. To avoid these problems, Kātyāyana then proposes the following alternative.

Vārttika 22 on P.7.1.1 (*siddham tu yuvor anunāsikatvāt*), as understood by Patañjali, proposes that the *y* and *v* of *yu* and *vu* be marked as nasal *ỹ* and *ṽ*, and not make the *u* of *yu* and *vu* a nasal *ũ*. This would then require that *y* and *v* in affixes like *lyuṭ* and *ṇvul* be read nasal as well. Nāgeśa's Uddyota says that Patañjali has accepted this suggestion of Kātyāyana, while Kaiyaṭa believes that this is not a Vārttika of Kātyāyana, but a statement of Patañjali himself.⁴⁵ Nāgeśa's comments in this discussion again make it clear that this is a novel suggestion, and not an explanation of a received feature, and that this suggestion will require that *y* and *v* in affixes like *lyuṭ* and *ṇvul* be read nasal, and the *y* and *v* in other places be read non-nasal.⁴⁶

Another instance of a proposed nasalization of *v* is seen in the discussions on P.6.1.67 (*ver aprktasya*). This rule says that the *v* of an affix *vi*, remaining as a single-sound (after the deletion of *i*), is also deleted. In an affix such as *kvip*, the marker sounds *k* and *p* are first deleted. Of the remaining *vi*, the sound *i* is deleted as it is supposed to be nasalized, and hence treated as a marker. The present rule deletes the remaining sound *v*, and hence effectively there is no phonological

⁴⁵ Nāgeśa's Uddyota: *tasmād anunāsikayaṇviśiṣṭayor yuvor imāv ādeśāv iti bhāṣyatātparyam*; Kaiyaṭa's Pradīpa: *bhāṣyakārīyam idaṃ vākyam ity āhuḥ*, Vyākaraṇamahābhāṣya, Vol. 3: 10, Motilal Banarsidass edn.

⁴⁶ *tasmād anunāsikayaṇviśiṣṭayor yuvor imāv ādeśāv iti bhāṣyatātparyam /... yatra lyuḍādāv anākāv iṣyete te 'nunāsikayaṇaḥ paṭhanīyāḥ / bhujyur ity ādayaś ca niranunāsikā iti doṣābhāvaḥ /*, Uddyota, Vyākaraṇamahābhāṣya, Vol. 3: 10, Motilal Banarsidass edn.



trace remaining of the original *kvip*. Kātyāyana's Vārttikas on this rule debate whether one can find alternative formulations for this rule, without the expression *apṛktasya*. Without the expression *apṛktasya* in this rule, the rule would simply propose to delete the entire segment *vi*. If that happens, then such a deletion would extend to formations like *darvi* and *jāgrvi*, where such a deletion is undesirable, and one would need to state explicitly a prohibition of the deletion of *vi* in such forms.

Kātyāyana's Vārttika 1 on P.6.1.67 (*ver lope darvijāgrvyor apratiṣedho 'nunāsikaparatvāt*) suggests that this can be avoided by assuming that the *i* of *vi* in this rule is nasalized (as in fact the tradition already recognizes), and this will allow us to distinguish *vī* from *vi*, and then expect the deletion to apply only to *vī*, and not to *vi*.

The second solution proposed by Kātyāyana is to read the *v* of *vi* with nasality as *ṽi*. Again the purpose of this suggestion is to distinguish *ṽi* that is subject to deletion, from *vi* that is not subject to deletion, as in the forms *darvi* and *jāgrvi*.⁴⁷ Both of these proposals are novel proposals, and not explanations of the received text of the Aṣṭādhyāyī, and they would require changes of readings wherever the *-vi-* affixes, subject to deletion, occur. This discussion again points to a lack of an assured text prompting commentators to make proposals for nasalization of vowels and consonants in order to seek refinements in the Pāṇinian system.⁴⁸

10. Text of Pāṇini known to Patañjali: Saṃhitāpāṭha or Separated Sūtras?

Patañjali's discussion on P.1.1.1 (*vṛddhir ādaic*) gives us some important insights regarding the nature of the text of the Aṣṭādhyāyī that he had received. This discussion indicates two contradictory aspects of the expression *ādaic*.⁴⁹ The first question is the exceptional behavior

⁴⁷ Vārttika 3 on P.6.1.67 (*vasya vā 'nunāsikatvāt siddham*); Bhāṣya: *athavā vakārasyaivedam anunāsikasya grahaṇam /*; Uddyota: *kvibhādiṣu cānunāsiko vakārah pratijñātaḥ /*, Mahābhāṣya, Vol V: 66-67 (Nirṇayasāgara edn.).

⁴⁸ The Bṛhatparibhāṣāvṛtti of Sīradeva has an extensive discussion of the nasality of *u* in the item *ru* in P.8.2.66, and interestingly he also cites an argument that proposes to read the *r* of *ru* as nasal (*evaṃ tarhi rephasyaivānunāsikatvam pratijñāyatām svarītatva-pratijñānavat*), though it is later rejected, cf. Paribhāṣāsāṃgraha: 183. In this argument as well, note the use of the form *pratijñāyatām*, making it clear that this is a proposal for a novel reading of the rule P.8.2.66.

⁴⁹ Mahābhāṣya (on P.1.1.1), Vol. I: 135-138 (Nirṇayasāgara edn.): *kutvaṃ kasmāt na bhavati "coḥ kuḥ", "padasya" iti? bhatvāt / kathaṃ bhasaṃjñā? "ayasmayādīni cchandasi" iti / chandasīty ucyate, na cedam chandaḥ / chandovat*



of this formation. Normally, for a nominal stem like *vāc*, ending in a palatal stop, the palatal changes to a velar in some case-forms, and we get the nominative singular with a velar: *vāk*. If this is the norm, then why does the *c* of *aic* in this rule not change to *k*? Patañjali's answer to this question is that this is an exceptional behavior, because such exceptions do occur in the Veda, and the rules of Pāṇini are like the Veda. The practical reason why Pāṇini chose not to apply the normal rules of Sanskrit to *aic* is that if it is changed to *aik*, it will not be recognized as the shortform that is supposed to refer to the sounds in the Śivasūtras beginning with *ai* and listed up to the marker *c* [cf. Śivasūtra *ai-au-c*].

But the next dilemma discussed by Patañjali shows another aspect of the received text. If the expression *aic* is treated exceptionally (as a *bha* item, and not as a *pada* item), then how can we account for the sandhi transformation seen in the Saṃhitā reading of the rules: *vṛddhirādaijadēṅuṇaḥ* (P.1.1.1-2)? Patañjali says that for this change of *c* to *j*, the expression *aic* is treated like a *pada*, and therefore it is subject to normal rules of sandhi. So the same expression is a *bha* item, and not a *pada*, in preventing the change of *c* to *k*, but then it is treated like a *pada* in effecting the change of *c* to *j*. What is clear from this discussion is that Patañjali's received text of the Aṣṭādhyāyī showed the shortform *aic* not being subject to the velar replacement rule, but being subjected to normal rules of sandhi, in an environment of external sandhi. This would indicate that Pāṇini's rules, or at least a version of those rules, were transmitted in the Saṃhitā form, without a break between the rules in their recitation.

We see the same phenomenon within a single rule as well. For example, P.1.3.2 (*upadeśe 'j anunāsika it*) shows the same two contradictory aspects of a single expression, though here this occurs within the same rule, and not in the context of sandhi across the boundary of two rules. Here, the shortform *ac* is not subjected to the velar replacement rule, but it is subjected to the rules of external sandhi within the same rule. The expression *ac* does not change to *ak*, because it is treated as a *bha*, and not as a *pada*, but the same item is treated as a *pada* and this allows the change of *ac* to *aj* in the environment of sandhi. As far as the sandhi environment is concerned, there is no difference between the sequences *vṛddhirādaijadēṅuṇaḥ* and *upadeśejanunāsika-it*. These

sūtrāṇi bhavanti / yadi bhasaṃjñā, "vṛddhirādaijadēṅuṇaḥ" iti jaśtvam api na prāpnoti / ubhayaṣaṃjñāny api chandāṃsi dṛśyante /... evam ihāpi padatvāt jaśtvam, bhatvāt kutvam na bhaviṣyati /.



are continuous recitational sequences without gaps between words, or rules for that matter.⁵⁰ Also note that *svaritenādhikāraḥ* and *svarite nādhikāraḥ* are two alternative interpretations of the same received oral/written sequence, indicating that there were no gaps between the words in the received sequence, and breaking down the received sequences into words is itself an act of interpretation.

11. Yogavibhāga and uncertainty of Sūtra divisions and numbering

The text of Pāṇini was transmitted to Patañjali in the Saṃhitā form, though he knew where the breaks in this Saṃhitā were. However, these breaks were negotiable, as seen in the discussions of Yogavibhāga. This term refers to proposals to split what was traditionally received and understood as a single rule into two segments and read these segments as two separate rules. This discussion reflects a confluence of two interrelated concerns, namely the lack of complete certainty about where the breaks between the rules were in the traditionally received text of the Aṣṭādhyāyī, and an effort to seemingly improve the interpretation of the rules to fit the language as known to the grammarians, occasionally resorting to dividing a traditionally received single rule into two segments.

Let us consider an example of this phenomenon. On P.1.1.17 (*uñā u^{ns}*), Kātyāyana proposes to read this as two rules, i.e. *uñāḥ* and *ū^{ns}*.⁵¹ Such a suggestion causes variation with the different numbering of rules of the Aṣṭādhyāyī. The differences in the numbering affect mnemonic tools designed within the tradition. For example, at the end of each Pāda of the Aṣṭādhyāyī, there is a mnemonic string attached for the use of the reciters that allows them to infer the exact numerical place of each Sūtra. The string at the end of the first Pāda of the 1st Adhyāya reads: *vṛddhir-ādyantavad-avyayibhāvaḥ-pratyayasyaluk-pāñcadaśa*.⁵² This string lists the beginnings of Sūtras 1, 21, 41, 61, and the number of remaining Sūtras in this Pāda. Thus the list divides each Pāda into groups of twenty Sūtras, and then counts the remaining odd

⁵⁰ Also see: Yudhiṣṭhira MĪMĀMSAKA (1973: 228) for other passages in the Mahābhāṣya indicating that Patañjali knew the Aṣṭādhyāyī in a Saṃhitāpāṭha. Similar problems appear in different ways of splitting Bhagavadgītā (2.16ab: *nāsato vidyate bhāvaḥ, nābhāvo vidyate sataḥ*, or *nāsato vidyate 'bhāvaḥ nābhāvo vidyate sataḥ*) leading to different interpretations by Śāṅkara and Madhva.

⁵¹ Mahābhāṣya, Vol. I: 253 (Nirṇayasāgara edn.): Vārttika 2: *uñā iti yogavibhāgaḥ*.

⁵² Cf. Siddhāntakaumudī: 755, appendix of the Aṣṭādhyāyī-sūtra-pāṭha.



balance. To find out the numerical location of a given Sūtra, the reciter of the Aṣṭādhyāyī starts reciting with that Sūtra going forward, until he hits a marker in one of these mnemonic strings, and he can quickly calculate the number. This mnemonic system is designed by the Vaidika reciters, who have similar mnemonic devices for Vedic texts. However, practices like Yoga-vibhāga “splitting a single rule into multiple rules” cause problems with the numbering of the Sūtras, and this is reflected in the production of alternative mnemonic strings produced for the Aṣṭādhyāyī by different schools of reciters. Such differences are also reflected in different manuscripts of the Aṣṭādhyāyī.

Referring to P.1.1.17 (*uñā ū^{ns}*) and its proposed division into two rules by Kātyāyana, Pandit Śivadatta KUDDĀLA, the editor of the Nirṇayasāgara edition of the Mahābhāṣya, comments:⁵³

Pāṇini uttered just a single Sūtra *uñā ū^{ns}*. Therefore, it is appropriate that Haradatta says in his Padamañjarī – ‘if this is a single rule – *uñā ū^{ns}* – as recited by the author of the Sūtra’. Therefore, it is appropriate to attach a single number to this entire segment – *uñā ū^{ns}*, and it is not appropriate to accept the separate numbering assumed by the later tradition and seen in the editions of the Kāśīkāvṛtti, the Siddhāntakaumudī, and the Mahābhāṣya. One should not argue that the separate numbering is justified, because Patañjali approved this splitting of the rule. If such were the case, we would have to have separate numbering in cases like *saha supā* and *śliṣa āliṅgane*, where

⁵³ Mahābhāṣya, Vol. I: 253, fn. 3 (Nirṇayasāgara edn): “*uñā ū^{ns}*” ity etāvad ekam eva sūtram pāṇinīnā proktam ata eva prakṛtasūtrapadamañjaryām - ‘yady ayam eko yogaḥ syāt *uñā ū^{ns}* iti yathāpāṭhitam sūtrakāreṇa’ iti haradattoktam saṃgacchate / tathā ca samudīta *uñā ū^{ns}* ity atraiva saṃkhyāṅka eka evocitaḥ, na tvādhunikakalpitāḥ kāśīkāyām kaumudiyām bhāṣyē copalabhyamānaḥ kramikaḥ pṛthak saṃkhyāṅkaḥ / na ca bhāṣyakṛtā yogavibhāgasya darśitatvena saṃkhyāvibhāgo’py ucīta eveti vācyam / tathā satī *saha supā*, *śliṣa āliṅgane* ity ādāv api yogavibhāgasattvena pṛthaksamkhyāṅkasyaucityāpatteḥ / na ca tatra yogavibhāgasya bhāṣyakṛtkṛtatvena na pṛthaksamkhyāṅkadānam/atratupāṇinikṛtatvenapṛthaggaṇanativācyam/atrapībhāṣyē *kṛta* ity anuktvā *yogavibhāgaḥ kartavya* iti tavyapratyayaprayogeṇa yogavibhāgasya pāṇinyakṛtatvasūcanena pṛthaksamkhyāṅgikārānaucityāt / na caivaṃ prathamapāde pañcasaptatīḥ sūtrāṇi na syur ity vācyam / pañcasaptatīgaṇanāyā aprāmāṇikatvāt / na ca *vṛddhir-ādyantavad-avyāvībhavaḥ-pratyayasyaluk-pañcadaśa* iti lekhasya pādasamāptāv aṣṭādhyāyīyām pāṇinikṛtasyaiva mānatvenāprāmāṇikatvakalpanāyām mūloccheda ity vācyam / pratipādasamāpti tādrśalekhopadarśitasamkhyāyā bahutra vārtikagaṇasūtraprakṣeṇa pūrtidarśanāt tādrśalekhe pāṇinikṛtatvābhāvavakalpanata eva doṣoddhārasambhavāt / prācīnapustake *vṛddhitarapśīsarvapatyayalope caturdaśa* ity evam eva pāṭhasyopalabhyamānatvāc ceti dik / [dādhimathāḥ]



Patañjali proposes splitting these rules. One should not argue that, in these cases, there is no separate numbering given, simply because it is Patañjali, [and not Pāṇini], who approves their splitting, while in the case of *uñā ī^{ms}*, one should accept separate numbering, because it is Pāṇini himself who intended this segment to be two Sūtras. Even in this case, the Bhāṣya does not say that Pāṇini himself taught these as two separate rules, but he uses the gerundive *kartavyaḥ* implying that this separation into two Sūtras is newly being proposed. This suggests that Pāṇini himself did not give these as two separate rules, and hence giving two separate numbers for them is inappropriate. One should not object that counting these two as a single rule would not give us the count of seventy-five Sūtras in the first Pāda of the Aṣṭādhyāyī, because this count of seventy-five Sūtras is inauthentic. Also one should not claim that the mnemonic string *vṛddhir-ādyantavadavyayibhāvaḥ pratyayasya luk pañcadaśa* found at the end of the first Pāda goes back to Pāṇini himself, and therefore the count of seventy-five Sūtras cannot be claimed to be inauthentic. The numbers given in such mnemonic strings are often made up by the inclusion of insertions of statements from the Vārttikas and Gaṇasūtras, and therefore it is best to avoid problems by regarding such mnemonic strings as not being authored by Pāṇini himself. And in an older manuscript, we find the mnemonic string *vṛddhis-tarap-śisarva-pratyayalope-caturdaśa*,⁵⁴ [listing only seventy-four rules in this Pāda].

This discussion points to the inherent uncertainties reflected in the nature of the transmitted text of the Aṣṭādhyāyī, and the variability of numbering the Sūtras, in part caused by proposals to split several segments into two Sūtras. Here we are not even bringing into our consideration the changes in the Sūtras brought about by the Kāśikā-vṛtti. SCHARFE (2009) has discussed other instances of proposals for Yogavibhāga.⁵⁵

⁵⁴ This string reflects the changed numbering of rules in the first Pāda of the Aṣṭādhyāyī, if *uñā ī^{ms}* is counted as a single Sūtra. In this case, *taraptamapau ghaḥ* is P.1.1.21, *śi sarvanāmasthāne* is P.1.1.41, *pratyayalope pratyayalakṣaṇam* is P.1.1.61, and the remaining balance is counted as 14 Sūtras.

⁵⁵ SCHARFE (2009: 37-39): “There may be legitimate questions, whether the division of sūtras that Kātyāyana received was in all instances the one intended by Pāṇini; JOSHI and BHATE considered arguments whether I 2 17 *sthā-GHV* or *ic ca* and II 4 103 *yāsuḥ parasmaipadeṣūdātto nic ca* should each better be considered as two sūtras instead of one. Our Pāṇini text reads IV 3 116 *kṛte granthe* and 117 *saṃjñāyām* as two *sūtra*-s. Kātyāyana’s vārttika 3 on IV 3 116 45 suggests that he postulated the



12. Possible effect of the presence of script in the background

As I have discussed so far, the transmission of the text of the Aṣṭādhyāyī with features like accentuation and nasality of marker vowels was lost even prior to Kātyāyana and Patañjali. The question of whether Pāṇini himself ever used any form of script cannot be answered definitively, and as we have seen earlier, even if he had tried to use some form of early Kharoṣṭhī to write down his grammar, most complicated features of his oral text could not have been represented in those early forms of scripts, or at least in the forms of scripts as they are known to us from the inscriptional record. However, given the fact that in P. 3.2.21 Pāṇini provides for the derivation of the word *lipikara* “scribe”, and Kātyāyana’s explanation that the form *yavanānī* derived by P.4.1.40 refers to the script of the Yavanas,⁵⁶ allow us to infer that he was familiar with the phenomenon of writing, and most probably with the script of the Yavanas, most likely the Greek and the Aramaic scripts. It is even possible that, like the Vaidika reciters who looked down upon those who recite from a written text (cf. Sarvasammataśikṣā, verse 36, cited in ALLEN 1953: 16), Pāṇini may have refused to use a script to represent his grammatical text as a form of religious resistance. So we are left with minimal historical evidence that Pāṇini was familiar with the phenomenon of writing, though he himself may or may not have used. Given this minimal justifiable historical datum, what can we say about the possible effect of such a background presence of writing

division (implying that he knew the two as one sūtra). JOSHI/BHATE have suggested instead, that originally *saṃjñāyām* was joined with the following sūtra IV 3 118 to read *saṃjñāyām kulāḍātibhyo VUñ. 46*. In the twenty-six instances of *yoga-vibhāga* invoked by Kātyāyana, he applied the sections of a sūtra in stages. The purpose was to achieve the desired forms without changing the words in Pāṇini’s sūtras. The opposite is *eka-yoga* “[leaving it as] one rule” which Kātyāyana used five times during the defense of his *yoga-vibhāga*. He had proposed to divide I 4 58/59 (*prādaya upasargāḥ kriyā-yoge* in our text) into two rules: first [56 *nipātāḥ 57 asattve*] *prādayaḥ*, then *upasargāḥ kriyā-yoge*, so that *pra* etc. could also be termed *nipāta* “particles” – but if it is a single rule (*eka-yoga*), the term *nipāta* (from sūtra 56) would be set aside by the new term *upasarga* (in sūtra 58/59). The later tradition, e.g. the Kāśikā and the Siddhāntakaumudī, accepted the division into two sūtras which accounts for the double number given in modern editions of the Aṣṭādhyāyī”.

⁵⁶ Professor SCHARFE has drawn my attention to Paul THIEME’s view (THIEME 1966:50) that for Pāṇini, the word *yavanānī* most likely referred to a Greek woman. I thank Prof. SCHARFE for this reference. I tend to believe that the contrast between the forms *yavanī* and *yavanānī* is as old as Pāṇini, and continues to show up in later literature, and that Kātyāyana may indeed be correct.



in the culture around Pāṇini upon his linguistic analysis and thinking? This is obviously a speculative area, and yet it may be interesting to speculate about this matter.

Here I am going to refer to some of the research into the literacy studies by authorities like Jack GOODY and Robert J. SCHOLES. In his ground-breaking work, *The Domestication of the Savage Mind*, Jack GOODY (1977: 44) makes the following observations about oral and written language: “Because when an utterance is put in writing it can be inspected in a much greater detail, in its parts as well as in its whole, backwards as well as forwards, out of context as well as in its setting; in other words, it can be subjected to a quite different type of scrutiny and critique than is possible with purely verbal communication. Speech is no longer tied to an occasion; it becomes timeless”.⁵⁷

I do not wish to go into a history of the modern literacy studies, or their critiques. I simply want to draw attention to the two distinct facilities represented by writing versus orality. Writing makes the language available for an inspection that is not bound by the sequential time of the oral production of speech. The temporal landscape becomes as if horizontal, where the units of speech like sounds and words sit on a common flat plane. Here they can all be seen simultaneously, and analyzed and described. This is not true of an oral stream of speech stretching along a temporal dimension, where only one sound can appear at a time. The previous sound or sounds are gone and have become memory, while the subsequent sounds are yet to be uttered, and hence can only be guessed. The sense perception gives immediate access only to one sound at any given moment, the rest being either memory or guesswork. Such is the distinction between orality and writing proposed by Jack GOODY.

Coming to the ancient Indian tradition, the same sort of distinction can be brought in, without the express assumption of the presence of writing. What we see in ancient India is an expansive role given

⁵⁷ SCHOLES 1993 (87-92) contains a fascinating discussion of paleographic evidence being used to reconstruct linguistic concepts that may have existed among the users of various forms of writing. SCHARFE (2009) provides some discussion of the features of early Kharoṣṭhī and Brāhmī writing and possible effects of such early writing on the scripted versions of the Aṣṭādhyāyī, had such attempts to write down the Aṣṭādhyāyī been made either by Pāṇini himself or by his successors. This includes a discussion of the inability of the early scripts to represent features like vowel length, accents, nasality, or representing geminates. He has also discussed the appearance of gaps between the words in the inscriptional record, and what this could mean for the transmission of the Aṣṭādhyāyī.



to memorization of texts, and their active manipulation, in ways that suggest that trained memory provides a flat plane for linguistic material, similar to what writing provides. Elsewhere (in DESHPANDE 1990) I have discussed in detail the process of objectification of linguistic phenomena in Vedic texts. For example, in Vedic literature, one comes across praise for those who are the bearers of memorized magical chants. The Atharvaveda (Śaunakīya 11.5.22, 11.5.24) says that a priestly youth bears the shining incantation, and that this potent incantation thus installed in the priestly youth protects everything. While the performed incantation has to be sequentially stretched along the axis of time, the incantation as installed in the priestly youth is an object of memory, and has no sequentiality to it. The hymns thus objectified and stored in the reciter's memories were not merely sequentially reproduced, but were actively manipulated in producing various permutations and combinations.⁵⁸ Features attributed to written language become possible with this mental storage of Vedic hymns. Among the permutations and combinations of Vedic texts, consider the variety called Jaṭā "braiding", where the words of a text are repeated in the following order. If the words occur in the text as AB, then the Jaṭā recitation becomes ABBAAB. If the three words in a sequence are ABC, then the Ghana recitation becomes ABBAABCCBAABC. Such permutations and combinations become possible only with the priestly memory providing non-temporal flatland storage for texts, where one can go in and access any item at any time.

It is essentially such a flatland atemporal perception of language that allowed Pāṇini to construct his rules. Pāṇini's visual terminology (*drś*, *dr̥ṣṭa*, *adarśana* etc.) to refer to observed linguistic phenomena, as I have discussed earlier, has a long pedigree, and it is this "seeing" the language, rather than merely "hearing" it, that allows Pāṇini to formulate his rules in an atemporal plane. If a rule is to say "change A to B, if followed by C", it is clear that the grammarian is laying out all the elements on a flat plane, and evaluating relationships between the various units. For example, Pāṇini's definition of Saṃhitā "euphonic combination" is given in rule 1.4.108 (*paraḥ sannikarṣaḥ saṃhitā*): "Maximal closeness between items is called Saṃhitā". This assumes that there are two sounds or words, next to each other, without any gap between them. The word Saṃhitā⁵⁹ literally means joining,

⁵⁸ For the details of these Vedic permutations and combinations of texts, see DESHPANDE 2002, Introduction.

⁵⁹ Professor SCHARFE suggests in a personal communication that the word



and in order to join two items, they must both be there. The flatland atemporal assumptions behind such formulations can be produced in the environment of Vedic memory training, but they may also have been facilitated by the presence of writing in the environment of the grammarians.

On the other hand, Kātyāyana's objections to Pāṇini's formulation bring out the view of sequential and temporal production of oral speech. The first objection says, if maximal closeness is the definition of Saṃhitā, it will not apply to speech that is not fast.

Then, Kātyāyana says, if Saṃhitā is defined as the continuity or non-stoppage of voicing (*hrāda-avirāma*), then we cannot have a Saṃhitā in the combination of a stop and a voiceless sound, because there may not be continuity of voicing in such combination, as there is no voicing to begin with. Finally, Kātyāyana objects: If Saṃhitā is defined as a temporal sequence of sounds, without a temporal gap, such a sequence of sounds is not possible, because speech-production goes only one sound at a time, and the sounds are destroyed as soon as they are uttered.⁶⁰ Kātyāyana's description of speech represents the point of view of pure sequential speech production, with a philosophical tinge of the Buddhist doctrine of momentariness.

Patañjali responds to Kātyāyana's objections by assuming a point of view of human intelligence and memory providing an atemporal storage of language. Patañjali says: "The sequentiality of linguistic units is purely mental. A person, who acts with circumspection, sees that he wants to use a certain word to express a certain meaning, and that in this word, this sound comes first, then comes that sound, and then the third, and so on".⁶¹ While Patañjali's solution sounds more like

Saṃhitā perhaps originated as an adjective of some assumed word like *vāk*.

⁶⁰ Mahābhāṣya, Vol. II: 306-308 (Nirṇayasāgara edn.): Vārttika 1: *paraḥ sannikarṣaḥ saṃhitā ced adrutāyām asaṃhitam*; Vārttika 7: *hrādāvirāme sparśāghoṣasamyoge 'sannidhānād asaṃhitam*; Vārttika 8: *paurvāparyam akālavayavetaṃ saṃhitā cet pūrvaparābhāvād asaṃhitam, ekavarṇavartitvād vācaḥ, uccaritaḥpradhvaṃsitvāc ca varṇānām*; Bhāṣya: *na hi varṇānām paurvāparyam asti / kim kāraṇam / ekavarṇa-vartitvād vācaḥ / ekaikavarṇavartini vāk na dvau yugapad uccārayati / gaur iti gākāre yāvad vāg vartate, naukāre, na visarjanīye / yāvad aukāre, na gākāre, na visarjanīye / yāvad visarjanīye, na gākāre, naukāre / uccaritaḥpradhvaṃsitvāt / uccarita-pradhvaṃsinaḥ khalv api varṇāḥ / uccaritaḥ pradhvastaḥ / athāparaḥ prayujyate / na varṇo varṇasya sahāyaḥ /*

⁶¹ Mahābhāṣya, Vol. II: 309 (Nirṇayasāgara edn.): "*buddhau kṛtvā sarvāś ceṣṭāḥ kartā dhīras tanvannūtiḥ / śabdenārthān vācyān dṛṣṭvā buddhau kuryāt paurvāparyam*" *buddhiviṣayam eva śabdānām paurvāparyam / iha ya eṣa manuṣyaḥ*



that of a psychologist or an ideologist, Kātyāyana's objections seem to come from the background of articulatory phonetics of the Prātiśākhya, where speech is seen as an articulatory process stretched out in time, rather than a conceptual flat land where two or more sounds or words could co-exist in a given moment, with or without a gap between them.

Pāṇini's definition of Saṃhitā can be fruitfully compared with the definition given in the Vājasaneyi Prātiśākhya (1.158): *varṇānām ekapṛāṇayogaḥ saṃhitā* "Saṃhitā refers to the production of sounds in a single breath". This is a definition in purely oral/articulatory terms, as compared to the flatland conceptual phonology of Pāṇini and Patañjali. This conceptual phonological flatland can sit well with the presence of writing in the background.⁶² While Pāṇini's philosophical conceptions are unknown to us, Patañjali's more explicit conceptions may reflect emerging philosophical schools of the time.

Finally, after all the objections coming from an oral/articulatory point of view, Kātyāyana simply admits that the notions of Saṃhitā "conjoined recitation" and Avasāna ["end of utterance" or "pause"] are too well known in the world, and need not be defined.⁶³ What does it mean that the notion of Saṃhitā is well known in the world? The first suggestion is that such a notion is much older than Pāṇini and Kātyāyana, and whatever philosophical objections one has, the notion of Saṃhitā or Sandhi between linguistic items is too deeply entrenched. Kaiyaṭa provides a historical nuance to Kātyāyana's admission. Kaiyaṭa says that, just as the term Saṃhitā is well known for a continuous sequence of two words in the world of Vedic reciters, similarly is its extension to the continuous sequence of two sounds well known, within the same world of Vedic reciters.⁶⁴

This suggests an important historical aspect of the evolution of the term Saṃhitā. The original context of its usage was recitational, rather than phonological or philosophical, and hence, Kātyāyana, finally brushes aside the objections raised from these other perspectives simply

prekṣāpūrvakārī bhavati, sa paśyati, asmin arthe 'yaṃ śabdaḥ prayuktavyaḥ, asmims tāvacchabde 'yaṃ tāvad varṇas tato 'yaṃ tato 'yam iti //

⁶² THIEME (1937-38) argues for the identification of Kātyāyana, the author of the Vārttikas on Pāṇini, and the author of the Vājasaneyi-Prātiśākhya. That may explain the closeness of the views on Saṃhitā expressed in the Vārttikas and the Vājasaneyi-Prātiśākhya.

⁶³ Mahābhāṣya, Vol. II: 312 (Nirṇayasāgara edn.): Vārttika 7 on P 1.4.109 (*virāmo 'vasānam*): *saṃhitāvasānayoḥ lokaviditvatvāt siddham*.

⁶⁴ Mahābhāṣya, Vol. II: 312 (Nirṇayasāgara edn.): Pradīpa: *yathā padanairantarye saṃhitāvvyavahāras tathaikapadye 'pi varṇanairantarye /*



by asserting that this notion is too well known in the world. In this discussion, we have exposed the presence of two different perspectives on language, one of purely oral/articulatory speech production, and the other, a mentalistic or a psychological atemporal perception, storage and retrieval of speech and texts. Such an atemporal psychological perception of speech is consistent with the presence of writing in the cultural environment of the grammarians, but its roots definitely go back into the memorization practices of the Vedic reciters.

13. Appearance of writing into later grammatical discussions

In some of the late works in the grammatical tradition, issues relating to written language begin to appear on the margins. They never take the center-stage, but remain on the margins. While Bhartṛhari clearly refers to written manuscripts,⁶⁵ any explicit discussion of written language comes much later. I will discuss a few such examples. For example, referring to Siddhāntakaumudī's description of the Jihvāmūlīya and Upadhmanīya as being like a half-visarga (*ardha-visarga-sadrśau*), the Prauḍha-manoramā says that this similarity with a Visarga is both in pronunciation and writing.⁶⁶ Relating to the derivation of the form *rājñah* from *rājan*, the Siddhāntakaumudī quotes a rule:⁶⁷ *jañor jñah* "When *j* and *ñ* are combined, the result is *jñ*". Commenting on this statement, Nāgeśa's Laghuśabdenduśekhara says:⁶⁸

This is a statement of some authority referring to the sound *jñ* resulting from the combination of *j* and *ñ*, well known in the world and in the Veda, as well as its distinctive written character. This is not a separate sound. There is no reason to treat it as a separate sound, as no such separate sound is mentioned in the Śikṣās". Śivadatta KUDDĀLA, the editor of the Siddhānta-kaumudī, has a more elaborate critique:⁶⁹ "This statement simply is an explanation

⁶⁵ Mahābhāṣyadīpikā: 33: *grantheṣu cālikhitavād idam avasitam /*.

⁶⁶ Prauḍhamanoramā: 78: *sādrśyam uccāraṇe lekhane ca bodhyam*. While the Visarga is written with two small circles, the Jihvāmūlīya and the Upadhmanīya are written with two half-circles.

⁶⁷ Siddhāntakaumudī: 98.

⁶⁸ Laghuśabdenduśekhara: 395: *j-ñ-yoge lokavedasiddhatādrśadhvaner lipiviśeṣasya cānuvādakam abhiyuktavacanam, na tv idam varṇāntaram, śikṣādāv aparigaṇītatvena tatsatve mānābhāvāt/*.

⁶⁹ Siddhāntakaumudī: 98, editor's footnote: *saṃyuktakramalipiviśeṣasyānuvād akam idam / ata eva śikṣāyām viśiṣya noktam / paraṃ tu vyartham eva tattaddeṣeṣu*



of the special written character used for this cluster. For this reason, the Śikṣā does not specifically refer to it. However, this statement is useless, because there is no common form of writing this cluster in different regions. Nor does it represent a specific sound, because there is no regularity about its pronunciation. Similarly, a statement written by someone else in a different context, namely, ‘combination of *k* and *ṣ* is *kṣ*’, is also [useless].

Finally, I want to point to a discussion by Nāgeśa on recognizing the communicative value of the written language, along with the value of the spoken language. P. 1.1.68 (*aṅ udit savarnasya cāpratyayaḥ*) says that a non-affixal *aṅ* sound or a sound marked with *u* stands for itself and for its homogeneous sounds. Here, one assumes that the vowel *a* as uttered in the Śivasūtra *a-i-u-ṅ* would represent homogeneous varieties like long *ā*. On this rule, Kātyāyana’s Vārttika 3 raises a concern: “If the short *a* denoted by the sound *a* [in the Śivasūtra *a-i-u-ṅ* is expected to further denote homogeneous long varieties etc.], such further denotation cannot take place, because an expression as uttered stands only for the sounds as uttered”.⁷⁰ Nāgeśa feels the need to reject an inference from this discussion that only orally articulated speech sounds have denotative power, and that such power does not extend to written language. Nāgeśa says:

Someone argues that the statement in the Bhāṣya is not appropriate, because it is the knowledge of all types of signifiers that leads to the understanding [of the signified meanings], because, otherwise, if only the orally articulated sounds were able to signify, a person reading a book in silence would not be able to understand any meaning. Such an argument is false. As in the case of a mental recitation of a mantra, even in the case of reading, there is also very subtle articulation of sounds, and hence there is no problem in understanding meaning. In chanting a mantra (even silently or mentally), there is a requirement that a chanting be done with all three accents, and the distinctions like the accents and lengths of vowels cannot manifest without an articulation. Or perhaps, like the body-movements, writing is also capable of signifying meaning

līper ekākāratvābhāvāt / nāpi dhvaniviśeṣānūvādakam, tasyāpy anityatvāt / evam eva kaiścid anyatra likhitaṃ “kaśasaṃyoge kṣaḥ” ity apīti bodhyam /

⁷⁰ Mahābhāṣya, Vol. I: 509-510 (Nirṇayasāgara edn.): Vārttika 3: *hrasvasampratyayād iti ced uccāryamāṇaśabdasaṃpratyāyakatvāt śabdasyāvacanam; Patañjali says: uccāryamāṇaḥ śabdaḥ saṃpratyāyako bhavati, na saṃpratyāyamaṇaḥ /*



by convention. That is why the ignorant people think of the written signs as words. Or perhaps, the written script becomes a signifier because of a beginningless identification with spoken words. Even for those learned people who know for certain that the written signs are not the real words, the written signs become signifiers through identification [with spoken words]. This is like the worldly behavior of knowledgeable people. They know that the notion that one's mind is the same as one's true Self is false, and yet their worldly behavior still takes place through the beginningless identification of the mind with the true Self.⁷¹

Nāgeśa's statement shows the reluctance of the Sanskrit grammarians to fully come to terms with the significance of writing. The half-hearted acceptance of the reality of writing and its ability to communicate is somewhat similar to the treatment of the vernacular languages by the orthodox Sanskrit grammarians. The written language is not given the serious treatment it deserves, because even though the phenomenon of writing has become a part of the normal life by this time, and even though the Sanskrit grammarians themselves are writing down their texts, they still value the practice of orality. This reminds me of the story of my revered teacher from Pune, the late Pandit Vaman Shastri Bhagavat. He spent some years in Banaras studying Pāṇini with a learned pandit. Each day, he used to walk to the Ganges to take a bath. From the time he left his residence till the time he returned, he would recite the whole text of the Aṣṭādhyāyī. Even while reading works on Sanskrit grammar with us, he rarely needed to consult a printed book, as he had memorized most of the important texts by heart. His detailed explanations of grammatical derivations were almost always oral, and he rarely used the black board. This was probably even truer for the generations of Bhaṭṭoji Dīkṣita and Nāgeśabhaṭṭa. For them,

⁷¹ Mahābhāṣya, Vol. I: 509-510 (Nirṇayasāgara edn.): Nāgeśa's Uddyota: *etenocārītānām eva pratyāyakatve rahasi pustakam ikṣamāṇasya bodhānāpatter vācakajñānasāmānyasyaiva bodhe tantratvena idam ayuktam ity apāstam / mānasajapasthala iva tatrāpi svīyasūkṣmoccāraṇād bodhenākṣateḥ / jape hi mantrāṇām traisvaryaniyamena tattatsthāneṣu uccādiḍeśopalabhyamānatvarūpodāttatvāder mā trākālikatvādirūpahrasvatvādeś ca vinocāraṇam anabhivyakteḥ / yad vā liper eva ceṣṭādivat saṅketena bodhakatvam / ata eva lipau śabdatvabhramo bālānām / yad vā lipāv anādeḥ śabdatādātmyādhyāsād bodhakatvam / lipau śabdatvabādhañjānavatām paṇḍitānām api antaḥkaraṇādāv ātmatvapratyaye bhramatvaṃ jānatām anādisiddhāropeṇaiva vyavahāravād bodho 'pi /*; the commentary Vivaraṇa on Pradīpa also says that the unlearned think that the written signs are the sounds (*akṣara*): *lipiṣv evākṣarabuddhir abuddhānām*, Mahābhāṣya-Pradīpa-Vyākhyānāni, Vol. I: 21.



the writing was at best a secondary aid, and did not deserve the full analytical attention that the real language, the spoken language, did. Going farther back in time, the marginality of the written form for such orthodox Vedic traditions probably increased exponentially, and hence the influence of writing on their thinking was also, in all probability, very marginal. Yet, we cannot forget that for the Indian civilization as a whole there was a gradual shift from pure orality, to orality sharing the stage with writing, and the Sanskrit grammarians could not stay apart from this shift, even though they continued to give the written language only a marginal importance.

Bibliography

- AKLUJKAR, Ashok. "The Aṣṭādhyāyī as a Case of Textual Criticism (Part 2)." In: *Proceedings of the International Seminar on Studies in the Aṣṭādhyāyī of Pāṇini* (ed. by S.D. JOSHI and S.D. LADDU), Pune: Centre of Advanced Study in Sanskrit, University of Pune, 1983, pp. 1-10;
- ALLEN, W. Sidney. *Phonetics in Ancient India. London Oriental Series-1*. London: Oxford University Press, 1953;
- BIRWÉ, Robert. "Variae lectiones in Adhyāya IV und V der Aṣṭādhyāyī." In: *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 108, 1958, pp. 133-154;
- BRONKHORST, Johannes. "Advice for Grammarians." In: *Asiatische Studien-Études Asiatiques*, LXII, 2, 2008, pp. 475-484;
- "Critique et transmission textuelles dans la tradition Pāṇinéenne." In: *Écrire et transmettre en Inde classique*, (ed. by Gérard COLAS and Gerdi GERSCHHEIMER), Paris, 2009, pp. 269-286;
- CARDONA, George. "Pāṇini's definition, description and use of Svarita." In: *Pratidānam, Indian, Iranian and Indo-European Studies presented to F.B.J. Kuiper on his sixtieth birthday*. The Hague: Mouton Publishers, 1968, pp. 448-461;
- *Studies in Indian Grammarians. I. The Method of Description Reflected in the Śivasūtras*. In: *Transactions of the American Philosophical Society*, New Series, vol. 59, no. 1. Philadelphia: American Philosophical Society, 1969;
- *Pāṇini: A Survey of Research*. The Hague-Paris: Mouton, 1976;



- *Recent Research in Pāṇinian Studies*. Delhi: Motilal Banarsidass, 1999;
- Review of Richard Salomon's *Indian Epigraphy*. In: *Language*, 76, n. 2, 2000, pp. 454-456;
- "Pāṇinian Sūtras of the Type *anyebhyo 'pi dr̥śyante*." In: *Jambū-jyoti, Munivara Jambūvijaya Festschrift* (ed. A. DHAKY and J.B. SHAH), Ahmedabad, 2004, pp. 91-107;
- DAHIYA, Yajan Vee. *Pāṇini as a Linguist: Ideas and Patterns*. Delhi: Eastern Book Linkers, 1995;
- DESHPANDE, Madhav M. "Pāṇinian Procedure of *Taparakaraṇa*: a Historical Investigation." In: *Zeitschrift für vergleichende Sprachforschung*, 86, 2, 1972, pp. 207-254;
- *Critical Studies in Indian Grammarians: The theory of homogeneity [sāvarṇya]*, *The Michigan Series in South and Southeast Asian Languages and Linguistics*, No. 2. Ann Arbor: Center for South and Southeast Asian Studies, The University of Michigan, 1975;
- Review of Katre's *Aṣṭādhyāyī of Pāṇini*. In: *Language*, 65, 3, 1989, pp. 646-648;
- "Changing conceptions of the Veda: From speech-acts to magical sounds." In: *Brahmavidya, Adyar Library Bulletin*, 54, 1990, pp. 1-41;
- "Indian theories on phonetics." In: *History of the Language Sciences*, 1, (ed. Sylvain Auroux et al.), 2000, pp. 137-146, and "The role of linguistics in Indian society and education". Ibid: pp. 173-177;
- *Recitational Permutations of the Śaunakīya Atharvaveda*. *Harvard Oriental Series*, 61. Cambridge, MA: Harvard University Press, 2002;
- FALK, Harry. *Schrift im alten Indien*. Tübingen: Gunter Narr Verlag, 1993;
- GOLDSTÜCKER, Theodor. *Pāṇini: His place in Sanskrit Literature*. London 1860, reprinted in Banaras: Chowkhamba Sanskrit Series Office, 1965;
- GOODY, Jack. *The Domestication of the Savage Mind*. Cambridge: Cambridge University Press, 1977;
- GOYAL, S.R. *Brahmī Script: an invention of the early Maurya period*. Jodhpur: Kusumanjali Book World, 2006;
- HINÜBER, Oskar von. *Der Beginn der Schrift und frühe Schriftlichkeit in Indien*, Wiesbaden: Abh. der Akademie der Wissenschaften und Literatur, Mainz 1989, nr.11;
- JOSHI, Madhav Ganesh. *Svarayuktā Aṣṭādhyāyī*. Nipani, District Belgaum: published by the author, 1992;
- JOSHI, S.D. *Patañjali's Vyākaraṇa-Mahābhāṣya, Samarthāhnika* (P. 2.1.1), edited with translation and explanatory notes. *Publications of the Centre of Advanced Study in Sanskrit*, class C, no. 3. Pune: University of Pune, 1968;



- JOSHI, S.D. and Saroja BHATE. *The Fundamentals of Anuvṛtti*. Pune: Centre of Advanced Study in Sanskrit, University of Pune, 1984;
- JOSHI, S.D. and J.A.F. ROODBERGEN. *Patañjali's Vyākaraṇa-Mahābhāṣya, Paspasāhnika*, with introduction, text, translation and notes. *Publications of the Centre of Advanced Study in Sanskrit*, class C, no. 15. Pune: University of Pune, 1986.
- *The Aṣṭādhyāyī of Pāṇini with Translation and Explanatory Notes*, Vols. 1-12. New Delhi: Sahitya Akademi, 1991-2006;
- KATRE, S.M. *Aṣṭādhyāyī of Pāṇini*. Austin: University of Texas Press, 1987;
- KIELHORN, Franz. "Notes on the Mahābhāṣya; 17. Some devices of Indian grammarians". In: *Indian Antiquary* 16, 1887, pp. 244-252;
- "Pāṇ. I, 3, 11: *Svaritenādhikārah*". In: *Gurupūjākaumudī* (Fs. A.Weber), Leipzig, 1896, pp. 29-32;
- Laghuśabdenduśekhara* of Nāgeśabhaṭṭa, volume 1, (ed. Nandkishore SHASTRI). *Shri Rajasthan Sanskrit College Granthamālā* - 14. Banaras: Bhargava Pustakalaya, 1936;
- Mahābhāṣyadīpika* by Bhartṛhari, (ed. by K.V. ABHYANKAR and V.P. LIMAYE). *Post-Graduate and Research Department Series*, no. 8, Pune: Bhandarkar Oriental Research Institute, 1970;
- Mahābhāṣyapradīpavyākhyānāni*, parts I (1973) and II (1975), (ed. by M.S. NARASIMHACHARYA). *Publications de l'Institut Français d'Indologie*, 51, 1-2. Pondichery: Institut Français d'Indologie ;
- MĪMĀMSAKA, Yudhiṣṭhira. *Samskṛta vyākaraṇa-sāstra kā itihāsa*, Vol. I, 3rd ed. Sonipat: Ramlal Kapur Trust, 1973 ;
- PALSULE, G.B. *The Sanskrit Dhātupāṭhas, A Critical Study*. *Deccan College Dissertation Series* 23. Pune: Deccan College, 1961;
- Paribhāṣāsaṃgraha*, (ed. by K. V. ABHYANKAR). Pune: Bhandarkar Oriental Research Institute, 1967;
- Praudhamanoramā* of Bhaṭṭojī Dīkṣita, with four commentaries, volume 1, (ed. by Gopal Shastri NENE). *Kāśī Saṃskṛta Granthamālā* 125. Banaras: Chowkhamba Sanskrit Series Office, 1939;
- Śabdakaustubha* of Bhaṭṭojī Dīkṣita. Volume 1, (ed. by Gopal Shastri NENE and Mukund Shastri PUNTAMKAR), 1933; Volume 2, (ed. by Gopal Shastri NENE), Banaras: Chowkhamba Sanskrit Series Office, 1929;
- SALOMON, Richard. "On the Origin of the Early Indian Scripts." [review of FALK and HINÜBER]. In: *Journal of the American Oriental Society*, 115, 2, 1995, pp. 271-279;
- *Indian Epigraphy: a guide to the study of inscriptions in Sanskrit, Prakrit, and the other Indo-Aryan languages*. New York: Oxford University Press, 1998;



- 1998a. “Kharoṣṭhī Manuscript Fragments in the Pelliot Collection, Bibliothèque Nationale de France.” In: *Bulletin d’etudes Indienne*, 16, 1998, pp. 123-160;
- Śaunakīyā Caturādhyāyikā*, with the commentaries *Caturādhyāyikā*, *Bhārgava-Bhāskara-Vṛtti* and *Pañcasandhi*, (ed. by Madhav M. DESHPANDE). *Harvard Oriental Series*, vol. 52. Cambridge, Mass.: Harvard University Press, 1997;
- SCHARFE, Hartmut. *Pāṇini’s Metalanguage*. Memoirs of the American Philosophical Society, vol. 89. Philadelphia: American Philosophical Society, 1971;
- “Something old and something new: Two traditional approaches to Pāṇini.” In: *Journal of the American Oriental Society*, 109, 4, 1989, pp. 653-658;
- “Kharoṣṭhī and Brāhmī.” In: *Journal of the American Oriental Society*, 122, 2, 2002, pp. 391-393;
- *A new perspective on Pāṇini*. In: *Indologica Taurenensia*, 35, 2009, pp. 1-270;
- SCHOLES, Robert J. (editor). *Literacy and Language Analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., Publishers, 1993;
- Siddhāntakaumudī* by Bhaṭṭoji Dīkṣita, with the commentary *Tattvabodhinī*, (ed. by Śivadatta KUDDĀLA). Mumbai: Khemraj Shri Krishnadas, 1959;
- THIEME, Paul. “On the identity of the Vārttikakāra.” In: *Indian Culture*, IV, 2, 1937-38, pp. 189-209;
- “Das Indische Theater.” In: *Fernöstliches Theater*, Stuttgart: Heinz Kindermann, 1966, pp. 21-120;
- Vājasaneyi-Prātiśākhya* of Kātyāyana, with the commentaries of Uvaṭa and Anantabhaṭṭa, (ed. by V. Venkatarama SHARMA). *Madras University Sanskrit Series*, no. 5. Madras: University of Madras, 1934;
- Vyākaraṇa-Mahābhāṣya* of Patañjali, with Kaiyaṭa’s *Pradīpa* and Nāgeśa’s *Uddyota*. Volume 1 (2nd reprint 1917), Volume 2 (1912), Volume 3 (1937), Volume 5 (1945). Mumbai: Nirṇayasāgara Press;
- Vyākaraṇa-Mahābhāṣya* of Patañjali, with Kaiyaṭa’s *Pradīpa* and Nāgeśa’s *Uddyota*. Volume 3. Delhi: Motilal Banarsidass, 1967;
- WITZEL, Michael. “On the Archetype of Patañjali’s Mahābhāṣya.” In: *Indo-Iranian Journal*, 29, 1986, pp. 249-259;
- Indo-Eurasian_research Group <http://groups.yahoo.com/group/Indo-Eurasian_research/> message 6303 of 19 March 2007.