Pāṇinian Studies*

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1. Pāṇinian studies have continued to flourish in recent years. The work done spans all major aspects of the field. A new English translation of the Aṣṭadhyāyī has recently appeared (Katre 1987), and an excellent introduction to Pāṇini's system has been published (Junnarkar 1977; see also Bhagavat 1985). In addition, the first parts of projected lengthy works on Pāṇini, his methodology, and traditions associated with his work have recently appeared (Sharma 1987, Cardona 1988; see also Filliozat 1988). Translations into English and French of the Mahābhāṣya and its major commentaries (Joshi -Roodbergen 1975, 1976, 1980, 1981, 1986; Filliozat 1975-1980, Yagi 1984) continue; M. S. Narasimhacharya's extremely valuable edition of commentaries on the Mahābhāṣya and the Pradīpa, most importantly the Prakāśa and Annambhaṭṭa's Uddyotana has been completed (1973-1983); recently, a series of insightful articles by Devasvarupa Miśra (1978), in Sanskrit, on the Mahābhāṣya was published. Further, a new edition, with English translation and notes, of Bhartṛhari's important Mahābhāṣyadīpikā (Palsule 1983, Limaye-Palsule-Bhagavat 1984, Bhagavat-Bhate 1986, Bronkhorst 1987a) has almost been completed, and the text has been made available in a facsimile edition of the only available manuscript (see Dīpīka). Considerable valuable work continues to be carried out on Bhartṛhari's Vākyapadīya. A critical edition of the Kārikā text is now available (Rau 1977); the second *kāṇḍa* with Puṇyarāja's commentary and the extant part of the *svopajñavṛtti* has been edited anew (Subramania Iyer-Aklujkar 1983); Rau (1981) has edited and annotated the Vākyapadīyaprameyasaṁgraha; K. A. Subramania Iyer's translation of the second *kāṇḍa* has been published (1977); Raghunātha Śarmā (1977, 1979, 1980) has completed his commentary on this major work, together with the first part of his discussion on variant readings, a new translation, into Gujarati, was recently published (Shukla 1984); and A. N. Aklujkar's critical edition of the *svopajñavṛtti* together with an index, is nearing completion. Editions of other important texts in the Pāṇinian traditions are also being made available. Thus, Haradatta's Padamañjarị was recently edited anew (Ramachandrudu-Sarma 1981); Rāmacandra's Prakriyākaumudī has been reedited together with Śrīkṛṣṇa's Prakāśa (Muralīdhara Miśra 1977-1980); new editions of Kauṇḍbhaṭṭa's Vaiyākaraṇabhūṣaṇa have appeared (M. Bhaṭṭachārya 1985, Misra 1987); Nageśa's Vaiyākaraṇsiddhāntamañjūṣā has recently been edited twice (Sukla 1977, Kapil Dev Shastri 1985); the Paramalaghumañjūṣā has again been published, with Sanskrit commentary and Hindi translations (Kapil Dev Shastri 1975, Jaya Shankar Lal Tripathi 1985) as well as with a Marathi translation (Bhagavat 1984), and a fully critical edition of this work, with an annotated English translation, is soon to be completed (Cardona forthcoming b). In addition, a good annotated translation of an important section in Kauṇḍabhaṭṭa's Vaiyākaraṇabhūṣaṇa has been published (Gune 1978). The active state of research in the field can readily be seen from such recent monographs as those of B. Bhattacharya (1985), Bronkhorst (1987) Cardona (1983), Deshpande (1982, 1985), Kiparsky (1979, 1982), Subramanya Iyer (1982), as well as a collection of articles such as in Joshi-Laddu (1982), and other works mentioned in the appended bibliography, which is by no means complete.

The work carried out in the last decade or so of course represents, in great part, a continuation

of work done by predecessors. It is also quite varied, both in scope and in quality, so that it would be neither possible nor advisable to attempt an appraisal of even a large portion of this work in a brief article like this[1]. Instead, I think it proper and useful to concentrate on some works that illustrate trends which I see continue to be reflected in recent work and to assess their results, their premisses and their promises for future research.

2. Scholars have long been interested in the history of the Aṣṭādhyāyi, and a great deal has been written on interpolations in the text[2]. The tendency to find in Pāṇini's work evidence of massive interpolations made by post-Pāṇinīan grammarians has continued.

2.1. One of the major reasons claimed for considering that rules contained in the Aṣṭādhyāyī as known to Pāṇinīyas represent additions to an earlier version of the text is that the received textual verison shows inconsistencies. Of course, what is claimed to be inconsistent may well appear to be so only in the limited vision of the scholar putting forth the claim. It will be methodologically instructive to consider a recent claim of truly massive interpolation, according to which all the *sūrtas* concerning compounds and derivates with *taddhita* affixes are later additions to the Aṣṭādhyāyī. As the authors who defend the thesis remark, this 'involves major surgery in the present text of the *Aṣṭādhyāyī.*[3]

The principal reason for adopting this position is the authors' perception of inconsistency in terminology. Thus, rules providing for compound formation make use of terms which refer to the semantic sphere of a compound, and of terms referring to items that terminate in endings of particular triplets. For example, Aṣṭādhyāyī 2.1.24: द्वितीया श्रितातीतपतितगतात्यस्तप्राप्तापन्नै: provides that a *pada* terminating in a second-triplet (accusative) ending *(dvitīyā)* optionally combines to form a *tatpuruṣa* compound with a related *pada* that includes one of the terms *śrita resorted to', atīta* 'gone beyond, surpassed,' *patita* 'fallen', *gata* 'gone', *ātyasta* 'thrown beyond', *prāpta* reached, attained', *āpanna* 'reached', e.g. *kaṣṭa-śrita* 'one who has undergone hardship' is derived by combining the *padas kaṣṭa-am* and *śrita-s*, the former including the second triplet ending *am;* the compound alternates with a sentential expression *kaṣṭaṁ śritaḥ,* with two independent *padas.* Aṣṭādhyāyī 2.1.26: खट्वा क्षेपे also provides for a compound with a *pada* containing a second triplet ending, namely one with the term *khaṭvā.* In addition, the rule specifies that the compound is formed if the sense of pejoration, censure *(kṣepe)* is conveyed, as in *khaṭvārūḍhaḥ* 'one who has climbed into bed", used with reference to a student who, contrary to established practice, sleeps in a bed instead of on the ground during his studies or who marries before receiving proper permission. Again, Aṣṭādhyāyī 2.1.37: पञ्चमी भयेन lets a nomimal with a fifth-triplet (ablative) ending *(pañcamī)* optionally combine with a related form of *bhaya* 'fear' to form a tatpuruṣa compound, as in *caurabhayam (-caura-bhyas-bhaya-s)* 'fear of thieves.' The nominal endings contained in padas such as *kaṣṭa-am, khaṭvā-am, caura-bhyas* are introduced on condition that particular participants in actions, as assigned to given syntacitic-semantic categories, are to be signified. For example, Aṣṭādhyāyī 2.3.2: कर्मणि द्वितीया introduces a second -triplet ending after a nominal if a *karman* is to be signifed, and 2.3.18: अपादाने पञ्चमी introduces a fifth-triplet ending after a nominal when an *apādāna* is to be signified. Other rules of the Aṣṭādhyāyī assign participants to particular *kāraka* categories under specified conditions. Thus, Aṣṭadhyāyī 1.4.24-25: ध्रुवमपायेऽपादानम्। भीत्रार्थानां भयहेतु: provide that a *kāraka* which functions as point of departure is

assigned the class name *apādāna,* which also applies to a *kāraka* that functions as source of fear with respect to acts denoted by verbs with the meanings of *bhī 'fear', trā* 'protect;1.4.49-50: कर्तुरीप्सिततमं कर्म। तथायुक्तं चानीप्सितम् assign to the *karman* category a *kāraka* which functions as the primary goal of one classed as agent as well as a *kāraka* that is related similarly to an action but which an agent either actively seeks not to reach or towards which he is neutral. For example, *grāmāt (- grāma - as)* 'village' in ग्रामादागच्छति ...'is coming from the village' and *caurebhyas* (*caura-bhyas*) in चौरेभ्यो बिभेति ... 'is afraid of thieves refer to a village and thieves' assigned to the *apādāna* category; *kaṣṭa-am* refers to difficulty, hardhship assigned to the *karman* category. Now, a compounding rule such as Aṣṭādhyāyī 2.1.24 or 2.1.37 refers to *padas* that terminate in paricular triplets of nominal endings, not to *kārakas:* The rules are formulated as shown, not as *कर्म श्रितातीत * अपादानं भयेन. On the other hand, *sūtras* which have to do with introducing *kṛt* affixes do use *kāraka* category labels. For example, Aṣṭādhyāyī 3.4.67: कर्तरि कृत् concerns *kṛt* affixes in general: These are introduced to singify an agent, as in *kartṛ-, Kāraka* - doer, maker, with the *kṛt* suffixes *tṛc ṇvul.*[4] On the basis of such difference in terminology, the claim has been made that rules in the section of the Aṣṭādhyāyī dealing with compound formation and those dealing with *kṛt* affixes need not stem from the same author.[5]

Another sort of inconsistency is perceived in the organization of groups of *sūtras* in the Aṣṭādhyāyī. Thus, rules such as 1.4.24-25, 49-50 ... part of the block of *sūtras* 1.4.23-55--- serve to assign *kārakas* to particular classes, and these classifications serve to condition the introduction of nominal endings, by rules such as Aṣṭādhyāyī 2.3.2, 18. But the two blocks of rules are not contiguous. And this is considered to be an inconsistency.[6]

2.2. The need to see inconsistency in rules such as those considered in section 2.1 reflects, I think, an exaggerated eagerness to find difficulties where there are none, on the part of scholars who do not come to grips with principles of organization that are not all that difficult to perceive.

Pāṇini's entire derivation's system reflects well founded principles that are fairly patent.[7] He operates with two kinds of bases: verbs (*dhātu)* and nominal bases (*prātipadika).* Each of these is either primitive or derived. For example, *kṛ* 'do, make' and *go* 'cow, bull', are primitive bases, but the desideratives *cikīrṣa* 'wish to do, make' and the causative *kāri* 'have ... do, have .... make' are derived verbs, and *kartṛ-,kaṣṭa-śrita-*are derived nominal bases. Moreover, Pāṇini perceptively derives such bases from other elements through a formal machinery. Thus, he introduces postnominal endings after nominal bases to arrive at *padas* such as *kaṣṭa-am* and *śrita-s.* From these, through applying phonological rules, one can arrive at strings such as *kaṣṭam śritaḥ* Alternatively, the related *padas* can be bracketed together in a compound, the endings in which are then deleted: *Kaṣṭa-am-śrita-s - kaṣṭa-śrita-*. To form a *pada* such as *kaṣṭa-am* in the first instance, Pāṇini introduces an ending (Aṣṭādhyāyi 2.3.2 (see 2.1)) after a nominal base; and a derived base such as *kaṣṭaśrita* can then enter into the same derivational process whereby an ending is also introduced after it under specified conditions. Now, endings such as *am* in *kaṣṭa-am* of *kaṣṭa-am śrita-s* are introduced on condition that particular *kārakas* assigned to given categories are to be signified. Once a *pada* like *kaṣṭa-am* has been formed, it is of course quite proper to refer to it as an element that terminates in a second-triplet ending (*dvitīyā).* It is understandable that a rule such as Aṣṭādhyāyī 2.1.24 (see 2.1) has *dvitīyā* instead of *karma.* Indeed, since Pāṇini's

compositional rules operate on *padas*, it is only proper that he formulates the rule in this manner. Far from reflecting any sort of inconsistency due to interpolation, then, the difference in terminology among the rules in question reflects a well wrought and organized system of derivation.

Similarly, it should not surprise one that rules which introduce nominal endings be separated from *sūtras* that assign *kārakas* to categories. The latter are put in a section of the grammar that deals with classes which are generally disjunct, and these classes involve not only *kārakas* but also linguistic elements such as particles (*nipāta*) and compounds. All such rules are placed in a single section of the grammar, governed by a heading which provides that a given entity may bear only one class name unless otherwise provided for.[8] The *sūtras* which introduce *vibhaktis* after nominal bases do not belong in this block of rules. Again, therefore, there is no inconsistency pointing to interpolation.

Recent claims of massive interpolation in the received text of the Aṣṭādhyāyī thus not only continue a long-standing tendency (see note 2) to find evidence of such interpolations on a large scale, they also continue to reflect on the part of scholars who insist on finding such interpolations an inability or unwillingness to perceive in the work clear and well conceived principles of organization. It would be well to concentrate on discerning and understanding more fully such principles and the bases on which they are founded rather than to go on in a quest for purging the Aṣṭādhyāyī of perceived massive interpolations[9]

3. Another aspect of Pāṇini's grammar that has recently attracted considerable attention is the manner in which he relates rules to each other. Certain claims made, moreover, may fruitfully be considered not only in connection with Pāṇini's principles of organization but also with respect to our attitudes towards the commentatorial traditions associated with the *Aṣṭādhyāyī*

3.1 Let us consider the arguments presented in *vārttikas* 1-5 on *Astādhyāyī* 6.1.86: षत्वतुकोरसिद्धः, which concerns a relation between rules and operations of the section headed by 6.1.84: एकः पूर्वपरयोः Rules of this section let a single substitue replace two contiguous substituends. Such a rule[10] is suspended *(asiddha)* with respect to rules that provide for *ṣ* replacement and for the insertion of a final augment *tuk*. In his first *vārttika* on 6.1.86. Kātyāyana notes that this suspension serves two purposes : 1) To preclude the application of what would take effect as conditioned by a replacement (*ādeśalakṣaṇapratiṣedhārtham*); 2) To allow the occurrence of what is conditioned by an original element that is subject to replacement (*utsargalakṣaṇabhāvārtham*)[11] Standard examples for 1) and 2) as given by Patañjali and other Pāṇinīyas, are: कोसिञ्चत् (कस् असिञ्चत्) 'Who did the irrigating?[12] and *adhītya* 'after studying' *(←adhi-iya←adhi-itvā)*.

There are also two possible interpretations concerning what is suspended: 6.1.86 provides that (A): the result of an operation (*kārya*... 'to be carried out') that has taken effect is suspended (*kāryāsiddhatva*); or it provides that (B): a rule *(śāstra)* is suspended *(śāstrāsiddhatva)*. I shall speak of (A) operation suspension and (B) rule suspension.

For instances of (1), the distinction between the two types of suspension is not crucial. Thus assume that 6.1.86 provides, under (A), that the single substitute -o- in *kosiñcat* is suspended with respect to the possible replacement of -*s*- by -*ṣ*-[13] All this means is that the replacement of *aū* by - *o*- takes effect, but then is suspended with respect to the substitution of -*ṣ*- for -*s*-,

so that the latter does not take effect after *-o-* has come about. Under (B), 6.1.86 provides that the rule which serves to replace *-o a-* by *-o-*[14] is suspended with respect to the rule that has *-ṣ-* replace *-s-* (Aṣṭādhyāyī 8.3.59, see note 13). In effect, then, rule 6.1.109 ceases to exist in relation to 8.3.59, so that, although it does indeed apply when its conditions are met, it does not thereby provide a context in which 8.3.59 can apply.

For instances of (2), on the other hand, the distinction between (A) and (B) is pertinent. Given *-ī-ya,* in which *-i-* occurs before the affix *lyap,* the augment *tuk* can be added *(-ī-ya-it-ya),* by the rule which provides for that this augment be added to a short vowel preceding a *kṛt* affix marked with *p.*[15] If, however, the contiguous vowels of *adhi-iya* are replaced by the single long vowel *-ī- (adhi-iya →adhīya)*[16] a condition for adding the augment *tuk* is eliminated, since there is no longer a short vowel before the suffix *lyap.* Moreover, even if the augment is added first, the long-vowel replacement can take effect *(adh-i-it-ya - adhītya),* but the converse does not hold, as shown. Long vowel substitution and addition of the augment *tuk,* then, are related as what Pāṇinīyas call *nitya and anitya* operations. And a *nitya* operation regularly takes precedence over one which is *anitya.*[17] Accordingly, unless a special provision is made, a general principle of the grammar dictates that one have a form *(adhīya)* in which undesiredly, the augment *tuk* cannot be added. Panini therefore provides for suspension in *Aṣṭādhyāyī* 6.1.86.

Now, under (A) (operation suspension), this *sutra* simply states that the result of replacing two vowels with a single long vowel such as ī is suspended with respect to the addition of the augment. In his second *vārttika,*[18] Kātyāyana remarks that the operation supposed to be conditioned by the substituend in question does not succeed *(utsargalakṣaṇāprasiddhiḥ),* since the substituend is absent *(utsargābhāvāt).* And, if one should suppose that this operation does succeed simply by virtue of stating that single-vowel substitution is suspended *(asiddhavacanāt siddham iti cet),* this is declared improper, since merely stating that one thing is suspended does not result in the occurrence of the other, which it has eliminated *(nānyasyāsiddhavacanād anyasya bhāvaḥ)*[19] That is merely declaring that the *-ī-* of *adhīya* is suspended does not restore the original short *i* required for the augment to be added.[20] Hence, it is suggested, two things must be provided for: suspension for deriving sequences such as *ko'siñcat* and letting a replacement have the status of its substituend, in order to account for derivates like *adhītya.*[21]

This argumentation is clearly based on the assumption that Aṣṭādhyāyī 6.1.86 provides for suspending the results of operations. For in the next *vārttika,*[22] Kātyāyana goes on to say that letting the replacement have the value of its substituend has no purpose *(sthānivadvacanānarthakyam),* because what is provided for is the suspension of rules *(śāstrāsiddatvāt).* As is patent from what Kātyāyana has said, moreover, he cannot envision, under this alternative, that Aṣṭadhyāyī 6.1.101 (see note 16) should take effect to yield *adhīya.* On the contrary, having this rule suspended with respect to Aṣṭādhyāyī 6.1.71. (see note 15) has the effect of letting 6.1.71 apply first *(adhi-iya→adhi-itya→adhītya),* as Pāṇinīyas have recognized[23]

3.2 In his eighth *vārttika* on Aṣṭādhyāyī 8.2.1: पूर्वत्रासिद्धम् Kātyāyana alludes to what he said in his comments concerning 6.1.86[24] and in his Bhāṣya on this Pātañjali illustrates how the two purposes of suspension are served. As examples for (2), he gives the forms *amuṣmai, amuṣmāt, amuṣya, amuṣmin,* dervied from the pronoun *adas* 'that' with the basic endings *ṅe, ṅasi, ṅas,*

ṅi (respectively, dative, ablative, genitive, locative singular). These endings should be replaced by *smai, smāt, sya smin: adas-e→ adaa-e →ada-e*[25] *ada-smai→ amu-smai → amuṣmai, adas-as... → ada-as → ada-smāt... → amuṣmāt, adas-as... → adas-as... ada-sya ... → amuṣya, adas-i ... → ada-i ... → ada-smin... → amuṣimiṅ*[26] Now, Aṣṭādhyāyī 8.2.80 (see note 26) provides for two substitutions in the pronominal *adas* once the final -s of this item has been replaced: an u-vowel substitutes for the sound following *-d-*, and *-d-* is replaced by *-m-*. If these substitutions were to take effect, giving *amu-e* and so on, the endings following the pronominal stem would not be subject to replacement by *smai* and so on, since these substitutions apply after stems in short-*a*[27] Hence, Pāṇini puts 8.2.80 in the section of rules headed by 8.2.2. A rule of this section is suspended *(asiddham)* with respect to a preceding rule *(pūrvatra),* so that 8.2.70 is suspended with respect to 7.1.12 and so on. Under rule suspension, this means that rules of the first seven and three quarter adhyāyas of the *Aṣṭādhyāyī* apply before rules of the Tripādī, so that the order of applying rules in deriving *amuṣmai* and so on is as I have presented it.[28]

Since, as shown, in 8.2.1 *vārttika* 8, Kātyayana alludes to what he said earlier, it is to be assumed that, as eariler he concluded that Aṣṭādhyāyī 6.1.86 provides for rule suspension, so also must he invoke rule suspension for 8.2.1. And later Paṇinīyas explicitly say that Aṣṭādhyāyī 8.2.1 provides for rule suspension. For example, in its explication of the *sūtra,* the Kāśikāvṛtti remarks that the three-fourths of an *adhyāya* headed by this rule is suspended with respect to the preceding seventh and three fourths *adhyāyas* and that in the Tripādī itself each subsequent rule is suspended with respect to a preceding one; moreover, the text explicitly uses the term *yoga* 'rule'.[29] Commentaors on the Kaśikāvṛtti point out that the very wording used here shows that rule suspension is invoked.[30]

In addition, commentators consider the implications of the very term *asiddha* used here. As Jinendrabuddhi remarks, *siddha* means which has come about, is an accomplished entity *(niṣpanna)* and *asiddha* thus refers to something that has not come about. How, then, one may ask, is it possible to say that a rule *(śāstra)* which has indeed been formulated and stated in the Aṣṭādhyāyī be referred to as *asiddha,* since no number of statements that something thus formulated has not come about can make it not to have come about. It is because of this, both Jinendra and Haradatta note, that the Kaśikā goes on to say that a rule is treated as *asiddha (asiddavat),* that is, does not cause an operation that is brought about.[31].

In sum, a *sūtra* of the Tripādī is indeed an accomplished entity, a rule which has been formulated and is part of the corpus. By saying that such a rule is *asiddha* with respect to a preceding statement, then, Pāṇini simply means that the sūtra in question is declared nonexistent with respect to that other rule although it is indeed a real part of the grammar and cannot be denied as such. Hence, I have used 'suspended' as a rendition of *asiddha.* Of course, once a *sūtra* is thus suspended, its effect is also suspended.

3.3. In *vārttika* 4 to Aṣṭādhyāyī 6.1.86 (see 3.1 with note 21), Kātyāyana shows that he draws a clear distincition between the result of an operation being suspended *(asiddhatva)* and a replacement's having the status of its substituend *(sthānivadbhāva).* The same clear distincition is drawn in another context.

Aṣṭādhyāyī 1.1.57: अचः परस्मिन्पूर्वविधौ (स्थानिवदादेशः 56) provides that the substitute for a vowel replaced in a right context has the status of its substituend with respect to an operation relative to an element that precedes the original vowel. In the second *vārttika* on this *sūtra,* it is suggested that a special provision must be made to forbid an operation that is conditioned by a replacement for a vowel in a right context.[32] For example, the *-u-* of *vāyu-os* 'winds' (gen. -loc. du) is replaced by *-v-* before the vowel of the dual that follows[33] There is also a rule[34] whereby *v, y* are deleted before a consonant other than *y.* Kātyāyanas argument here is that, although the extension rule 1.1.57 lets a substitute such as the *-v-* of *vāyu-os* have the status of the original vowel, it does not also deny this semivowel its actual status, so that this could indeed condtition the deletion of the preceding *-y-* undersiredly producing forms like **vāvoḥ* instead *vāyvoḥ.* The suggestion is then made that the desired results are established if one provides that a vowel replacement which is conditioned by a right context *(ajādeśaḥ paranimittakaḥ)* is suspended *(asiddhaḥ)* with respect to an operation on what precedes.[35] Clearly, *vāyvos* is an instance where suspension is supposed to prevent what would be conditioned by a replacement.[36] Equally clearly, Kātyāyana and Patañjali make a sharp, well defined distinction between an extension rule, whereby a property of an original element is extended to a replacement for that element, and a suspension.

3.4. Consider now another *sūtra* that provides for suspension. *Aṣṭādhyāyī* 6.4.22: असिद्धवदत्रा भात् whereby whatever results from applying a *sūtra* of the section begining with this rule and extending through the section headed by 6.4.129: भस्य is teated as suspended[37] with respect to any other operation provided by a *sūtra* of this group, provided the operations in question have the same conditioning element.

Three examples will suffice to illlustrate the procedure. *śādhi,* the second - singular imperative of *śās 'instruct, command' is derived from śās-hi,*[38] and the third-plural imperfects *āsan* 'they were' *āyan* 'they went' derive from *as-ant, i-ant.*[39] Given *śās-hi,* two operations are to be consdiered: The ending *hi* conditions the replacement of *śās* by *śā* (6.4.35. शा हौ (शासः 34)); *hi* is replaced by *dhi* after *hu* 'offer oblations' and verbs that end in non-nasal stops or spirants (6.4.101: हुझल्भ्यो हेर्धिः) Similarly, pairs of operations are to be considered for *as-ant, i-ant. a* of the stem *as* -is subject to deletion (6.4.111 श्नसोरल्लोपः।); and the stem *i*-is subject to replacement by *y*-before the vowel of an ending (6.4.81: इणो यण्।). In addition, since the forms in question have an ending that derives from the L-affix *laṅ* (see note 39), the stems are subject to receiving an initial augment: Before endings that derive from *luṅ, laṅ, lṛṅ,* consonant-initial stems are augmented with high pitched *á (aḍ udāttaḥ),* vowel -intitial stems (*ajādīnām),* with *ā (āṭ)* 6.4.71-72: लुङ्लङ् लृङ्क्ष्वडुदात्तः। आडजादीनाम् । In each instance, one of the operations is *nitya* (see note 17) with respect to the other, so that it takes precedence. Thus,if the ending of *śās-hi* is first replaced by *dhi,* the preceding stem is still subject to replacement by *śā,* since the substitute is given the status of the original element.[40] On the other hand, once *śā* substitutes for *śās,* the replacement of *hi* by *dhi* can no longer apply: This is conditioned by a sound, so that Aṣṭadhyāyī 1.1.56 (see note 40) does not give *śā* the status of the original *śās* with respect to this operation. Similarly, whether or not the augment *āṭ* is added to the stems of *as-ant, i-ant,* as- is subject to having its vowel dropped, and semivowel replacement applies to *i,* but once these operations take effect, the stems no longer begin with a vowel, so that *āṭ* cannot be added. Hence suspension is brought

into play. Moreover, all the examples I have given are clearly of the type (2), where suspension serves to allow an operation conditioned by an original element that is subject to replacement. As I noted earlier (see 3.1) in such instances Kātyāyana considers letting a replacement have the status of the substituend and then says that the Pāṇinian rules in question provide for rule suspension. In the present instances, Aṣṭādhyāyī 1.1.56 cannot apply to give the substitutes *śā-, y-* the status of their substituends with respect to the required operations, since the latter are conditioned by sounds.

Now, let us suppose that here too one should operate with rule suspension. One would then let 6.4.35 be suspended with respect to 6.4.101, which would apply first: *śās-hi → śās-dhi → śādhi* To derive *āsan, āyan* from *as-ant, i-ant* on the other hand, one would have to let 6.4.111, 81 be suspended with respect to 6.4.72, which would apply first: *as- ant ā → as- ant → āsan* (8.2.23: संयोगान्तस्य लोपः), *-i-ant → āi-ant → āy-ant → āyan.* Clearly, in his set of rules as ordered, Pāṇini cannot formulate a suspension rule for all such instances in a single way comparable to Aṣṭādhyāyī 6.1.86 or 8.2.2. In order to specify what rule is suspended with respect to what other rule, he would have to bring all instances of the types *śāhi* and *āyan* together in separate sections, headed in one case by a rule stating that a rule is suspended with respect to a following rule *(uttaratra),* in another case by a heading letting a rule be suspended with respect to a preceding rule[41].

It is understandable, then, that in Aṣṭādhyāyī 6.4.22 Pāṇini says *asiddhavat,* not *asiddham.* That is, we have here instances of operation suspension. The operations which take precedence by virtue of general principals are allowed to take effect: *śās - hi → śā - hi, as-ant → s-ant, i-ant → y - ant.* The effects are then suspended, so that *śā, s-, y-* are given the statues of *śās, as-, i-* in order to allow the replacement of *- hi* by *- dhi* after *śā* and the addition of the initial augment *āṭ* to *s-,y.* This is obviously comparable to the procedure whereby Pāṇini lets a replacement have the status of its substituend (Aṣṭādhyāyī 1.1.56, note 40). In both instances, Pāṇini uses terms with the suffix *vati: asiddhavat, sthānivat.*[42] Morevorer, just as Aṣṭādhyāyī 1.1.56 provides for operations to be extended to substitutes *(kāryātideśa),* so 6.4.22, under the interpretation given here, lets opeations be suspended.

3.5 It is noteworthy that Pāṇiniyas regularly interpret *asiddhavat* of Aṣṭadhyāyī 6.4.22 in the same manner as *asiddhaḥ* of 6.1.86 and *asiddham* of 8.2.1. In his first *vārttika* on 6.4.22 (असिद्धवचन उकम्।), Kātyāyana merely alludes to what was said in the first *vārttika* on 6.1.86, and he does not go on to discuss the question of rule suspension versus operation suspension, thus leaving the impression that he accepts here the conclusion drawn earlier. Other Pāṇiniyas explicity remark that rule suspension is accepted here[43]. Of course, Pāṇini does not specify here which rule is suspended with respect to which other rule. Consequently, under the assumption of rule suspension, one would have to assume that, for example, 6.4.35 and 6.4.101 are both suspended with respect to each other. This recognizes that the operations provided for in these rules are mutually dependent. It also has the undesirable consequence that neither rule could now interact with the other. To avoid this consequence, one might assume that, by the general principle whereby a *nītya* operation takes precedence over an *anitya* operation, 6.4.35 does indeed have to apply first, and that rule suspension in this instance means that this rule is suspended with respect to

6.4.101, though in a different sense: Now, since the rule is suspended, it does not allow for ones taking cognizance of its result with respect to 6.4.101, so that relative to this *sūtra,* one understands the original element *śās* to occur and, on the basis of this, the replacement of *-hi* by *-dhi* succeeds.[44] Such a complication, however, is not necessary.[45]

3.6 One may, of course, claim that, contrary to what Pāṇniyas generally maintain,[46] all instances of suspension should be treated as involving operation suspension, so that, for example, in deriviing *adhītya,* one does indeed let the single-vowel replacement take place beore the introduction of the augment *tuk.* Suspension then serve to let *-I-* be treated as though it were still *-i: adhi-iya adhīya adhītya.*[47] It would appear only just and proper, however, that any scholar taking such a stand and claiming at the same time to judge what Pāṇiniyas say should consider all the evidence available and try to decide how far the views held by Pāṇiniyas accord with the actual statements and wordings of the Aṣṭādhyāyī. Merely to claim, contrary to evidence such as I have discussed and without thoroughly considering all such evidence, that Pāṇinian grammarians from very early on created a confusion about the concepts in question, is unjustifiable.[48]

4. The term *siddha* is, of course, not a defined technical term of grammar but simply a term of ordinary Sanskrit, the past participle of *sidh (siddhyati)* 'succeed, come about, be established, be accomplished'. Although forms of this verb, with these meanings, are attested from early Vedic on, perhaps the most pellucid instance showing its meaning, at least in so far as concerns us here, is the first *kārikā* of the Sādhanasamuddeśa of the Vākyapadīya,[49] where Bhartṛhari says that something is undrstood to be an activity *(kriyā)* by virtue of its taking on temporal sequence *(āśritakramarupatvāt),* whether it has been accomplished or not *(siddham asiddham vā),* so long as it is spoken of a something that is brought to accomplishment *(sādhyatvenābhidhīyate).* That is an activity, the meaning of a verbal base *dhātu),* is something sequential in time, that is brought to accomplishment *(sādhyā(kriyā) (actio) perficienda)'.*

Now, the result of an operation can be referred to as siddha, by which is meant that the operation in question has applied, so that the result is established. For example, the first two *vārttikas* on Aṣṭādhyāyī 6.4.114[50] say that the *ā* of *daridrā* should be deleted when an *ārdhadhātuka* affix is to be used with this verb, and that this deletion is established *siddhaś ca)* with respect to the provison of the affix. Thus, one should allow for the agent-noun *daridara-,* with the affix *ac*[51] The final vowel of *daridrā* should be deleted, and the result of this operation is to remain established with respect to the introduction of the affix, so that the affix introduced after *daridr-is ac,* not *aṇ* which follows verbs in *-ā.*[52]

A rule *(śāstra)* also is obviously spoken of as *siddha.* Given what *siddha* signifies, this means nothing more than that a *sūtra* of the *Aṣṭādhyāyī* is a finished entity, a rule that has been formulated and set forth. Stipulating that a *sūtra* is *asiddha* with respect to some other *sūtra,* then, means that it is declared not to be a finished entity with respect to this *sūtra,* that is, in effect, that it is treated as nonexistent relative to the rule in question. In accordance with what I have noted earlier, let me speak of rules as either in force or suspended.

4.1 Pāṇiniyas regularly consider that what is done is to superimpose absence *(abhāvāropa)*

on a *sūtra* declared to be *asiddha,* and this interpretation goes right back to the earliest Pāṇiniyas.

In this connection, let us consider part of a discussion in the Mahābhāṣya on Aṣṭādhyāyī 8.2.1. In answer to an objection that need not detain us here, it is declared that, although the three quarters of a chapter that constitute the Tripādī are *asiddha* with respect to the preceding seven and one-quarter chapters of *sūtras,* the latter is *siddha* with respect to the former. In particular, *saṁjñāsūtras* and *paribhāṣās* included in the latter take their place along side the former, by vitrue of taking full effect only at the time that operational rules they serve to interpret come into play. Thus, for example, the ablative and locative forms in Aṣṭādhyāyī 8.2.26: झलो झलि are interpreted[53] as referrring respectively to left and right contexts: *-s-* is deletd if it follows and precedes a consonant other than a semivowel or nasal. The *paribhāṣās* 1.1.66-67 take their place along side 8.2.66, which they serve to interpret, although this *sūtra* is indeed suspended with respect to preceding rules, so that it cannot take its place along side them. That is, this rule suspension is not reciprocal. The position thus taken meets with a possible objection: Assuming that Aṣṭādhyāyī 1.4.2. विप्रतिषेधे परं कार्यम् also is a general metarule, it too should take its place along side rules of the Tripādī. Accordingly, it will allow what is provided for by a subsequently stated rule, even in the Tripādī, to take precedence over what is provided for by a prior rule.[54] In his first vārttika on 8.2.1.,[55] Kātyāyana meets this objection, remarking that there is no conflict in the case of any rule of the section, headed by 8.2-1 since a subsequent rule in question, included in the section is absent *(abhāvād uttarasya).* As Patañjali explains,[56] a possible conflict *(vipratiṣedhaḥ)* can obtain only between two rules that have independent scopes of application *(sāvakāśayoḥ)* and come into consideration simultaneously as possibly applying in a single context *(samavasthitayoḥ).* But in the present instance, a rule of the section headed by 8.2.1, though it is subsequent to another, does not exist with respect to that prior rule *(na ca pūrvatrāsiddhe paraṁ pūrvaṁ prati bhavati).*

4.2 Of course,if a rule R+1, by virtue of being declared suspended with resspect to a rule R, is treated as non-extistent in respect of that rule, this means that R+1 cannot serve to supply elements on which R can operate and that, in contexts where both the rules could tentatively apply if one of them had not been suspended, only the one that has not been suspended can take effect first. Thus, consider again the examples given in section 3.2. Of 7.1.14 and 8.2. 80., only the former can apply to *ada-e;* 8.2.80 cannot apply to replace elements here, since it is treated as non-existent relative to 7.1.14, so that only the latter can take effect. Once this rule has applied, however, since the supension is not reciprocal, 8.2.80 does indeed apply. Moreover, this suspension must be provided for, since, by virtue of other general principles, 8.2.80 would indeed apply instead of 7.1.14. The latter provides an operation that is nitya with respect to the operation provided by 7.1.14, which is anitya: If *-da* -of *ada-* is replaced by *-mu-* the replacement of *-e* by *-smai* cannot take effect, since this applies after stems in *-a;* but even if the ending of *ada-e* is replaced by *-smai,* the substitutions allowed by 8.2.80 can indeed take effect. In order to preclude this, then, rule suspension is called into play.

4.3 What I have said in section 4.2 is predicated on a straightforward interpretation of the Sanskrit terms *siddha, asiddha,* in accordance with what the terms mean in ordinary Sanskrit. In the context of the grammar, *siddha* refers to *sūtras* considered as finished entities, real stated

rules included in the grammar, which are in force with respect to other such statements; and *asiddha* refers to *sūtra* declared to be the opposite of this in respect of particular other statements, rules which are suspended in respect of others. Once could take another position, giving the terms in question much more techinical values. Thus, one could say of a *'siddha* principle' that, 'It simply tells us that interacting rules in a given derivation must acknowledge their results.'[57] More techiniquely, having adopted a straightforward and innocent looking principle that all *sūtras* of the Aṣṭādhyāyī are *siddha* with respect to each other unless otherwise specified,[58] one might go on to say that in particular instances letting rules be *siddha* with respect to each other allows them to interact in particular ways. For example, consider the following derivations:

a) *ayaja-i* → *ayaje, ayaje indram - ayajay indram -ayaja indram*[59] 'I venerated Indra.'

b) *tud-aka* → *tod-aka*[60] 'one who goads, wounds'

c) *tud-ti* → *tud-a-ti*[61]

Derivations such as (a) involve what modern western grammarians commonly call feeding order, that is, the result of applying one rule is subject to another rule, and so on. Derivations such as (c) involve bleeding, that is, applying one rule precludes the application of another. Thus, once the affix *śa* is introduced to give *tud-a-ti, guṇa* substitution (by 7.3.86, see note 60), which would tentatively apply in the sequence *tud-ti* (cf. (b), is precluded, since the *-u-* of *tud-a-*, which is a stem relative to *ti,* is not a penultimate vowel in this stem, and *śa* is given a speical marking to show that it does not condition *guṇa* substitution in its stem.[62] One might wish to suggest that the principle according to which all rules are *siddha* with respect to all rules predicts the interaction of rules in derivations of the type (a) and that the same principle also says rules should apply in bleeding order for particular derivations.[63].

4.4. The first claim amounts to a truism. Obviously, if applying a given rule R results in the conditions being met for another rule Ŕ and only this is the case, the latter rule should indeed apply, given that it is in force in the grammar. Thus, once Aṣṭādhyāyī 6.1.87 has applied to give *ayaje* in *ayaje indram,* the conditions are obviously met for applying Aṣṭādhyāyī 6.1.78, and once this has applied to given *ayajay indram,* the conditions are met for applying Aṣṭādhyāyī 8.3.19 (see note 59). Since 6.1.87 is in force with respect to 6.1.78 and the latter is in force with respect to 8.3.19, all the substitutions provided for in these *sūtra* take effect. On the other hand, 8.3.19 is placed in the Tripādī, so that it is suspended with respect to prior rules. Hence, the contiguous vowels *- a i-* which result from applying 8.3.19 are not subject to replacement by the *guṇa* vowel *-e-* in accordance with 6.1.87.

The claim that principle (2) says that rules are to be applied in bleeding order, however, is not so obvious. If we take term *siddha* in its usual meaning, saying that rules such as Aṣṭādhyāyī 3.1.77 and 7.3.86 are siddha with respect to each other amounts to saying that they are in force with respect to each other, so that they can interact if the proper conditions are met, nothing more. Thus, given *tud-ti,* the conditions are met for both the rules to apply; and if 7.3.86 were to apply first giving *tod-ti* 3.1.77 would still apply, since *tod* has the value of a verb in the ordered set beginning with *tud,* just as does the actual primitive base *tud.*[64] Of course, if 7.3.86 did apply

first, one would allow an undesired form, **tod-a-ti* instead of *tudati*. But it is not at all obvious that the mere fact of rules being in force with respect to each other predicts the proper order of application in such instances.

Nor is it immediately acceptable to say that this claim is justified by virtue of Pāṇini's having declared certain *sūtras* to be suspended with respect to others. Consider again two examples dealt with earlier: *ayaja indram, amuṣmai* (see 4.4, 3.2). The first requires suspension in order to preclude an operation which could apply to the result of substitution *(ādeśalakṣaṇapratiṣedhārtham,* see 3.1) suspension is needed in the second example in order to allow the proper ordering of two rules that come under consideration for a single sequence. Thus, once *-y in ayajay indram* has been dropped to give *ayaja indram,* only one operation comes under consideration: guṇa substitution. Suspension precludes this. On the other hand, given *ada-e,* two rules come under consideration. Providing that 8.2.80 is suspended with respect to a preceding rule simply means that this *sūtra* is kept from interacting with any preceding *sūtra*.[65] Conversely, then, letting rules be in force with respect to each other simply means that they may interact with each other if their conditions are met, it does not mean that, if the conditions for both are met at once, one rule must bleed the other. This can neither be understood from the ordinary meanings of *siddha* and *asiddha,* nor justifiably implied from what Pāṇini says.[66].

4.5 It follows that the so-called *'siddha* principle' should not be made to do the work of other principles that Pāṇinīyas have operated with and the bases for which can be seen in the Aṣṭādhyāyī itself.[67] Another claim made recently is that the application of the principle concerning internally and externally conditioned operations *(antaraṅga/ bahiraṅga)* by Pāṇinīyas to word-internal operations is unjustified, and that Pāṇini himself made use of this only across word boundaries.[68]

It will suffice to consider one of the major examples, since this brings up the basic issue and the weaknesses of the arguments involved. The verb *kṣi* 'dwell' has a present of the type *kṣiyáti,* with the *vikaraṇa śa* (see note 61) (kṣi-a-ti) contains, as shown, two stems *(aṅga:)*[69]: *((kṣi-)a-)* is a complex stem relative to the ending ***tip,*** which replaces the L-suffix ***laṭ*** first introduced after the verb, and *(kṣi-)* is a simple stem relative to the affix ***śa.*** Since the complex stem has a light penultimate vowel and the verb ending *tip* is not marked with *g, k, or ṅ,* 7.3.86 (see note 60) could apply here to replace this with the *guṇa* vowel *-e-,* which would undesiredly result in **kṣayáti* instead of *kṣiyáti.* On the other hand, since *śa* has imposed on it a marking with *ṅ* (see note 62), it does not condition *guṇa* substitution.[70] Instead, *-i* is replaced by *iy*[71] *kṣi-a-ti → kṣiy-a-ti-* The complex stem which results is *-kṣiy-a-,* so that 7.3.86 cannot apply to replace *-i-,* which is now not a penultimate sound, with a *guṇa* vowel. The proper derivation is accounted for by a principle that an internally conditioned operation takes precedence over one that is externally conditioned., and the same principle serves to assure the proper derivation of *dhiyáti* 'holds, maintains', *riyáti* 'flows'.[72] Similarly, given *(ayaja-i) (indra-am),* two operations are to be considered concerning *-i:* first, *-a-i* is subject to guṇa replacement *(ayaja-i → ayaje,* see note 59); on the other hand, *-i i-* could be subject to replacement by the single long vowel *-ī.*[73] The former takes precedence, since it is internally conditioned.[74]

It has been claimed that only the latter type, involving word boundaries, is valid, and that

Pāṇinīyas have wrongly applied the *antaraṅga-paribhāṣā* to instances like *kṣiyáti, dhiyáti.* The argument involves the interpretation of the metarule 1.1.5 (see note 62): 'In reality the argument is illusory because *guṇa* never has a chance to apply to any of these forms. It is prohibited by 1.1.5 *kṅiti ca,* which states that *guṇa* and *vṛddhi* replacement *(ā, ai, au, a, e, o,* 1.1.1-2) for *i, u, ṛ, ḷ (ikaḥ,* 1.1.3) do not apply before *kit* and *ṅit* suffixes.... There is no question of applying *guṇa* at all in *dhi + Śa + tiP or sru + CaṄ +tiP.* Thus, if the most straightforward interpretation of the *guṇa* rules is accepted, the apparent motivation for the *antaraṅga-paribhāṣā* simply disappears.'[75] There follows a simplified version of what is said in part of the Mahābhāṣya on 1.1.5 (see below), after which the argument continues: Actually there is no problem when we consider precisely the formulation of the operative *guṇa* rule 7.2.86 *pugantalaghūpadhasya ca.* The *sthānin* of *guṇa* replacement is qualified as *ikaḥ (i, u, ṛ, ḷ)* by 1.1.3 *iko guṇavṛddhi* and as *aṅgasya* (a stem) by 6.4.1 *aṅgasya.* We can take the prohibition 1.1.5 *kṅiti ca* as applicable whenever either one of these items, the *ik* vowel or the *aṅga, is directly followed by a kit* or *ṅit* item. Then *guṇa* is blocked in *bhid + Kta* because the *aṅga bhid* is directly followed by a *kit* item (although the vowel *i* itself is not), and *guṇa* is blocked in *dhi +Śa +tiP* because the vowel *i* is directly followed by a *ṅit* item (although the *aṅga dhi + Śa* is not). Of course, with regard to the other relevant *guṇa* rule 7.3.84 *sārvadhātukārdhadhātukayoḥ,* both the *i* vowel and the *aṅga dhi* are directly followed by a *ṅit* suffix *Śa,* so that *guṇa* is blocked twice over.[76]

This seemingly innocuous solution is not without problems. Before confronting these, however, let us consider briefly some of the arguments presented in the Mahābhāṣyā on 1.1.5. if 1.1.3 and 1.1.5 are consdidered by themselves, without bringing them together immediately with rules they serve to interpret (cf. note 60), then one can invoke also another metarule directly to interpret the locative *kṅiti:* This denotes a right context before which something applies to an immediately preceding element (Aṣṭādhyāyī 1.1.66, see note 53). Under this possibility, 1.1.3,5 could serve to preclude *guṇa* substitution in an item like *ci-ta* 'gathered, heaped', where stem-final *-i* immediately precedes *Kta,* but one could also argue that they would not preclude *guṇa* substitition in *bhid-ta (bhinna* 'broken'), where the stem vowel does not immediately precede the affix. Assuming this, Kātyāyana proposes[77] to modify 1.1.5 providing that *guṇa* and *vṛddhi* replacements which would be conditioned by items marked with *g, k, ṅ (tannimittagrahaṇam)* do not obtain. This suggestion meets with an objection: In cases such as *riyáti, dhiyáti,* the negation of *guṇa* substitution thus provided for does not obtain.[78] That is, *guṇa* substitution which apply (by 7.3.84) to the stem *ri, dhi* as determined by *śa* is indeed precluded, since the suffix is marked with *ṅ,* but *guṇa* substition (by 7.3.86) on the penultimate vowel of the stem *ri-a-, dhi-a-* as determined by *tip* is not now precluded, since this suffix is not so marked. Hence, in his third *vārttika*[79] Kātyāyana argues that the correct results are guaranteed, since replacement of *-i* by *-iy* is internally conditioned *(antaraṅgalakṣaṇatvāt).*

On the other hand, Patañjali does not leave things there, and a series of alternatives is presented, as follows. The first suggestion involves understanding *dhātu* of 1.1.3 (see note 63) to recur in 1.1.5 and understanding that a verb is followed by an element marked with *g, k, ṅ.* This immediately takes care of instances such as *bhinna,* since a verb *(bhid)* is now indeed immediately followed by an affix with the appropriate marking. On the other hand, in a stem such as *cinu* of *cinutas* 'they two are gathering..., heaping...', the affixed marked with *ṅ* follows

the *vikaraṇa śnu,* not the verb *ci.* Hence, it is decided that the negation should apply when an element is followed by an affix which has been introduced to a verb: In the derivation of *cinutas,* the ending *tas* replaces *laṭ,* introduced after the verb, so that all is in order.[80] As an alternative *(athavā* or, alternatively) to the above, it is suggested that, in accordance with the general prinicple according to which *saṁjñasūtras* and *paribhāṣās* take their place with rules they serve to interpret, 1.1.3,5 are brought in together with rules like 7.3.84, 86. This of course means that no modification is required in 1.1.5 and that *kṅiti* also need not be taken as a *nimittasaptamī.* Thus, together with the metarules 1.1.3,5 and the headings 6.4.1, *Aṣṭādhyāyī* 7.3.84 provides that *guṇa* substitution applies to the final vowels *i* and so on of stems that end in these sounds when there follows a *sārvadhātuka* or an *ārdhadhātuka* suffix, but that this does not apply if the suffix is marked as shown; similarly, 7.3.86 provides that *guṇa* substitution also applies to a penultimate light vowel -i- and so on of a stem followed by a *sārvadhātuka* or *ārdhadhatuka* affix, but that this does not apply if the affix which follows the stem is marked as shown.[81] Another alternative *(athavā)* is brought up: 1.1.5 states *kṅiti,* and the negation provided here would lack its full scope of application unless it applied to all possible instances, including those where a vowel *i* and so on is separated from the appropriately marked affix.[82] As a final alternative *(athavā),* Patañjali suggests that Pāṇini's own procedure serve to make known that the negation of *guṇa* replacement applies also to penultimate vowels. Thus, he derives *gṛdhnu* 'greedy', *dhṛṣnu* 'daring', *kṣipṇu* 'one who habitually throws' by introducing an affix marked with *k (knu),* and he provides that the unaugmented desiderative suffix *san* is marked with *k* not only after verbs that end with *i* and so on but also after verbs in which these vowels precede final consonants.[83] Marking these affixes with k would serve no purpose unless 1.1.5 could indeed serve to negate *guṇa* substitution also applies to a penultimate vowels. Similarly, 7.3.86 provides that *guṇa* substitution also applies to penultimate light vowel *-i-* and so on of a stem followed by a *sārvadhātuka* or *ārdhadhātuka* affix, but that this does not apply if the affix is marked as shown.[84].

Of course, not all these alternatives are equally good. Thus, since 1.1.4-5 are two separate negative rules complementing 1.1.3, it is not immediately obvious that *dhātu-* of *dhatulope* in 1.1.4 should be understood to recur in the following rule and be construed there as denoting a qualificand. In addition, although any *sūtra* must, of course, have its proper scope of application, this can indeed be obtained for 1.1.5 if it precludes *guṇa* substitution in cases like *cita,* so that the third alternative is not truly cogent. Moreover, though Pāṇini marking *knu* directly with *k* and imposing this marker on *san* in particular contexts certainly does show that 1.1.5 should serve to deny *guṇa* substitution to penultimate vowels, it does not follow that one should have his marking the affixes in this manner serve by itself to show that this is the case, it would be preferable to have this marking required by the application of 1.1.5. Whatever else one might say, then, the second proposal seems most appropriate. For, 1.13-5 are clearly a block of related metarules that serve together with operational rules in order to govern how these shall apply to ensure only desired results. Thus, since 1.1.3 applies with 7.3.84, so that *ikaḥ* is understood here as a qualifier of the heading *aṅgasya,* by a general rule of reference,[85] one understands that *guṇa* substitution applies to the final sounds of stems that end in vowels denoted by *ik.* and 1.1.5 comes into play to provide that this does not apply if the affix that follows such a stem is marked with *g, k, or ṅ.* In effect, the locative *kṅiti* is to be construed with *sārvadhātukārdhadhātukayoḥ,* hence is

cotextually modified appropriately, and both these locatives are interpreted in the context of 7.3.84, as referring to elements that serve as right contexts for operations on preceding items.

This still does not obviate the need for the *antaraṅga* principle: Given *dhi-a-ti,* the condition is still met for *guṇa* substitution by 7.3.86. Moreover, the solution Kiparsky proposes in arguing against 'the *antaraṅga*-paribhāṣā' is not apt. The author fails to show that truly 'we can take the prohibition 1.1.5 in the manner proposed, saying that the rule simply denies *guṇa* and *vṛddhi* replacement for an *ik* vowel that is directly followed by an appropriately marked element. Certainly, this is not the way *paribhāṣās* normally operate: They are not independent statments to be interpreted by themselves; instead, they do indeed constitute complements to operational rules. Moreover, even granting the propsed interpretation, Kiparsky's claim is not free from objection. Under his interpretation, 1.1.5 would preclude *guṇa* substitution in any *aṅga* that is immediately followed by an item marked with *k, ṅ*. Consider now the derivation of *kurutas* 'they two make, do', from *kṛ-u-tas.* The affix *u*[86] is an ārdhadhātuka element not marked with *g, k, ṅ,* so that it does condition *guṇa* substitution: *Kṛ-u-tas -kar-u-tas* (7.3.84) *kurutas.*[87] On the other hand, *kṛ-u-* itself is an *aṅga* directly followed by the ending *tas,* which is indeed marked with *ṅ* (1.2.4, note 62), and the stem in question has *-ṛ-* as its penultimate vowel. Accordingly, even under the proposed interpretation of 1.1.5, *guṇa* substitution should be precluded in the stem kṛ-u. Of course, this substitution must apply to give the sequence *kar-u-tas,* which Pāṇini operates with (see above with note 87) as in intermediate stage. To be sure, one could still argue that 1.1.5 precludes *guṇa* substitution for the final vowel of an *aṅga* preceding an affix or for the penultimate vowel of an *aṅga* before such an affix. Hence, *tas* fails to condition *guṇa* only for the final vowel of the stem in *-u,* not also for the penultimate vowel of the stem *kṛ-u.* But obviously this is tantamount to admitting the *antaraṅga* principle. And indeed, there is no cogent reason to deny that Pāṇini operated with this bracketing priciple not only at word boundaries but also within words, at stem boundaries.

4.6 It is necessary to consider a bit more in detail just what this bracketing principle consists in, since the authors who deny that the *antaraṅga*-paribhāṣa is valid within word boundaries cite apparent evidence for their view from Pāṇinian derivations where, they say, the application of this prinicple would go contrary to what Pāṇini actually does. The authors can say this because they choose to ignore a distinction between two formulations of the principle in question.[88] One of their example will illustrate the point. The form *vṛtrahabhyām* (instr-dat-abl. du.) derives from *vṛtrahan-bhyām,* with the compound *vṛtra-han-* 'one who has slain Vṛtra', which itself is an obligatory compound formed with the agent noun - han, derived with the affix ***kvip.***[89] *vṛtrahan-* in the term *vṛtrahan -bhyām* is classed as a pada,[90] so that its *-n* is dropped.[91] *vṛtrahan-bhyām→ vṛtrahabhyām.* Since an operation conditioned by an affix can take effect even after the affix has been deleted,[92] this opens the possibility for having the final augment ***tuk*** added (6.1.71, note 15). 'Now', goes the argument, if the *antaraṅga*-principle were valid in such a case, it would have the desired effect of preventing the addition of *t,* since this is an *antaraṅga* rule relative to the rule of *n* deletion which feeds it. Nevertheless, Pāṇini took special measures to block the insertion of *t:* he added a provision to the grammar that the deletion of *n* is *asiddha* for purposes of *t-* insertion before *kṛt* suffixes (8.2.2 *nalopaḥ supsvarasaṁjñātugvidhiṣu kṛti*)... In any case, the special mention of *tUK* in 8.2.2 shows that Pāṇini did not have in mind the *antaraṅga* principle

in composing the Aṣṭadhyāyī.[93] What the author fails to mention here is that there are two versions of the *antaraṅga* principle. First, there is a straightforward bracketing principle according to which an internally conditioned operation *(antaraṅgam)* takes precedence *(balīyaḥ* (is) 'stronger') over an externally conditioned one in sequences of the type ((a)b)c (see note 72). It is this sort of *antaraṅgatva* that Kātyāyana appeals to in connection with instances such as *(ri-) a-) ti)* (1.1.5 vt. 3, see note 79). In addition, there is a version according to which a rule/operation which is externally conditioned is suspended with respect to an internally conditioned one.[94] Obviously, the use of examples such as *vṛtrahabhyām* in the manner illustrated depends crucially on assuming that if Pāṇini had operated with any *antaraṅga* principle it was the second version. This is certainly not justified. Nor is it justified merely to ignore the other version of the principle, which is quite in harmony with Panini's system.[95]

5. One of the most interesting and far reaching claims made in recent scholarship concerning Panini and Pāṇiniyas again concerns the use of particular terms in the Aṣṭādhyāī and their supposed misunderstanding at the hands of Pāṇinīyas.

5.1 Aṣṭādhyāyī 1.1.44: नवेति विभाषा has to do with terms denoting options. Interpreted at its strictest, the sūtra states that *vibhāṣā* is a term denoting the meaning of *na vā* (or not). It is well known that Pāṇini uses various terms in rules providing for options, such as *anyatarasyām, ubhayathā, vā, vibhāṣā, vibhāṣitam.* In the traditions of Pāṇiniyas, such terms are usually treated as equivalent. Kiparsky (1979), however, has argued that three of the terms in question had strictly distinct meanings. He proposes (1979:1) that they are to be translated as follows: *vā* 'or rather', 'usually', 'preferably', *vibhāṣā* 'or rather not', 'rarely', 'preferably not', 'marginally', *anyatarasyām* 'either way', 'sometimes', 'optionally', 'alternatively', In this manner, he justifies (1979:9) the need for the *sūtra* 1.1.44 as formulated: If, as the tradition maintains, *vibhāṣā* and *vā* are equivalent, then the negation *na* is entirely redundant, and the simpler rule * *veti vibhāṣā* would have been preferable.[96] On our interpretation, however, the definition given by Pāṇini is the only possible definition. *Vibhāṣā* preferably not is exactly equivalent to *vā + na* and quite different in meaning from plain *vā.*

5.2 Kiparsky's study has the merit of dealing, in some detail, with the use of the concerned terms in the Aṣṭādhyāyī and of doing so with a certain rigor. Nevertheless, as the author himself has to recognize, albeit obliquely and with much reluctance, his major claim remains only that, a claim. For one thing, he has attempted to demonstrate a three tiered scale of preferences relative to the three terms noted, but he must accept (1979:205) that instead of *anyatarasyām,* Pāṇini uses *ubhayathā* in rules concerning Vedic usage: *Ubhayathā* occurs only in Vedic rules, so that it could be viewed as filling the gap left by the non-use of *anyatarasyām* in Vedic rules (p.196). This despite the following declaration (Kiparsky 1979: 233): we have found that Pāṇini uses his theoretical terms with practically complete consistency. Out of 200 theoretical terms introduced formally in the Aṣṭādhyāyī, of which many occur dozens of times there, none has a synonym, either theoreical or non-theoretical, except for the single case of *vṛddha* for *gotra* in rule 1.2.65. We cannot explain this consistency in any other way than by assuming that the author deliberately designed his grammar that way. Whatever earlier pre - Pāṇinian elements were taken over into it must have been terminologically adapted to standard Pāṇinian usage, and whatever

supplementary rules were later interpolated into it must have followed the conventions of the original. In addition, Kiparsky has to admit that not all cases involving even the three terms to which he devotes most of his energy conform to his thesis: While *anyatarasyām* is frequently used for intermediate case, which look like truly "free" variation.. it definitely ranges over the whole scale. Why Pāṇini did not use *vā* and *vibhāṣā* in all cases where a preference is discernible is hard to say. It may well be that these preferences were not so clear in Pāṇini's own speech as they now in retrospect appear from the Sanskrit corpus taken as a whole. A relatively modest margin of preference (let us say, a ratio of three to two) will reveal itself to the statistics of a philologist but to the introspection of the native speaker of a living language it may be scarcely distinguishable from absolutely equal frequency. (1979:195). More disturbing still is the fact that, as the author hismelf has to admit, there is at least one instance which absolutely goes against his main thesis. Consider the rules 7.2.35, 56, 15: आर्धधातुकस्येड् वलादेः। उदितो वा। यस्य विभाषा. These concern the addition of the intial augment *iṭ* to *ārdhadhātuka* affixes that begin with consonants other than *y*. 7.2.35 is the general rule that provides for this augment under these conditions. The next rule lets the suffix ***ktvā*** receive the augment optionally *(vā)* after a verb that is marked with *u*. Finally, 7.2.15 precludes the augment for the suffixes ***kta, ktavatu*** after particular verbs: those with respect to which an option *(yasya vibhāṣā)* is provided in subsequent rules. Now, under the view that *vibhāṣā* and *vā* are not absolutely opposed terms signifying respectively marginal and preferred options, all is in accord with what we know of Sanskrit; for example, the verbs *ṛdh (ṛ dhú)* 'grow, thrive', *kṛp (kṛ pu)* 'be in order' *kram (krámú)* stride, *tan (tánú)* 'stretch', *danbh (dánbhú)* 'deceive', *dhvans (dhvánsu)* 'fall, disappear', *vṛt (vṛ tu)* 'occur, be', *vṛdh (vṛ dhu)* 'grow', syand *(syāndū)* 'flow, run' all have past participles, well attested from Vedic times on, without *iṭ: ṛddha, kḷpta, krānta-, tata-, dabdha, dhvasta, vṛtta, vṛddha, syanna.* If, on the other hand, *vibhāṣā* and *vā* were truly opposed terms so that the use of the former in 7.2.15 should not include reference to the latter in 7.2.56, the general rule 7.2.35 would have to apply; one would, then, have to admit that the Aṣṭādhyāyī would serve to derive participles like **ardhita- *kalpita-, *kramita-* from the simple (non-causative) verbs in question. This is, of course, intolerable. Moreover, try mightily as he may to escape the problems posed by 7.2.15 and related rules, Kiparsky (1979;156-159) cannot avoid concluding (1979:158) that, 'In sum, there appears to be an inconsistency in the system which is not removed by either reading (1) or reading (2) or, of course, by the traditional interpretation.

5.3 Given such factors,[97] it is reasonable to ask whether, after all, despite its initial intuitive reasonableness, Kiparsky's thesis is worthy of being accepted. A fundamental problem, I think, lies at the basis of his position, and that is his insistance that Aṣṭādhyayi 1.1.44 is simply a definition, comparable, say, to rules that introduce phonological terms such as *hrasva, dīrgha, laghu, guru* or sūtras that serve to assign entities to particular categories, such as *kartṛ, karma, karaṇa, adhikaraṇa.* Thus, one of his major arguments (1979:9-10) is that, 'Apart from these technical anomalies, it is quite incomprehensible, on the traditional interpretation, why there should be three words for "optionally", to begin with, when one would do. It is true that Pāṇini occasionally uses two words for the same thing without any apparent structural motivation. But it does not elsewhere happen on such a massive scale -- three synonyms used about one hundred times each --- and, a very important point, it does not happen with terms which are *defined*

in the Aṣṭādhyāyī. Having introduced a term into his system by means of rules, Pāṇini does not then proceed to use another, undefined term -- let alone two -- in seemingly random alternation with it, as he apparently does in the case of the words for "optionally". The well known fact however, is that not all *saṁjñāsūtras* are definition in the same sense. Consider the follwing: 1.2.27, 1.4.10, 1.4.45: ऊकालोऽज्झ्रस्वदीर्घप्लुतः। ह्रस्वं लघु। आधारोऽधिकरणम्। and 1.1.68 स्वं रूपं शब्दस्याशब्दसंज्ञा. All of these are what the tradition calls *saṁjñāsūtra,* and they do all indeed concern conventions of terminology. Nevertheless, they do not all serve the same purpose. *Sūtras* of the first group are what I call classification rules. They serve to assign class names to specified entities, thereby classifying them: vowels with the duration of *u ū, u3,* respectively, have the names *hrasva, dīrgha, pluta;* a short vowel *(hrasva)* has the name *laghu;* a participant that funcitions as locus with respect to an action has the name *adhikaraṇa* (see also 2.1). And Pāṇini of course uses these terms with reference to short vowels and so on. 1.1.68, on the other hand, serves only to establish a convention, not to assign any entity to a class: a term *(svaṁ rūpam* 'own form') other than a technical term of grammar *(aśabdasaṁjnā) is a saṁjñā* for the term itself *(śabdasya),* not for its meaning. This obviously establishes the convention that non-technical terms are regularly self-referring. Moreover, there are instances where, for particular reasons, Panini deviates from this convention of self-reference, allowing terms like *vṛkṣa* to signify trees instead of the term itself.[98] Equally clearly, 1.1.44 does not serve to classify anything. This too concerns a covention. In this connection, consider the rule 4.1.82: समर्थानां प्रथमाद्वा. In normal Sanskrit usage, *vā* 'or' can be construed with various constitutents of sentences. Accordingly, a native speaker of Sanskrit, confronted with an utterance such as 4.1.82, could interpret this as stating that a *taddhita* affix follows the first *(prathamāt)* or some other one *(anyasmād vā)* of related elements given in subsequent rules; he could make a required suppletion to understand the statement in this way. However, this is obviously not the desired interpretation. Instead, one should understand the *sūtra* in the same way that one understands देवदत्तो गच्छति न वा. That is, *vā* should be construed, as equivalent to *na vā,* with the supplied verb from *asti :* The rule should provide that a *taddhita* affix follows the first of specified related elements or does not do so; that is, it provides for the optional introduction of *taddhita* affixes. One might suggest, then that the purpose of Pāṇini's rule 1.1.44 is precisely to establish such a convention for all possible Sanskrit words that have to do with optionality. It would then be understandable why Pāṇini uses *vibhāṣā* in this *sūtra,* as the most general term for option, derived from *bhāṣ* 'speak' with the preverb *vi* just as *vikalpa* derives from *kṛp* with this preverb. This also makes understandable that in Aṣṭādhyāyī 7.2.15, Pāṇini uses *vibhāṣā:* As the general term for optionality, this covers also terms like *vā.* Under this interpretation, of course, we do not have the problems noted above concerning 7.2.15.[99] We also do not have to assume for *vā* or a highly special meaning that is not at all the usual meaning of the particle in Sanskrit of any epoch.[100]

5.4 In sum, although Kiparsky's thesis is both intelligently conceived and generally well argued, in the end I find it neither cogently maintained nor acceptable. The commentarorial tradition, which he is so willing to disparage may, in this case, be perfectly right in not having any inkling of the supposed systematic semantic distinction among the three terms for optionality.

6. Recent years have witnessed an increasd interest in questions concerning Panini's syntactic theory and method of deriving Sanskrit sentences and relating them to each other.

Although some of the work is repetitive and at times simply confusing due to authors insistence on reading into texts what is not there,[101] some very interesting and perceptive research has been done.

6.1. A series of studies by Deshpande merits special mention both because they show a solid command of and respect for the texts and because they present some very challenging ideas, linking formal grammatical factors with sociolinguistic and historical developments.[102] One example will suffice to illustrate.

Pāṇini's grammar has rules that serve to derive and relate utterances like (a) गन्तुमिच्छति and (b) जिगमिषति, both meaning.. 'wants to go'. Aṣṭādhyāyī 3.3.157-158: इच्छार्थेषु लिङ्लोटौ । समानकर्तृकेषु तुमुन् provide the following: A verb is followed by either of the L-affixes ***liṅ, loṭ*** if it is used in construction with verbs meaning wish; a verb is followed by the affix ***tumun*** if, in addition, the acts signified by the cooccurring verbs have the same agent. 3.3.158 accounts for derivates such as *gantum (-gam-tum-s)* of (a). In addition, according to Aṣṭādhyāyī 3.1.7: धातोः कर्मणः समानकर्तृकादिच्छायां वा, the suffix ***san*** optionally follows a verb if this denotes an act which is the object of wishing and has the same agent as wishing. This accounts for derived verbs such as *jigamiṣa (← gam-sa)* 'wish to go' in *jigamiṣati.* Since 3.1.7. introduces the desiderative suffix ***san*** only optionally *(vā),* utterances of types (a) and (b) are accounted for as alternants.

6.2 Kātyāyana's first nine vārttikas on Aṣṭādhyāyī 3.1.7 center, as his *vārttikas* do on other occasions also, around the reasons that require each of the terms in the *sūtra* to be included therein. That is, in accordance with what *vārttikas* are said traditionally to do, Kātyāyana questions the need for things said in a *sūtra* and thereby considers possibly more concise formulations. In his tenth *vārttika,* Kātyāyana then suggests an altenaive way of deriving verbs like *cikīrṣa* 'wish to do make': Let ***san*** be introduced after a term ending with ***tumun*** and let this suffix be deleted.[103] Concerning this -- and another derivation, which need not be considered here ---- Deshpande (1985:81-82) says: Kātyāyana's derivations of the *karma-kartṛ* construction and the desiderative may now be termed PARAPHRASE DERIVATIONS, i.e. that instead of deriving a sentence or a form directly from the semantic and the syntactic structures, Kātyāyana creates an underlying structure, which is a more explicit and a more contemporary PARAPHRASE. Deshpande also suggests that one possible motivation for Kātyāyana's suggesting his alternative derivations is that, '.. these paraphrases have direct parallels in Middle Indo-Aryan languages; and hence are more explanatory and transparent that the inherited synthetic form *jigamiṣati.* 'He concludes (Deshpande 1985:82) on a cautious note: 'Of course, the most difficult part of such an investigation is that any traditional grammarian such as Kātyāyana stands at the intersection of the meticulously preserved academic traditions on the one hand and the inevitable impact of the contemporary linguistic situation on the other. Hence, it is not always possible to find a uniform influence of just one of these factors. Therefore, in Kātyāyana's work we do not get a complete Midddle Indic grammar of Sanskrit. But we can indeed trace Middle Indic impulses.'

There can indeed be little doubt that both Kātyāyana and Patañjali used Middle Indic dialects as means of communication for everyday purpose, so that it is also possible for some of Kātyāyana's suggestions to be based on 'Middle Indic impulses. By the very nature of the material, nevertheless and as Deshpande admits explicitly -- it is quite difficult to demonstrate this with

certainty. For example, what Kātyāyana suggests in his ninth and tenth *vārttikas* on Aṣṭādhyāyī 3.1.7 can also be understood immediately in the same vein as the preceding vārttikas. Still, proposals such as Deshpande's based on a fair appreciation of what Pāṇini and Kātyāyana say, are valuable as stimuli to considering the Aṣṭādhyāyī, the language with which it deals, and the relations of these to historical developments all with fresh eyes.

6.3 The following claim, on the other hand, is subject to objection and indeed can serve to illustrate how such issues should not he appoached:

It may well be that Kātyāyana felt more at home with *gantum icchati* than with *jigamiṣati,* but I don't think that is relvant here. The fact is that Kātyāyana does not use the phrase *gantum icchati* at all. And he had good reasons for doing so, for again Pāṇini had left a real problem unsolved.

We may assume that for both Pāṇini and Kātyāyana *gantum icchati* and *jigamiṣati* meant the same thing. This should entitle that these two expressions were formed on the basis of the same meanings. The fact is that in Pāṇini's garmmar they aren't. In order to derive *jigamiṣati* we have to know that there are two actions, the one being wishing *(icchā),* the other the object of that wishing; both actions, moreover should have the same agent (p.3.1.7: *dhātoh karmaṇaḥ samānakartṛkād icchāyāṁ vā.)* For the derivation of *gantum icchati,* on the other hand, we must know that there is an action, in this case wishing, for the sake of another action (p.3.3.10: *tumunṇvulau kriyāyāṁ kriyārthāyām).* These conditions are not identical. Yet the two expressions are synonymous. That is to say, the meanings underlying *gantum icchati* should be able to give rise to *jigamiṣati.* How can this be accomplished? Kātyāyana chose the simplest solution. He allowed P.3.3.10 to add *tum to gam,* then he adds *saN* to *gam-tum,* followed by the deletion of *tum.* Note that Kātyāyna propses this derivation as an alternative to Pāṇini's, but an alternative which solves a real problem.[104]

The real problem of course, is that the author of these lines is dealing with a nonissue on the basis of ignorance, unaware of -- or at least not mentioning -- Pāṇini's rule 3.3.158.[105]

7. Interest continues to be shown in Pāṇini's background and his relation to possible antecedants.

7.1 For many years, the issue of whether Yāska antedated Pāṇini or not was hotly debated (see Cardona 1976a/1980: 270 - 273). This topic is now somewhat in the background, but recently a claim was made concerning Yāska's derivations, namely that he would allow simultaneous derivations for a single noun.[106] It has also been show that this claim is not justified by the evidence.[107]

7.2. As is well known, Pāṇini refers to Śākalya in the Aṣṭādhyāyī. On the basis of Pānini's *sūtra* 1.1.16: सम्बुद्धौ शाकल्यस्येतावनार्षे and the procedure supposed to have been followed in the *padapāṭha* associated with the Ṛgveda, it was recently claimed[108] that for Pāṇini this *padapāṭha* was not really a separate text linked with the *saṁhitāpāṭha.* This claim, however, is without foundation, since it is based on a misunderatanding of just how Sākalya proceeded in his padapāṭha.[109]

8. Quite recently, there has been a spurt in scholarship concerning the history of the text of the Mahābhāṣya. Rau's fundamental work of Vedic citations in the Bhāṣya (1985) is the basis for a series of interesting studies concerning the history of this text; see Witzel 1986, Bronkhorst 1987b: 14-42.

In a similar vein, and again thanks to the solid scholarship of Rau (1980) there is now serious interest in the Vedic citations found in Bhartṛhari's work (e.g. Bronkorst 1987c).

All such studies have important implications for our knowledge concerning the state of Vedic texts at the times of Patañjali and, later in Bhartṛhari's era.

Summary. In this brief -- and admittedly personal -- view of recent work in Paninian studies, I hope to have touched on what are, at least in my opinion, some of the major emphases and trends. There has been a marked tendency on the part of a group of scholars towards finding in the recived Aṣṭādhyāyī text evidence of massive interpolations. In addition, some scholars have recently placed great emphasis on the proposition that Pāṇinīyas such as Kātyāyana and Pātañjali not only did not inherit a single direct tradition but also were ignorant of certain crucial usages known to Pāṇini and ideed misrepresented Pāṇini's intentions. Although none of this recent scholarship is without some merit, the major premisses from which the scholars in question proceed and, to a great extent, the manners in which they attempt to maintain their theses are neither wholly cogent nor acceptable. To finish, let me say a few words about where I think fruitful work remains to be done.

The detailed study of Pāṇini's Aṣṭādhyāyī is a task which can hardly ever be considered complete. I would emphasise, contrary to what some recent scholars have tended to do, that, instead of seeking to find interpolations or denigrating traditional scholarship of both ancient and modern Pāṇiniyas, it is well to treat all the materials in their full details, without any prejudgement about whether the claims and arguments found in them are ultimately to be accepted. This is not because texts such as the Māhabhāṣya or the Vākyapadīya in and of themselves have any special claim to a truth, or are based on a single continuous tradition, or because none of the conclusions reached by their authors should be rejected. It is just that, if we wish to understand the full history of this subject, we cannot, without defeating our purpose, afford to leave out the arguments and ideas presented in these works. Moreover, whatever we may conclude concerning particular aspects of Pāṇini's theory or method, the fact remains that Kātyāyana, Pātañjali, and other Pāṇinīyas, with their unequalled mastery of the grammar and its techniques, took up and argued issues that are both worth considering and indispensable for a full understanding of Pāṇini and his work.

Of course, there must be a reliable basis for all such research, which means that reliable editions of all the important works must be made available. Some very good work has been done (see 1), but much remains to be done.

In sum, Pāṇini and his traditions still beckon us.

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FOOTNOTES

* I am grateful to **A. M. Ghatge, J. A. Gune, S. D. Laddu, and M. A. Mehendale** for discussions concerning points dealt with in this article. Of course, none of these scholars necessarily shares all my views and any errors which might appear are mine alone.

[1] In connection with the 25th anniversary of the Centre of Advanced Study in Sanskrit, a bibliograhpic survey of recent work is projected. For a fairly detailed critical bibliography of work done in the field up to 1975, see **Cardona** 1976a/1980. The recent history of Sanskrit grammatical literature by **Scharfe** (1977) leaves much to be desired (see Cardona 1979).

[2] See **Cardona** 1976a/1980: 153-160 (Section III. 1.3.3.) for a critical survey of major claims in this area.

[3] **Joshi-Roodbergen** 1983:93: Our claim in the present article is that we have found a number of such inconsistencies, and that they can be traced to a single cause, namely the addition, at a later date, of the *taddhita* and *samāsa* sections. This is our hypothesis which involves major surgery

in the present text of the *Aṣṭādhyāyī*. In an earlier work (**Joshi-Roodbergen** 1973), the same authors claimed that a group of compounding rules was to be considered interpolated because, in their opinion, the compounds in question could be derived otherwise and the analysis reflected in the rules is supposedly clumsy. Their arguments are not well founded (see **Cardona** 1976b/1980: 159-60, 1977). **Bhate** 1980, 1987 are in the same interpretational vein as Joshi -Roodbeergen's work. For example Bhate says (1987:91), Although it is difficult to show different layers in chronological hierachy, the observations made so far do not prevent us from concluding that the kaleidoscopic view of the *taddhita* section in the Aṣṭādhyāyī is due to multiple authorship.

[4] **Aṣṭādhyāyī** 3.1.133: ण्वुल्तृचौ।

[5] **Joshi-Roodbergen** 1983: 61: The point made here is that as regards the pharsing of the rules in the *kṛt* section and in the *taddhita* and *samāsa* sections on the other hand there is no evidence to indicate that they necessarily stem from the same author. **Joshi** and **Roodbergen's** apparent caution is subsequently abandoned, when they reach the conclusion cited in note 3 above. It is not necessary or fruitful to consider here what they have to say about **sūrtas** introducing **taddhita** affixes.

[6] **Joshi-Roodbergen** 1983:65: The first sequence forms the *Kāraka*-section. The section logically expected to come immediately after this sequence is the *vibhakti* -section.

[7] I have presented the general features of this derivation system in a brief article and in a section of the first volume of a large work (**Cardona** 1976b, 1988: 159-468).

[8] **Aṣṭādhyāyī** 1.4.1: आ कडारादेका संज्ञा।

[9]This is not to claim that the text of the **Aṣṭādhyāyī** received by Pāṇinīyas represents absolutely faithfully what must have been the original text. For example, I consider that the original version of **Aṣṭādhyāyī** 8.3.4. was अननुनासिकात्परोऽनुस्वारः; and that *anunasikāt* of the received text represents a haplological shortening of *ananunāsikāt;* see **Cardona** 1983b. **Aklujkar** 1982 also deals with possible modifications in the original text of the **Aṣṭādhyāyī.** I consider it wholly possible and indeed probable not only that Pāṇini took over terms of earlier teachers *(pūrvācāryasaṁjñā)* but also that he took over whole *sūtras* from predecessor without modification. This would accord well with the attitude reflected in Patañjalis statement that teachers do not rescind sūtras once they have formulated them (Bh. I. 12.9.-10: न चेदानीमाचार्याः सूत्राणि कृत्वा निवर्तयन्ति); see also volume I, pages 44-45 of the Rohtak edition of the Mahābhāṣya with the editors first note on page 45.

[10] In saying this, I anticipate the conclusion to be drawn below.

[11] 6.1.86. vt. 1: षत्वतुकोरसिद्धवचनमादेशलक्षणप्रतिषेधार्थमुत्सर्गलक्षणभावार्थं च॥

[12] *kas asiñcat — kaü asiñcat — ko asiñcat — kosincat.* See Cardona 1988:490 (654) for details concerning the rules for each step in this derivation and the derivation of *adhītya.*

[13] Aṣṭādhyāyī 8.3.59: आदेशप्रत्यययोः।

[14] Aṣṭādhyāyī 6.1.109: एङः पदान्तादति।

[15] Aṣṭādhyāyī 6.1.71: ह्रस्वस्य पिति कृति तुक्।

[16] Aṣṭādhyāyī 6.1.101: अकः सवर्णे दीर्घः।

[17] See Cardona 1988:448-449

[18] 6.1.86. vt. 2: तत्रोत्सर्गलक्षणाप्रसिद्धिरुत्सर्गाभावात्॥

[19]6.1.86.Vt 3: असिद्धवचनात्सिद्धमिति चेन्नान्यस्यासिद्धवचनादन्यस्य भाव :॥ The same is said in vārttika 4 on Aṣṭādhyāyī 1.1.57 (see note 36).

[20] Patañjali puts it, killing Devadatta's slayer does not result in Devadatta's reappearance. Bh. III65.19-20. न ह्यन्यस्यासिद्धवचनादन्यस्य प्रादुर्भावो भवति न हि देवदत्तस्य हन्तरि हते देवदत्तस्य प्रादुर्भावो भवति। Patañjali says this also in his Bhāṣya on 1.1.57 vt 4 (cf. note 19)

[21]6.1.84 vt 4: तस्मात्स्थानिवद्वचनमसिद्धत्वं च॥ Bh III.66.2-3 तस्मात्स्थानिवद्भावो वक्तव्योऽसिद्धत्वं च.। अधीत्य प्रेत्येति स्थानिवद्भावः। कोऽसिञ्चत् योऽसिञ्चदित्यत्रासिद्धत्वम्।

[22]6.1.84 vt 4: स्थानिवद्वचनानर्थक्यं शास्त्रासिद्धत्वात्। Bh. III.66.5-7: स्थानिवद्वचनमनर्थकम्। किं कारणम्। शास्त्रासिद्धत्वात्। नानेन कार्यासिद्धत्वं क्रियते। किं तर्हि शास्त्रासिद्धत्वमनेन क्रियते एकादेशशास्त्रं तुक्शास्त्रेऽसिद्धं भवतीति॥

[23]For example, Pr. IV. 415-416. एकादेशशास्त्रमिति। ततश्च पूर्वं तुक्शास्त्रं प्रवर्तते पश्चादेकादेशशास्त्रमित्युक्तं भवति। Pr. V. 358. अधीत्येत्यादौ पूर्वं तुग्भवति पश्चादेकादेशः।

[24]8.2.1vt.8: असिद्धवचन उक्तम्॥

[25]Aṣṭādhyāyī 7.2.102, 6.1.97: त्यदादीनामः। अतो गुणे। By the former *a* substitutes for the final sound of a stem that is a base of the pronominal subset begining with *tyad,* before any ending; the latter lets the second of two contiguous vowels replaced both these sounds if the first is short *a* that does not occur at the end of a *pada* and the second is a *guṇa* vowel.

[26]Aṣṭādhyāyī7.1.12,14,15,8.2.80, 8.3.59: टाङसिङसामिनात्स्याः (अतः९)। सर्वनाम्नः स्मै (ङेर्यः१३)। ङसिङ्योः स्मात्स्मिनौ। अदसोऽसेर्दादु दो मः। आदेशप्रत्यययोः।

[27]Bh. III.386. 18-20 उत्सर्गलक्षणभावार्थं च अमुष्मै अमुष्मात् अमुष्य अमुष्मिन्नित्यत्र मुभावे कृतेऽत इति स्मादयो न प्राप्नुवन्ति। असिद्धत्वाद्भवन्ति।

[28]Cf. Pr. V.358. उत्वशास्त्रस्यासिद्धत्वादप्रवर्तनात्पूर्वं स्मादयः पश्चादुत्वम्।

[29]Kaś II.904:... यदित ऊर्ध्वमनुक्रमिष्यामः पूर्वत्रासिद्धमित्येवं तद्वेदितव्यम्। तत्र येयं सपादसप्ताध्याय्यनुक्रान्ता एतस्यामयं पादोनोऽध्यायोऽसिद्धो भवति। इत उत्तरं च उत्तरोत्तरो योगः पूर्वत्रासिद्धो भवति असिद्धवद्भवति सिद्धकार्यं न करोतीत्यर्थः। The Kāśikā's येयं °ऽसिद्धो.. is directly taken from the very beginning of the Mahābhāṣya on 8.2.1.

[30]For example, Nyāsa VI. 329-30: पादोनाध्यायग्रहणेनोत्तरयोगग्रहणेन च शास्त्रसिध्दत्वमिहाश्रीयत इति दर्शयति।

[31]Nyāsa VI.330 सिद्धशब्दो निष्पन्नवचनः। सिद्धं निष्पन्नमित्यर्थः। न सिद्धमसिद्धम् अनिष्पन्नमित्युच्यते। परञ्च शास्त्रं यच्च निष्पन्नं तन्न शक्यं वचनशतेनाप्यनिष्पन्नसत्तायामापादयितुम् तस्माद्यथा ब्रह्मदत्तोऽयमित्युक्तेऽतिदेशोऽयं गम्यते तथेहाप्यसिद्धत्वमित्युक्तेऽतिदेशोऽयं गम्यत इत्याह असिद्ध वदिति। एतदेव स्पष्टीकर्तुमाह सिद्धकार्यामित्यादि। एवं हि तदसिद्धवद्भवति यदि सिद्धस्य यत्कार्यं तन्न करोति। PMII.668: कथं पुनरुचरितं शास्त्रमसिद्धमित्युच्यते न हि वचनशतेनापि सिद्धमप्यसिद्धं भवति। अत आह सिद्धकार्यं न करोतीत्यर्थ इति। वचनादतिदेश आश्रीयत इत्यर्थः। It is not necessary to discuss here details of extension rules *(atideśasūtra)* in which forms with or without *vati* are used.

[32]1.1.57 vt. 2. तत्रादेशलक्षणप्रतिषेधः। As Kaiyaṭa remarks, this is said on the assumption that a rule of extenson allows what would obtain by something other than an element that is present but does

not thereby disallow what is conditioned by that element itself. Pr. I.436: अतिदेशेन पराश्रयं कार्यं प्राप्यते न तु स्वाश्रयं निवर्त्यते।

[33] Aṣṭādhyāyī 6.1.77 इको यणचि।

[34]Aṣṭādhyāyī 6.1.66: लोपो व्योर्वलि।

[35]Bh. I. 436: असिद्धवचनात्सिद्धम्। अजादेशः परनिमित्तकः पूर्वस्य विधिं प्रत्यसिद्धो भवतीति वक्तव्यम्। from what is said in the following *vārttika* (see note 36), it is patent that this is intended to be an alternative to Aṣṭādhyāyī 1.1.57 as formulated and that Patañjali correctly presents what Kātyāyana intended.

[36]Kātyayāna goes on to consider the other purpose served by suspension. In his third *vārttika* (असिद्धवचनात्सिद्धमिति चेदुत्सर्गलक्षणानामनुदेशः), he notes that if suspension is invoked, one must nevertheless also have an extension rule to allow for operations conditioned by original vowels that have been replaced. The examples Patañjali gives are *paṭvyā, mṛdvyā (paṭu-ī-ā,* mṛdu-ī-ā): Assuming that semivowel substitution (6.1.77, see note 33) applies first to *-ī-,* the replacement *-y-* must be allowed to have the status of the original vowel, in order that semivowel substitution apply also to the preceding *-u-*. It is then proposed that this too is taken care of by suspension, so that, in effect, a rule of suspension is assumed to replace the original rule 1.1.57, and to this the same objection is brought up (1.1.57 vt. 4: असिद्धवचनात्सिद्धमिति चेन्नान्यस्यासिद्धवचनादन्यस्य भावः।) as is made in *vārttika* 3 to *Aṣṭādhyāyī* 6.1.86 (see note 19). Hence, it is concluded that one needs both an extension rule and a statement of suspension (1.1.57 vt 5: तस्मात्स्थानिवद्वचनमसिद्धत्वं च।). In *vārttika* 6 (उक्तं वा), finally, Kātyāyana alludes to what was said in *vārttika* 5 on 6.1.86 (see note 22). Note that elsewhere (Bh I. 145.5-9), Patañjali argues for having semivovel replacement apply first to the *-u-* of *paṭu-ī-ā, mṛdu-ī-ā.* The details regarding the alternatives -- of which only the latter is truly acceptable - need not be considered here.

[37]Here again I anticipate the conclusion to be drawn below.

[38]With *hi* replacing a basic ending ***sip*** (Aṣṭādhyāyī 3.4.87:सेर्ह्यपिच्च।).

[39]The ending *ant* derives from *jh* (7.1.3: झोऽन्तः), which is gotten from the basic ending *jhi.* This in turn is a substitute, in the present instance, for the L-affix ***laṅ.*** The *-i* of a verb ending that replaces an L-affix marked with *ṅ* is dropped (3.4.100: इतश्च).

[40]By Aṣṭādhyāyī 1.1.56: (स्थानिवदादेशोऽनल्विधौ, a substitute is treated as though it were the original element *(sthānivat)* except with respect to an operation that would be conditioned by an original sound *(analvidhau).*

[41]See Cardona 1988:495-496 (660-661), where examples of suspension covered by Aṣṭādhyāyī 6.4.22 in order to achieve the first purpose noted earlier are also considered.

[42]He could not simply provide for replacements to have the status of their substituends, since both types 1) and 2) are involved (see note 41). I do not consider here additional details concerning the use of terms with or without *vati* in extension rules.

[43]For example, Pr. IV. 687: इतरो व्यापकत्वाच्छास्त्रासिद्धत्वं प्रदेशान्तर एव स्थापितं मन्यमान आह असिद्धवचन उक्तमिति।

[44]Cf. Ud. IV. 687-688: शास्त्रासिद्धत्व एत्वशाभावशास्त्राभ्यां तत्कार्ययोरप्रमितेर्धिशास्त्रं प्रति स्थानिबुद्धिरेवेति तन्निबन्धनकार्यसिद्धिरिति भावः। Nāgeśa brings in also 6.4.119: घ्वसोरेद्धावभ्यासलोपश्च in connection with the derivation of *edhi* 'be' which

I have not considered here.

[45]Full details concerning rule and operations suspension were considered in an unpublished chapter of my large work on Pāṇini's grammar, distributed in 1976, which will be incorporated as volume II of *Pāṇini, his work and its traditions.* **Bronkhorst** 1980 also emphasises the distinction between *asiddha* and *asiddhavat.* However, he appears to hold that Aṣṭādhyāyī 6.4.22 nevertheless provides for rule suspension: 'It is here that P. 6.4.22 comes to our rescue. To see how we may note that both the rules considered in connecion with the derivation of *śādhi,* both P. 6.4.101 and P. 6.4.35 belong to the Ābhīya-section, i.e. to the domain of P. 6.4.22. This has as a result that, that one of the two rules, P. 6.4.101 and 6.4.35 is *as if had not taken effect* with regard to the other. (1980:70)' In addition, **Bronkhorst** does not seem to be aware of-- or at least does not make explicit -- how one of the rules in question is indeed allowed to apply before the other. Moreover, he says (1980:70) that each rule... when taking effect, removes the conditions for the application of the other. He thus seems unaware that 6.4.35 can indeed still apply even if 6.4.101 has applied to let *dhi* replace *hi.* Finally, Bronkhorst seems not to realize the reason for Pāṇinīyas opting for rule suspension even in the case of Aṣṭādhyāyī 6.4.22, namely that, as established elsewhere, rule suspension takes care of both types 1) and 2) hence is more encompassing than operation suspension. cf. Pr. IV.687; इतरो व्यापकत्वाच्छास्त्रासिद्धत्वं प्रदेशान्तर एव स्थापितं मन्यमान आह. Consequently, although I agree with Bronkhorst that the position generally accepted by Pāṇinīyas concerning 6.4.22 is not acceptable, I cannot agree with him in saying that this is simply a gross misinterpretation on their part. **Kiparsky** (1982;107-108) essentially agrees with Bronkhorst concerning 6.4.22. **Kiparsky** also (1982:105), again like **Bronkhorst,** seems unaware that the two rules concerned in *śās-hi* do not equally preclude each others applying.

[46]I qualify my statement, saying generally because not all Pāṇinīyas in fact adopt rule suspesion in all instances. Thus, Rāmacandra interprets Aṣṭādhyāyī 8.2.1 as providing for operation suspension: PK 1.56: सपादसप्ताध्याय्यां विहितं कार्यं प्रतीह त्रिपाद्यां विहितमसिद्धं ज्ञेयम् ।

[47]Thus **Joshi-Roodbergen** 1987:545-546.

[48]**Joshi-Roodbergen** 1987:548: 'The conclusion can only be that in Sanskrit grammatical tradition the concept of *asiddha* in Pāṇini's grammar, *sthānivadbhāva* and the *antaraṅga pb.* have been badly mixed up, starting from a relatively early (pre-Patañjali) date, because to all three of these the same function has been ascribed'. This major claim is made after discussing very little (546-7): in particular, they do not mention places where Pāṇinīyas clearly distinguish between *asiddhatva* and *sthānivadbhāva.*

[49]VP.3.8.1. यावत्सिद्धमसिद्धं वा साध्यत्वेनाभिधीयते। आश्रितक्रमरूपत्वात् तत्क्रियेति प्रतीयते॥

[50]6.4.114 vt. 1-2 दरिद्रातेरार्धधातुके लोपः ॥१॥ सिद्धश्च प्रत्ययविधौ ॥२॥ The *sūtra* itself provides that the *-ā* of *daridrā-* 'be poor, in straits' is replaced by *-i* before a consonat-initial *sārvadhatuka* affix that is marked with *k. ṅ.* For example, the past participle *daridri-ta-*has *daridri-* before the suffix ***kta.***

[51]Aṣṭādhyāyī 3.1.134: नन्दिग्रहिपचादिभ्यो ल्युणिन्यचः।

[52]Aṣṭādhyāyī 3.1.141: श्याद्व्यधास्रुसंस्रुवतीणवसावहलिहाश्लिषश्वसश्च. If ***aṇ*** were introduced, the final augement ***yuk*** would be added to the verb in *ā* (7.3.33: आतो युक् चिणकृतोः)

[53]By Aṣṭādhyāyī 1.1.66,67: तस्मिन्निति निर्दिष्टे पूर्वस्य । तस्मादित्युत्तरस्य ।

[54]Bhāṣya III.385.2-11: यदि सपादायां सप्ताध्याय्यामयं पादोनोऽध्यायो ऽसिद्ध इत्युच्यते य इह सप्तमीनिर्देशः षष्ठीनिर्देशश्चोच्यन्ते तेऽप्यासिद्धाः स्युः। तत्र को दोषः। झलो झलि इत्येतेषां निर्देशानामसिद्धत्वात्तस्मिन्निति निर्दिष्टे पूर्वस्य तस्मादित्युत्तस्य इत्येताः परिभाषा न प्रकल्पेरन्। नैष दोषः। यद्यपीदं तत्रासिद्धं तत्त्विह सिद्धम् कथम्। कार्यकालं संज्ञापरिभाषम् यत्र कार्यं तत्रोपस्थितं द्रष्टव्यम्। झलो झलि. उपस्थितं भवति तस्मिन्निति निर्दिष्टे पूर्वस्य तस्मादित्युत्तरस्य. इति। यदि कार्यकालं संज्ञापरिभाषमित्युच्यते इयमपि परिभाषास्ति विप्रतिषेधे परं कार्यमिति। सापीहोपतिष्ठेत।

[55]8.2.1. vt. 1: पूर्वत्रासिद्धे नास्ति विप्रतिषेधोऽभावादुत्तरस्य।

[56] Bhāṣya III. 385:15-17: पूर्वत्रासिद्धे नास्ति विप्रतिषेधः किं कारणम्। अभावादुत्तरस्य। द्वयोर्हि सावकाशयोः समवस्थितयोर्विप्रतिषेधो भवति। न च पूर्वत्रासिद्धे परं पूर्वं प्रति भवति।

[57]**Joshi-Roodbergen** 1987:542.

[58]**Joshi-Kiparsky** 1979:228: 'The most general principle governing the order in which rules are to be applied is that of transparent odering.

2) All rules are *siddha w.r.t.* all rules *(sarvatrasiddham).'*

[59]*a-i-e* by Aṣṭādhyāyī 6.1.87: आद् गुणः which provides that a *guṇa* vowel is the single substitute for an *a*-vowel and a following vowel; *-e i — ay i-* by 6.1.78: एचोऽयवायावः, whereby *ay av āy āv-* repsectively substitute for *e o ai au* - before vowels; 8.3.19: लोपः शाकल्यस्य states that, according to Śākalya, word-final *-y -v* are deleted before vowels.

[60]According to Aṣṭādhyāyī 7.3.86: पुगन्तलघूपधस्य च, a *guṇa* vowel replaces a penultimate light vowel of a stem followed by a *sārvadhātuka* or *ārdhadhātuka* affix. See note 62.

[61] *-ti* is an agent-signifying *sārvadhātuka* affix; according to Aṣṭādhyāyī 3.1.77: तुदादिभ्यः शः, the suffix *śa* is introduced after a verb of the ordered set which starts with *tud,* if this occurs before an agent signifying *sārvadhātuka* affix.

[62]By Aṣṭādhyāyī 1.2.4: सार्वधातुकमपित् a *sārvadhātuka* affix that is not marked with p is marked with *ṅ.* This serves to keep the affix from conditioning *guṇa* substitution. Aṣṭādhyāyī 1.1.3-5 इको गुणवृद्धी न धातुलोप आर्धधातुके । क्ङिति च । is a series of metarules associated with operational rules which provide for *guṇa* and *vṛddhi* substituiton. If the terms *guṇa, vṛddhi* are used to signify replacement and the sound subject to substitution are not specified, one is to understand that the replacements apply to sounds denoted by ***ik,*** that is to i ī u ū ṛ ṝ ḷ. *Guṇa* and *vṛddhi* replacements that would otherwise apply as stipulated to elements followed by particular affixes do not apply if: the affix in question is an *ārdhadhātuka* that determines deletion in a verb or is one marked with *g, k, ṅ.* These metarules (paribhāṣā) apply in conjunction with rules of substitution; thus; together with 1.1.5, Aṣṭādhyāyī 7.3.86 (see note 60) provides for *guṇa* substitution in stems followed by affixes that are not marked with *g, k, ṅ.*

[63]**Joshi-Kiparsky** 1979:231: 'It will be seen that all crucial ordering relations in the derivation of both words *(atra — etad-tra, iyā ja — yaj-a)* involve feeding. The interaction of rules here is in its entirely predicted by (2). There are other types of ordering, not involving feeding, which also full under (2) if the *siddha* relation is defined in the general manner of (1), as we have suggested. Numerically, the next most important set of cases involve the *bleeding* relation. Here principle (2) says that rules are to be applied in *bleeding order.* Their prinicple i) is formulated as follows

(Joshi-Kiparsky 1979:225):

(1a) A is *siddha w.r.t.* B = For all such that B(A (ϕ))≠B, A(ϕ), A is applied before B to ϕ.

(1b) A is *asiddha w.r.t.* B= For all such that B(A(ϕ)) ≠ B, A (ϕ), A is not applied before B to ϕ where B(A(ϕ)) denotes the result of applying to a given input ϕ,rules A and rule B *in that order* and B,A (ϕ) denotes ϕ the result of applying, to a given input (ϕ) rules A and B *simultaneously.* Kiparsky 1982:77-95 maintains the same principles, using much the same material, though some slight modifications have been made.

[64]By Aṣṭādhyāyī 1.1.56 (see not 40). The status of *tud, tod* is comparable to that of *ti* and *tu:* the latter is gotten through replacing *-i* with *-u* and, by virtue of 1.1.56, *tu* has the status of *ti,* so that a form like *pacatu*... 'should cook' is as much a pada as a form like *pacati*'.. is cooking.'

[65]As I pointed out in section 2.1, the distinction between operation suspension and rule suspension is not crucial in the case where suspension serves to preclude an operation whose conditions are produced by the application of a rule to be suspended. In this regard, it is worth noting that, in his Laghuśabdenduśekhara, Nāgeśa considers the possibility that, for instances of type 1) a rule's being suspeded could mean it is treated as not having taken effect *(aniṣpannam =apravṛttam),* although its application is dictated by another principle, but emphasises that, where there is the possibility of two rules applying to the same sequence, suspension means simply that a given rule does not apply at all: Śekh. I.109-111: सिद्धं निष्पन्नं प्रवृत्तम् सिद्धश्च प्रत्ययविधावित्यादौ तथा दर्शनात् (cf.3) तद्भिन्नमनिष्पन्नमप्रवृत्तम् शास्त्रसिद्धत्वे तु यत्राप्यन्तरङ्गत्त्वात् त्रैपादिकं प्रवृत्तं तत्रापि तत्तच्छास्त्रे एवाभावारोपेण तन्निवृत्तिबुद्धेरभाव आदेशबुद्ध्यभावो लक्ष्ये जातत्वबुद्ध्यभावश्च यत्र तु सहप्रसङ्गस्तत्राप्रवृत्तिरेव अभावारोपात्।

[66]Note that neither in **Joshi-Kiparsky** 1979 nor in **Kiparsky** 1982: 77-87 is any attempt made to justify the *siddha* principle through a thorough investigation of what *siddha* means in ordinary usage. I agree with **Bronkhorst** (see **Bronkhorst** 1984:311 with reference) that **Kiparsky** and Joshi have not fully understood the meaning of the terms they make use of. In order to vindicate his and **Joshi's** views, **Kiparsky** (1987) answers some of the objections made by Bronkhorst, but the fundamental problem of what *siddha* means is still not dealt with.

[67]I have taken up the evidence in the chapter alluded to in note 45.

[68]**Joshi-Kiparsky** 1979:235-240, Kiparsky 1982:95-102.

[69]Aṣṭādhyāyī 1.4.13. यस्मात्प्रत्ययविधिस्तदादि प्रत्ययेऽङ्गम्।

[70]Aṣṭādhyāyī 7.3.84: सार्वधातुकार्धधातुक्योः (गुण: 82) lets *guṇa*replacement apply to the final sounds of stems which end in *i -u -ṛ-* vowels, if a *sārvadhātuka* or an *ārdhadhātuka* affix follows the stem.

[71]Aṣṭādhyāyī 6.4.77: अचि श्नुधातुभ्रुवां य्वोरियङुवङौ।

[72]1.4.2 vt 8, 15: अन्तरङ्गं च। इयङादेशो गुणात्। Bhāṣya 1.306.12: अन्तरङ्गं च बलीयो भवतीति वक्तव्यम्। I.308.24-25: इयङादेशो गुणावत्यन्तरङ्गत: प्रयोजनम्। धियति रियति। इयङादेशश्च प्राप्नोति गुणश्च इयङादेशो भवत्यन्तरङ्गत:।

[73]Aṣṭādhyāyī 6.1.101: अक: सवर्णे दीर्घ:।

[74]1.4.2 vt. 10: इण्डिशीनामादगुण: सवर्णदीर्घत्वात्।

[75]**Kiparsky** 1982:96

[76]**Kiparsky** 1982:97

[77]1.1.5. vt. 1: क्ङिति प्रतिषेधे तन्निमित्तग्रहणमुपधारोरवीत्यर्थम्।

[78]**Bhāṣya** 1.54. 3-4: यदि तन्निमित्तग्रहणं क्रियते शचङन्ते दोष: रियति[0]

[79]1.1.5 vt. 3: शचङन्तस्यान्तरङ्गलक्षणत्वात्।

[80]Bh. I.54. 13-17: उपधार्थेन तावन्नार्थ:। धातोरिति वर्तते। धातुं क्ङित्परत्वेन विशेषयिष्याम:। यदि धातुर्विशेष्यते विकरणस्य न प्राप्नोति चिनुत: सुनुत: लुनीत: पुनीत इति। नैष दोष:। विहितिविशेषणं धातुग्रहणम् धातोर्यो विहित इति। धातोरेव तर्हि न प्राप्नोति। नैवं विज्ञायते धातोर्विहितस्य क्ङितीति। कथं तर्हि। धातोर्विहिते क्ङितीति।।

[81]Bh. 1.54.17-19: अथवा कार्यकालं हि संज्ञापरिभाषं यत्र कार्यं तत्र द्रष्टव्यम् पुगन्तलघूपधस्य गुणो भवतीत्युपस्थितमिदं भवति क्ङिति नेति।।

[82]Bh. I.54.19-20. अथवा यदेतस्मिन्योगे क्ङिद्ग्रहणं तदनवकाशं तस्यानवकाशत्वाद् गुणवृद्धी न भविष्यत:।

[83]**Aṣṭādhyāyī** 3.2.140: त्रसिगृधिधृषिक्षिपे: क्नु:। 1.2.9-10 इको झल्। हलन्ताच्च।

[84]Bh. 1.54. 19-24: अथवाचार्यप्रवृत्तिर्ज्ञापयति भवत्युपधालक्षणस्य गुणस्य प्रतिषेध इति यदयं त्रसिगृधिधृषिक्षिपे: क्नु: इको झल्हलन्ताच्चेति क्नुसनौ क्ङितौ करोति। कथं कृत्वा ज्ञापकम्। क्ङित्करण एतत्प्रयोजनं गुण: कथं न स्यादिति।

यदि चात्र गुणप्रतिषेधो न स्यात्क्ङित्करणमनर्थकं स्यात्। पश्यति त्वाचार्य: भवत्युपधालक्षणस्य प्रतिषेध इति तत: क्नुसनौ क्ङितौ करोति।।

[85]**Aṣṭādhyāyī** 1.1.72: येन विधिस्तदन्तस्य।

[86]**Aṣṭādhyāyī** 3.1.79: तनादिकृञ्भ्य उ:।

[87]**Aṣṭādhyāyī** 6.4.110: अत उत्सार्वधातुके।

[88]I say 'choose to ignore' becasuse the evidence is not only in the Mahābhāṣya for all to see but was also considered several years ago (**Cardona** 1970:54).

[89] **Aṣṭādhyāyī** 3.2.87: ब्रह्मभ्रूणवृत्रेषु क्विप्। The affix *kvip* is deleted (6.1.67: वेरपृक्तस्य).

[90]**Aṣṭādhyāyī** 1.4.17: स्वादिष्वसर्वनामस्थाने।

[91]**Aṣṭādhyāyī**: 8.2.7: नलोप: प्रातिपदिकान्तस्य।

[92]**Aṣṭādhyāyī** 1.1.62: प्रत्ययलोपे प्रत्ययलक्षणम्।

[93]**Kiparsky** 1982:102-103.

[94]असिद्धं बहिरङ्गमन्तरङ्गे।

[95]Nor again is it justifiable to use this second version of the principle, silently omitting mention of the other, as **Joshi** and **Kiparsky** do (1979:235), in order to show that 'the *antaraṅga* principle' does not apply properly in deriving *akṣadyū-* As was pointed out some time ago (Cardona 1970:54), Patañjali himself recognized the weakness of the version in connection with such examples. Although selectively ignoring what others say may well be a favoured method of polemical argumentation, it is, of course, not justified. **Kiparsky** seems to favour this, nevertheless, not just with respect to ancient Pāṇiniyas but also in connection with modern authors. Thus, he misrepresents (1982:117-118) what was said in **Cardona** 1970:57: It is certainly true

that, if one considers operands and contexts independetly, problems arise, but I also did not do this; instead, I cosidered the totality of contexts and operands at issue: In the case of the single shared operand *(ṛ)* then, 7.1.100 will counter 7.3.84, since all the contexts of the former are included in those of the latter. **Kiparsky** also chooses to ignore that, in the capter alluded to in note 45 above, the formulation in question was made amply clear for quite a few instances of what I call 'limited blocking'. The same kind of attitude towards evidence is shown when **Kiparsky** (1982:35) qualifies as 'bizarre' the example *madyaṁ pāyayata ātmānam* and goes on to say (1982:35 n 37), 'I cannot recall seeing it in the grammatical literature or elswehere. Obviously, **Kiparsky's** reading in the literature is limited; the example is a slight modification of Bhaṭṭikāvya 8.41: मध्वपाययत स्वच्छं सोत्पालं दयितान्तिके ॥ आत्मानं सुरताभोगविश्रम्भोत्पादनं मुहुः॥

[96]Note the formulation of Taittirīyaprātiśākhya 22.7 वेति वैभाषिक; which, in its traditional interpretation, says that the term *vā* has to do with option, has the meaning option(al) (Tribhāṣyaratna: वा इत्येष शब्दो वैभाषिको वैकल्पिको भवति। Vaidikābharaṇa: वाशब्दो विभाषाप्रयोजनः विकल्पार्थ इति यावत्).

[97] As well as other problems which have been pointed out; see for example, **Devasthali** 1983b. The arguments **Devasthali** gives against **Kiparsky's** main thesis in another paper (1983a) are, in my opinion, not cogent.

[98]Instances of this are discussed in commentaries on 1.1.68. The context of a rule generally indicates when the self-reference convention is discarded.

[99]In this context, note the use of *vikalpa* in Kātyāyanaśrautasūtra 1.4.14: विकल्पे प्रवृत्तं कर्मान्तरत्वात् where it is stated that, when an option is allowed *(vikalpe)*, if a substitute is to be used due to the absence of the material provided for the first instance, this should be like the one with which the rite has begun *(pravṛttam)* and not the altrnative material provided for in the statement allowing the option, since the latter would result in a distinct ritual act. For example, Kātyāyanaśrautasūtra 1.9.1: व्रीहीन्यवान्वा हविषि states that rice *(vrīhīn)* or barley *(yavān vā)* is to be used in offering oblations. If, then rice is not available, one should perform the rite in question using something similar to it, such as *nīvāra* grains, but not barely. Just as *vibhāṣā* in Aṣṭādhyāyī 7.2.15 can include in its reference options provided for using *vā*, so does the general term *vikalpa* include reference to options provided for using *vā*.

[100]That *vā* can indeed be used in statements which concern options preferable to what was stated earlier is well known from traditional sources, though *Kiparsky* does not mention this. For example, Śābara frequently notes that *vā* is used in particular contexts to set aside a previous view (e. g. Śābarabhāṣya on Mīmāṁsāsūtra 1.3.2,7,9, (pp.74,118, 141 of vol.97.2 of the Ānandāśrama Sanskrit Series edition of 1970: अपि वेति पक्षो व्यावर्त्यते। अपि वेति पक्षव्यावृत्तिः। वाशब्दः पक्षं व्यावर्तयति). That is, *vā* is like exclusive or inclusive 'or' and another reason --complementary to the one suggested above ---- Pāṇini felt constrained to formulate 1.1.44 may be to show that the *vā* in the Aṣṭādhyāyī is not exclusive. Of course, it is not proper to conclude from passages such as those cited above from the Jaiminisūtras that preferably is the lexically basic meaning of the term. It is in the nature of argumentative discourse that several options be considiered and that one introduced with *vā* may be the prefered option, though not necessarily; for example in a Mahābhāṣya passage discussed earlier (see 3.5 with notes 81, 82, 84) *athavā* is used several times,

and one would be hard pressed to say that each of the alternatives presented is viewed as definitively preferable to the preceding. Indeed, in the Mahābhāṣya on 3.1.7 (Bh. II. 12.19 इदं तावदगतिका गतिर्यदुच्यतेऽनभिधानादिति।) Patañjali characterizes as an *agatikā gatiḥ* a position which Kātyāyana introduces as an option, using *vā* (3.1.7 vt. 5: अनभिधानाद्वा). Similarly, when Jaimini says विधिर्वा स्यादपूर्वत्वाद्वादमात्रं ह्यनर्थकं स्यात्। हेतुर्वा in Mīmāṁsāsūtra 1.2.19, 26 he is definitely not using *vā* to state a preferred option; the statements in question are *pūrvapakṣas* of arguments. Again, in Manusmṛti 2.224: धर्मार्थावुच्यते श्रेयः कामार्थौ धर्म एव च। अर्थ एवेह वा श्रेयस्त्रिवर्ग इति तु स्थितिः।। a series of different views is given concerning what constitutes śreyas, and one of these is stated with *vā, yet* Manu then goes on to give what he considers the correctly established position, so that here too *vā* is clearly not used in connection with a prefered alternative. One quite important thing **Kiparsky** fails to do is to justify his attribution of the meaning 'preferred option' to *vā* which he treats as a primitive, on the basis of any extensive textual investigation of early Sankrit literature --- preferably Vedic, since, in **Kiparsky's** opinion, the use of *vā* in the sense he attributes to it was lost by the time of earliest Pāṇinīyas. He chooses instead to be satisfied with a very brief refernce (1979:3 note 1) to a section of Speijer's Sanskrit Syntax (Speijer 1886:333-334 **(426)** where two exmaples, from the Pañcatantra and the Rāmāyaṇa, are given. At least, however, Kiparsky admits (1979: 60) that *vā* in Śāṅkhāyanaśrautasūtra 1.1.34-35: उच्चैस्तरां वषट्करः। समो वा simply means 'or' and .. 'does not have its Pāṇinian sense.'

[101]For example, attempting to justify a view he had taken earlier, **Kiparsky** (1982:28) insists that ' The abstract tenses *lAṬ* etc. are comparable to the *kārakas* in mediating at the level of abstract syntax between semantics and morphology, to both of which they stand, like the *kārakas,* in a many-many relation.' As R.N. Sharma (1987:57-58) notes, **Kiparsky's** view is certainly confused, in that, unlike Pāṇini's *kāraka* categories, which are categories that mediate between semantics and grammatical expressions, the L-affixes are just that, affixes, units to which the class name *pratyaya* is assigned, just as nominal endings like *su au jas* and so on are affixes. L-affixes are introduced on condition that *kārakas* --agent *(kartṛ)* and object *(karman)*-- are to be signified, just as nominal endings are introduced under such conditions. **Kiparsky's** argument assumes that he is entitled to give to terms whatever status he himself finds convenient, regardless of how Pāṇini used them.

[102]Naturally , not all the views expressed are acceptable. Thus, in his excellent review of **Deshpande** 1980, **Venkatacharya** demonstrates that **Deshpande's** major thesis is at least not demonstrated with abosulte cogency. **Deshpande** has more recently (1987b) again taken up the issues surrounding sentences with gerunds and attempted to rebut **Venkatacharya.**

[103]3.1.7 vt. 10: तुमुनन्ताद्वा तस्य च लुग्वचनम्। bh. II 149 तुमुनन्ताद्वा सन् वक्तव्यस्तस्य च तुमुनो लुग्वक्तव्यः। In the text vārttika, Kātyāyana sugests also introducing san after a term with *liṅ.*

[104]**Bronkhorst** 1987d:300. Incidentally, since **Bronkhorst** is one of those scholars who sounds the clarion call to 'revolutionary' science in lieu of 'normal science' and chides those scholars who are not sufficiently speculative **(Bronkhorst 1987e:57), let me add** that my objection to his claim is not meant to discourage speculation. It is only reasonable to ask that speculation be of an intelligent nature, based on reliable evidence that has been fully understood.

[105]In connection with sentences like इष्यते ग्रामो गन्तुम् on the other hand, Pāṇinīyas do use Aṣṭādhyāyī 3.3.10 to account for *gantum;* see, for example, Padamañjarī on 3.4.26, Helārāja on Vākyapadīya 3.7.84. But this is connected with a particular syntactic problem, which cannot be considered here.

[106]**Bronkhorst** 1981:6-7.

[107]**Mehendale** 1986.

[108]**Bronkhorst** 1982.

[109]See **Cardona** forthcoming a.