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### PĀṆINI AND HIS PREDECESSORS

One of the striking inconsistencies in Pāṇini's grammar is the use of certain terms that are at variance with his basic concepts. As P. Thieme<sup>1</sup> has suggested long ago, such discrepancies can open a window into the creative process that links Pāṇini and his predecessors. While in Pāṇini's grammar many suffixes are attached to roots (*dhātu*), there are two major classes of such suffixes called *ārdhadhātuka* and *sārvadhātuka*. Their literary meaning is "attached to a half *dhātu*" and "attached to a whole *dhātu*" – but the terms "half *dhātu*" and "whole *dhātu*" are neither defined nor used in his grammar. K.V. Abhyankar<sup>2</sup> suggested that the former "probably... could be placed after certain roots only" against the latter which were termed *sārvadhātuka* on account of their being found in use after every root." This suggestion must be rejected as incompatible with the common use of *ardha* in compounds. *ardha-māsa* means "half month," *ardharca* "half stanza," not "every other month" or "every second stanza," and it is not true that *ārdhadhātuka* suffixes are used only with half of the Sanskrit roots. It is a more difficult question, what exactly was understood under *dhātu* in this context.

The evolution of the concept of a root proceeded in four stages. The earliest instances for etymologies that derive nouns from

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1. P. THIEME, *Pāṇini and the Veda*, Allahabad 1935, p.x.

2. K. V. ABHYANKAR, *A Dictionary of Sanskrit Grammar*, 2<sup>nd</sup> revised edition by J. M. SHUKLA, Baroda 1977, p. 65.

verbs<sup>3</sup> may be four stanzas found in three recensions of the Black Yajurveda<sup>4</sup> and in the Atharvaveda<sup>5</sup> that were used in rituals dealing with water. Their attestation in these various texts vouches for their importance, and the etymologies offered for four words denoting “water” were apparently designed to enhance the power of these stanzas as charms. Whitney’s characterization as “finding punning etymologies for sundry of the names of water”<sup>6</sup> failed to recognize their importance and the seriousness with which they were proposed.

*yad...ahāv anadatā hate; tasmād ā nadyo nāma stha...*

“Since you resounded (*ánadata*) at the slaying of the serpent; therefore are you criers (*nadyáḥ*) by name.”

*...tad āpnot indro vo yatīr tasmād āpo anu sthana*

“...then Indra obtained (*āpnot*) you as ye went; therefore you are waters (*āpah*).”

*...avīvarata vo hikam indro vaḥ śaktibhir, devīs, tasmād vār nāma vo hitam*

“He stayed (*avīvarata*) your courses, Indra with his might, O goddesses; therefore your name is water (*vār*).”

*udāniṣur mahīr iti tasmād udakam ucyate*

“The great ones have breathed forth (*ud-√an*); therefore they are called water (*udakam*)”<sup>7</sup>.

These etymologies are remarkable for their formulaic style and their attempt to trace nouns back to an underlying action expressed by a verb<sup>8</sup>.

In the Aitareya Brāhmaṇa there are a great number of etymolo-

3. This is a very common misconception. The great Romanist Hugo Schuchard argued that a baby’s cry “Mama !” when the mother enters the room, refers to a happening and has “verbalen Charakter”, since it does not mean “This is mama”, but “Here comes mama”. He believed that verbs are learned earlier than nouns: *Sitzungsberichte der Berliner Akademie* 1919, pp. 863-869 = *Hugo Schuchard-Brevier*, ed. Leo Spitzer, Halle 1928, p. 271f.

4. TS V 6,1; MS II 13,1; Kāṭh XXXIX 2.

5. AthV III 13,1-4.

6. *Atharva-veda Saṃhitā* trans. W. D. WHITNEY, *HOS* vols. 7 and 8, vol. I p. 108.

7. *The Veda of the Black Yajus School entitled Taittiriya Saṃhitā*, trans. A. B. KEITH, *HOS* vol. 19, II pp. 454f.

8. G. B. PALSULE, *The Sanskrit Dhātupāṭhas. A Critical Study*, Poona 1961, p. 2.

gies<sup>9</sup>. The sacrificial post (*yūpa*)<sup>10</sup> is so called, because the gods obstructed (*ayopayan*) demons and men with it; the *ājya-s* (a certain ritual)<sup>11</sup> are so called “because they kept conquering (*ājayanta āyan*)”; the altar (*vedi*)<sup>12</sup> is so called because “they found (*anva-vindan*)” the sacrifice there<sup>13</sup>. We could call this Stage One.

A step towards greater abstraction was the use of the 3<sup>rd</sup> person singular present<sup>14</sup> in the Nighaṇṭu lists to denote a verb in the abstract. Later these forms (whether they denote verbs in the active voice like *juhoti* or verbs found in the middle voice only like *dayate* or *rocate*) were treated as noun stems ending in *-i* and could be inflected as such. This practice is found in an etymology by a certain Auruṇāvābha quoted in Nirukta VII 15: *juhoter hotēty Auruṇāvābhaḥ* “Auruṇāvābha derives *hotṛ* from the verb *juhoti*.” The practice is common in the Nirukta that comments on the Nighaṇṭu<sup>15</sup>. We do not know for certain what Auruṇāvābha and the author of the Nighaṇṭu would have called these forms, except that their name must have been a masculine noun for the latter: *bhrājate...iti ekādasa jvalati-karmāṇaḥ* “*bhrājate...* – these eleven have the action ‘to shine’” (Nighaṇṭu I 16), where the bahuvrīhi *jvalati-karmāṇaḥ* demands a masculine noun of reference. We could call this Stage Two.

Pāṇini often still used this traditional expression to denote a root, as in *asti*<sup>16</sup>, *dadāti*, and *dadhāti*<sup>17</sup> – rarely (if at all) in books I and II, IV and V, more frequently in book III, and often in books VI through VIII. In a

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9. The development has been sketched by BRUNO LIEBICH, *Zur Einführung in die indische einheimische Sprachwissenschaft. II. Historische Einführung und Dhātupāṭha*. Heidelberg, SHAW, phil-hist. Klasse 1919 nr. 15, pp. 7-24.

10. Aitareya Brāhmaṇa II 1,1.

11. Aitareya Brāhmaṇa II 36,3.

12. Aitareya Brāhmaṇa III 9,3.

13. Not all the etymologies in this text are based on verbs; explanations like *viśvasya mitram* > *Viśvāmitraḥ* (VI 20) are of lesser interest in the present context.

14. Usually in the active voice, in the middle voice when this alone is attested; e.g., Nighaṇṭu I 16 *bhrājate bhrāśate bhrāśyati dīdayati...*

15. Nirukta I 4 *śākhāḥ... śaknoter vā*; I 6 *cittam cetateḥ*; I 11 *surā sunoteḥ*. From middle verbs (like *dayate* and *rocate*) we find a nominative *dayatir* (Nirukta IV 17) and an ablative *rocateḥ* (Nirukta III 13).

16. II 4 52 aster *bhūḥ*.

17. III 1 139 *dadāti-dadhāty. or vibhāṣā*.

few instances this was a convenient device to differentiate between homonymous roots (*asti* “is” versus *asyati* “throws” from two different roots  $\sqrt{as}$ ), in others the reason is not obvious<sup>18</sup>. Most commonly Pāṇini referred to the roots (and indirectly verbs) in peculiar ways that differ from those found in the early texts. There appears to be a gap in the surviving literature preceding Pāṇini; we hear of ancient grammarians, we have hints at some of their doctrines, and we have a few names. According to Nirukta I 12 Śākaṭāyana (who preceded Pāṇini and is mentioned in the Aṣṭādhyāyī)<sup>19</sup> derived all nouns from verbs (*nāmāny ākhyāta-jāni*)<sup>20</sup>, just as in the Vedic texts nouns are etymologized from their full verb forms. Another early author, Śākapūni, derived the word *agni* “fire” from a combination of three verbs: *ita* (i.e.,  $\sqrt{i}$  “go”), *akta* (i.e.,  $\sqrt{aj}$  “shine”) or *dagdha* (i.e.,  $\sqrt{dah}$  “burn”), and *nīta* (i.e.,  $\sqrt{nī}$  “lead”)<sup>21</sup> – using the terminology that deployed the participle perfect passive to denote a verb in the Brahmana texts<sup>22</sup>. K. C. Chatterji argued incorrectly

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18. Later Pāṇinīyas have suggested various purposes for the use of the root names with *-ti*: restrictive application, avoidance of homonymy, etc. Nāgojibhaṭṭa (Paribhāṣenduśekhara on paribhāṣā 120.3) rejected restrictive application; cf. L. Renou, *Terminologie* under *śtipā nirdeśa* (pt.II p.114) and K.V. Abhyankar, *A Dictionary*, under *śtip* (p. 395).

19. Pāṇini III 4 111 attributed to Śākaṭāyana alone the opinion that in the 3<sup>rd</sup> plural active *-us* is substituted for *JHi* (= *anti*) in the imperfect of roots ending in /ā/. Since *ayus* (from  $\sqrt{yā}$ ) is well attested in Vedic texts, Pāṇini could not have questioned its correctness – his intention probably was to classify such forms as aorists rather than imperfects. In VIII 3 18 and VIII 4 50 he quoted Śākaṭāyana for phonetic observations. In Mbh II 120, 20f. Patañjali narrated an anecdote about Śākaṭāyana’s amazing mental concentration.

20. Nirukta I 12 *tatra nāmāny ākhyāta-jānīti Śākaṭāyano nairukta-samayaś ca*. In Mahābhāṣya II 138, 14-16 a quoted stanza refers to the Nirukta imprecisely, rephrasing Yāska’s statement in Pāṇinian terminology: *nāma ca dhātu-jam āha Nirukte vyākaraṇe Śakaṭasya ca tokam* “[Yāska] called the noun derived from a root in the [science of] etymology, and the off-spring of Śakaṭa in grammar”.

21. Nirukta VII 14 *agniḥ... tribhya ākhyātebhyo jāyata iti Śākapūniḥ. itāt, aktād dagdhād vā, nītāt*. He gets the vowel /a/ from forms of  $\sqrt{i}$  like the imperative *ayāni*, the /g/ from forms like *anakti* or *dagdhvā*, and the final /ni/ from forms like *nināya* or *nīta*: *sa khalv eter akāram ādatte gakāram anakter vā dahater vā niḥ paraḥ*. In Chāndogya-upaniṣad I 3 6 the word *udgītha*, denoting the syllable *oṃ*, is similarly “derived” from three basic elements: the preverb *ud* “up,” the word *gir* “voice,” and the root  $\sqrt{sthā}$  “stand.”

that *ākhyāta* in these two quoted sentences referring to Śākaṭāyana and Śākapūṇi denotes the “root,” a meaning not found elsewhere<sup>23</sup>. The works of these and other predecessors have not survived, and one can only surmise that Pāṇini’s grammar made the works of his predecessors obsolete – oral tradition has no mercy for outdated material. But some trends of this lost development can still be recovered by an analysis of Pāṇini’s work<sup>24</sup>.

Pāṇini referred to the roots of Sanskrit in several different ways. In the Dhātupaṭha most roots are furnished with an extra vowel (or a vowel and a consonant) at the end, which would probably have been pronounced with nasal intonation to mark it as a tag (*it* or *anubandha*)<sup>25</sup>, and might also have carried an indicative pitch accent<sup>26</sup>. Some roots are also preceded by a tag, a syllable such as *ñi*, *tu* or *du*<sup>27</sup>. In the text of the Aṣṭādhyāyī itself there is no uniform way of referring to these roots. Sometimes a root is quoted with the tag (or tags): *i<sup>n</sup>.aḥ* (in II 4 45; DhP. II 36 *i<sup>n</sup>*) or one of them: *kr<sup>r̄</sup>.aḥ* (III 2 20; DhP.VIII 10 *<sup>du</sup>kr<sup>r̄</sup>*) or none: *kr-* (III 1 120), *dā* (in III 2 159; DhP. III 9 *<sup>du</sup>dā<sup>r̄</sup>*). In I 4 41 *gr<sup>r̄</sup>.aḥ* (against *gr.aḥ* in III 3 29) has a tag *ṇ* that is not found in DhP (VI 117 and IX 28 *gr̄*); the form is likely influenced by verb forms like *grṇāti*, i.e., Pāṇini used the stem form in his rule instead of the root. Mostly the roots are quoted without these tags as e.g. *kr* (in III 4 61 *kr-bhv.oh*), *gam.aḥ* (in VI 4 40 *gam.aḥ kvau*; the DhP I 1031 has *gam<sup>l</sup>*) or *gup-tij-kid.bhyaḥ* (III 1 5; the DhP has I 422 *gupū*, I 1020 and X 110 *tija*, I 1042 and III 20 *kita*).

Two other forms of quotation have been identified by Kātyāyana in

22. This participle was commonly used to denote a verb in the Brāhmaṇas and fell into disuse afterwards: BRUNO LIEBICH, *Zur Einführung in die indische einheimische Sprachwissenschaft. II. Historische Einführung und Dhātupāṭha*. Heidelberg, SHAW, phil-hist. Klasse 1919 nr.15, pp.15-17 and G. B. PALSULE, *The Sanskrit Dhātupāṭha.*, p. 6.

23. K. C. CHATTERJI, *Technical Terms and Technique of Sanskrit Grammar*, (Calcutta 1948) reprint Kolkata 2003, p. 81. Cf. also G. B. PALSULE, *The Sanskrit Dhātupāṭhas*, p. 10.

24. I have not seen Saroja Bhate’s unpublished dissertation *Prepāṇinian Grammatical Elements in Pāṇini’s Aṣṭādhyāyī*, University of Poona 1970.

25. “Tag” is a better translation than “marker,” because technical accents are also markers, but they are not tags.

26. BRUNO LIEBICH, *Zur Einführung III. Der Dhātupāṭha*, Heidelberg, SHAW, phil-hist. Klasse 1920 nr. 10 has attempted a reconstruction of the Dhātupāṭha.

27. Pāṇini I 3 5 [2 *upadeśe...it*] *ādir ñi-tu-dav.aḥ*.

his *vārttika* 2 on Pāṇini's rule III 3 108: *ik-śtipau dhātu-nirdeśe* "the [suffixes] *ik* and *śtip* [must be taught] to denote a root." Patañjali<sup>28</sup> explained these as referring to forms like *paci* or *pacati* denoting the root  $\sqrt{pac}$  (not attested in the Aṣṭādhyāyī as such)<sup>29</sup>. Such quotation forms ending in *i* or *ti* occur both when roots stand alone or in compounds (where they can be found at the beginning, the middle or the end).

*ajer* (II 4 56; DhP I 248 *aja*)

*gamy-rcchi.bhyām* (I 3 29; DhP I 1031 *gam<sup>l</sup>* and VI 15 *rccha*)

*lipi-sici-hv.aḥ* (III 1 53; DhP VI 139 *lipa*, VI 140 *śica*, III 1 *hu*)

*sarti-śāsty-arti.bhyas* (III 1 56; DhP I 982 *sr*; II 66 *śāsu*; I 983 *r*)<sup>30</sup>

They occur also in combinations of such different modes of quotation:

*śaki-sah.oḥ* (III 1 99; DhP V 15 *Ṇak<sup>l</sup>*; I 905 *śaha*)

*yama-han.aḥ* (I 3 28; DhP I 1033 *yama*; II 2 *hana*)

*-muṣa-grahi-svapi-pracch.aḥ* (I 2 8; DhP I 707 *mūṣa*; I 681 *grhū*; II 59 *ni<sup>ni</sup>svapa*; VI 120 *pracha*)

*indhi-bhavati.bhyām* (I 2 6; DhP VII 11 *ni<sup>ni</sup>indhi*; I 1 *bhū*)

*-vrj-kr-gami-jani.bhyo* (II 4 80; DhP II 19 *vrj<sup>i</sup>*; VIII 10 *du<sup>du</sup>kr<sup>i</sup>*; I 1031 *gam<sup>l</sup>*; I 862 *jan<sup>i</sup>*)

*vana-sana-rakṣi-math.ām* (III 2 27; DhP I 490 *vana*; I 492 *śana*; I 688 *rakṣa*; I 901 *mathe*)

*pā-ghrā-dhmā-sthā-mnā-dāṇ-dṛśy-arti-sarti-śada-sad.ām* (VII 3 78) employs six ways to refer to roots: bare roots ending in vowels, a root with a tag, a root with *-i*, roots with *-ti*, a root with *-a*, and a bare root ending in a consonant before the case suffix at the end of the compound.

28. Mahābhāṣya II 154,19.

29. The ablative *pac.aḥ* is found in III 2 33, the stem *-paca-* in III 2 136. The root  $\sqrt{vac}$  appears as *vac.aḥ* (VII 4 20), *vaciḥ* (II 4 53), *-vaca-* (VII 3 66), and *-vakti-* (III 1 52). Most of these forms ending in *-ti* correspond to the 3<sup>rd</sup> singular present active; *arti* and *sarti* (III 1 56) appear to be abstracted from *iyarti* and *sisarti*. W. D. WHITNEY, *Roots, Verb-forms and Primary Derivatives of the Sanskrit Language*, Leipzig 1885, p. 14 quoted a 2<sup>nd</sup> class verb form *ārti* from the Taittiriya Saṃhitā; but no such form is listed in the *Vaidika-padānukrama-koṣa*.

30. *aster bhūḥ* (II 4 52) and *dadāti-dadhāty.or* (III 1 139) are better considered as inflected 3<sup>rd</sup> singular verb forms.

It is not clear why Pāṇini used the form *yuji* in III 2 59 *-añcu-yuji-kruñc.ām*, but *yuja* in III 2 61 *-duha-yuja-vida-*. The DhP VII 7 has *yujīr*.

Frequently, the last root in a list has no vowel attached, as in III 2 13 *rami-jap.oḥ* or VII 3 73 *duha-diha-liha-guh.ām*; but note also VII 3 35 *jani-vadhy.oḥ*, III 2 162 *vidi-bhidi-cchideḥ*, and VII 2 19 *dhr̥ṣi-śasī*. Avoidance of an awkward sandhi could have played a role in III 1 59 *kr̥-mṛ-dṛ-ruhi.bhyas*, but consonantal sandhi is not always avoided: *iñ-naśa-ji-* (III 2 163), *sthêṇ-kr̥ñ-vadi-* (III 4 16), *hana-kr̥ñ-grah.aḥ* (III 4 36).

Case forms like *ajer* (II 4 56) prove that the /i/ is a real attached vowel, whereas the /a/ in *kr̥ta-cr̥ta-cchṛda-tr̥da-nṛt.aḥ* (VII 2 57) seems mainly a non-phonemic sound facilitating the pronunciation and keeping the root names apart: the roots are taught in the DhP as *kr̥tī* (VI 141), *cr̥tī* (VI 35), *chr̥dīr* (VII 8), *tr̥dīr* (VII 9), and *nṛtī* (IV 9). This /a/ never appears in word final position (the last quoted sūtra does not end in \* *-tr̥da-nṛtasya!*); the only apparent exception in *daridrasya* (VI 4 114 from *daridrā*, itself an oddity in the root list: DhP II 64), which may have been influenced by the adjective *daridra* – we would expect \**daridrah*. This /a/ was also not recognized as a root marker by Kātyāyana in his *vārttika* 2 on III 3 108 quoted above. We might thus consider this /a/ as an unintended feature of pronunciation in the oral text of the Aṣṭādhyāyī.

There are about ten seemingly bothersome vowel sandhi forms where the /a/ at the end of a root does have a linguistic reality: *...-janêṇ-pru-* (in I 3 86) is a sandhi of *jana+iṇi*, *...-druhêṛṣyâsūyârthânâm* (in I 4 37) is a sandhi of *druha+iṛṣya-asūyârthânâm*, *...-dyutôṛji-* (in III 2 177) is a sandhi of *dyuta+ūrji*, where the /a/ cannot be dismissed as being there merely for the ease of pronunciation (*uccāraṇârtham*). But in all these instances the root forms ending in *-a* are quotations from the Dhātupāṭha, where the roots are taught in just this form: *jana* in I 3 86 matches the root as it is taught in the DhP III 24 *jana*, *druha* and *iṛṣya* in I 4 37 could refer to DhP IV 88 *druha* and I 544 *iṛṣya*, *dyuta* in III 2 177 to DhP I 777 *dyuta*. Ambiguous is the situation in rules like I 2 7 *mṛḍa-mṛḍa-gudha-kuṣa-kliśa-vada-vas.aḥ ktvā*, where the /a/ could be considered *uccāraṇârtham*, but could also refer to the forms in which these roots are taught in the Dhātupāṭha: *mṛḍa* (VI 38; IX 44), *mṛḍa* (IX 43), *gudha* (IV 13; IX 45), *kuṣa* (IX 46), *kliśa* (IV 52a), *vada* (I 1058; X

297), and *vasa* (I 1054). Of the many roots quoted in the *sūtra-s* as ending in -a, most have a tag -a in the DhP, but others do not: *kama* (A III 2 154) versus *kam<sup>u</sup>* (DhP I 470) or *kami* (DhP I 869), *gama* (A III 2 171) versus *gam<sup>l</sup>* (DhP I 1031), *ghuṣa* (A VII 2 28) versus *ghuṣ<sup>ir</sup>* (DhP I 683), *cr̥ta* (A VII 2 57) versus *cr̥t<sup>i</sup>* (DhP VI 35).

Not all forms of root names are attested for every root. Of the root *gam* we have *gam.aḥ* (VI 4 40), -*gama-* (III 2 154) and -*gami-* (VII 3 77, with the ablative *gameḥ* in VII 2 58). The Dhātupāṭha I 1031 has only *gam<sup>l</sup>*.

Of the root *tap* we have *tap.aḥ* (I 3 27), *tapi-* (III 2 46), and *tapati* (locative *tapatāv* VIII 3 102). The Dhātupāṭha (I 1034 and IV 51) has *tapa*.

Of the root *vac* we have *vac.aḥ* (VII 4 20), -*pravaca-* (VII 3 66), *vaciḥ* (II 4 53), *vaci-* (VI 1 15) and -*vakti-* (III 1 52). The Dhātupāṭha (II 54 and X 298) has *vaca*.

One hundred and twenty roots are quoted in the text of the Aṣṭādhyāyī with an added -i, but virtually none of them is taught thus in the Dhātupāṭha: *adi* in the *sūtra* text contrasts with *ada* in the Dhātupāṭha, *gr̥dhi* with *gr̥dh<sup>u</sup>*, and *dr̥ṣi* with *dr̥ṣ<sup>ir</sup>*. The few exceptions confirm rather than challenge this statement. The Vedic root called *vadi* in III 4 16 is not the same as *vadi* in DhP I 11 (meaning “greet” or “praise”) but rather *vada* in DhP I 1058 (meaning “speak clearly”), as the attested Vedic forms show<sup>31</sup>. *śasi* in VII 2 19 does not correspond to *śasi* in DhP I 660 (with prefix -ā, meaning “wish”) but to *śas<sup>u</sup>* in DhP I 763 (meaning “hurt”), since the form taught in VII 2 19 is *viśasta* “rude”. Several roots taught in the DhP with a tag /u/ are quoted thus in the *sūtra* text, e.g. *bhramu* (DhP I 903 and A VI 4 124) and *vancu* (DhP I 204 and A VII 4 84 *vañcu*)<sup>32</sup>. There are many roots in the Dhātupāṭha with a tag /i/, which demands the insertion of a /n/ after the root vowel (VII 1 58)<sup>33</sup>; but none of them are mentioned with this tag in the *sūtra-s*. Exceptions are only apparent. *trasi* (in III 1 70)

31. III 4 16 teaches the formation of *vadītos*; *pra vadītos* is attested in TS II 2,9,5, AitB II 15, and KŚS IX 1,10 in the meaning “speak.”

32. G. B. PALSULE, *The Sanskrit Dhātupāṭhas*, p.13 has suggested that the root names in -i were “evidently made in imitation of corresponding nouns in -i (like *ruci*, *dyuti* etc.) and are employed because they too are likewise easily declinable forms.”

33. They are listed by B. LIEBICH, *Zur Einführung*, part III, pp. 39-42.



refers to *trasī* (DhP IV 10), not to *trasa* (X 201) or *trasi* (X 221), as the attested form *trasyanti* (fourth verbal class) shows. *trapi* (III 1 126) refers to *trap<sup>īs</sup>* (I 399) rather than the weakly attested *trap<sup>i</sup>* (I 859)<sup>34</sup>. *jasa* (III 2 167 for the formation of *ajasra* “not to be obstructed, perpetual”) may refer to *jasu* (IV 102; X 130 and 178) or *jasi* (X 128); if the meanings attached to the roots by a later author are any guide, the reference would be to *jasu hiṃsāyām* in X 130. *math* in III 2 27 -*math.ām* and -*matha-* in III 2 145 could refer to *mathe* (I 901), *mathi* (I 47) or *mantha* (I 43 and IX 40).

Thus there is a complete disconnect between Pāṇini’s use of the tag /i/ in his Dhātupāṭha and the root names with attached -i in the body of his grammar. The -i in the root names cannot be a tag, since it would demand the insertion of a /n/ into the root; but if it is not a tag, how can it be made to disappear? It is best to assume that these names for roots have been borrowed from another source.

Pāṇini used two prominent terms in his grammar that are at odds with his general use of terminology, where *dhātu* is defined as comprising roots like  $\sqrt{bhū}$  (I 3 1 *bhūv-ādayo dhātavaḥ*) and “expanded” roots, i.e., desideratives, intensives and denominatives (III 1 32 *sanādy-antā dhātavaḥ*). The term is deployed in rules like III 1 91 *dhātoḥ* “after a root,” etc. But Pāṇini used also terms for two classes of suffixes that are based on a different concept of *dhātu*: *sārvadhātuka* “related to a full *dhātu*” refers to the personal ending of the verb (with exception of those of the perfect and precativ) and to all but one of the suffixes forming the stem of the present<sup>35</sup>. The second term, *ārdhadhātuka* “related to the half *dhātu*,” refers to the personal endings of perfect and precativ, to the suffixes marking the aorist, and to suffixes that create primary noun stems, verbal adjectives and

34. G. B. PALSULE, *A Concordance of Sanskrit Dhatupathas*, Poona 1955, p. 63.

35. The exception is the suffix -u- of the eighth class. As Otto Böhtlingk explained (*Pāṇini’s Grammatik*, reprint Hildesheim 1964, p. \*155), if this -u- were marked with /s/ as a *sārvadhātuka*, it would be *ñ.it* by I 2 4, not allowing *guṇa* in *karoti*; if one further added the tag /p/ to meet this problem, the /u/ in *kurute*, etc. would be unaccented. It should come as no surprise that the eighth verbal class necessitated an exemption: the forms of the root  $\sqrt{kr}$  underwent extensive remodeling, and the few other roots like  $\sqrt{tan}$  were reshaped with the development of vocalic /n/ to /a/.

infinitives. These terms are based on a terminology where *dhātu* denoted not the root (in the sense common in the Aṣṭādhyāyī), but the present tense form that was used by Aurnāvābha and the author of the Nighaṇṭu as an abstract name of the verb; the “half *dhātu*” refers to what precedes the endings of the perfect, or the suffixes that create the aorist and future stems, and the infinitives – essentially what Pāṇini called the “root.” *dhātu* thus marks a progress in grammatical analysis: from *ākhyāta* “verb” which was assumed to give birth to nouns (in the etymologies of the Aitareya-brāhmaṇa and of Śākaṭāyana – Stage One), grammarians progressed to *dhātu* “bases,” that looked like the 3<sup>rd</sup> person singular indicative present active/middle and from which verbs and nouns could be derived (Stage Two). These “bases” could be inflected like noun stems ending in *-i*: *cittaṃ cetateḥ* (Nirukta I 6) <sup>36</sup>. Yāska actually called these expressions *dhātu*. Where the Nighaṇṭu I 16 had merely said ...*iti ekādaśa jvalati-karmāṇaḥ* (leaving the implied masculine noun unexpressed), Yāska II 28 said *jvalati-karmāṇa uttare dhātava ekādaśa* (supplying the referred noun). While we cannot prove that the Nighaṇṭu author had *dhātavaḥ* in mind, there is no reason to doubt that Yāska supplied the correct term.

B. Liebich <sup>37</sup> had believed that Yāska had used *ākhyāta* and *dhātu* without clear distinction, but as P. Thieme <sup>38</sup> pointed out, *dhātu* always denotes the etymological base form, expressed in the 3<sup>rd</sup> singular present. In the occurrences of *ākhyāta* in the Nirukta, the reference is clearly to distinct verb forms <sup>39</sup>. In VI 28 Yāska rejected the analysis

36. These forms ending in *-ti* were – unlike the common action nouns like *gati* – masculine, as shown by expressions like *śavatir gati-karmā* (Nirukta II 2).

37. BRUNO LIEBICH, *Zur Einführung* II p. 22.

38. P. THIEME, *ZDMG* 89 (1935), p. \*23\*, fn. 3. Cf. Also K. C. CHATTERJI, *Technical Terms and Technique of Sanskrit Grammar*, pp. 79-81 and G. B. PALSULE, *The Sanskrit Dhātupāṭhas*, p. 10.

39. That was still recognized by the commentator Maheśvara (*Commentary of Skandasvāmin & Maheśvara on the Nirukta*, ed. LAKSHMAN SARUP, 2<sup>nd</sup> ed. New Delhi 1982, p.83) who remarked on Śākaṭāyana’s term *ākhyātājāni* (above p. 254): *ākhyātaṃ tīn-anta-padam; tenātraikadeśo dhātur lakṣyate, dhātuḥjānīty arthaḥ* “A verb, i.e., a word ending in a verbal ending. By that [formulation] the root which is a part of it is indicated; the meaning is ‘derived from roots’.” The commentator recognized that the text spoke of verbs, but tried to reconcile Śākaṭāyana’s thesis with the more modern concept of the root as the base of derivation. Skandasvāmin (*ibid.* part II p. 487) remarked on Nirukta VI 28 *cākān iti cākhyātaṃ na nāma-śabdaḥ* “*cākan* is a verb, not a noun”.

of the Padapāṭha of Ṛgveda X 29,1, because if it were accepted, *udāttaṃ tv evam ākhyātam abhaviṣyat* “then the finite verb would have had the acute accent.” In VII 1 we are told that in a certain type of hymns the name of the deity can be joined with any of the case endings *prathama-puruṣaiś cākhyātasya* “and with the third persons of the verb [only]”<sup>40</sup>. *dhātu*, on the other hand, in more than ten instances refers to the abstract notion of a verb, e.g. in II 28 *jvalati-karmāṇa uttare dhātava ekādaśa* “The following eleven verbs [express] the action ‘to shine’” and in other such elaborations of the Nighaṇṭu. In II 2 *tad yatra svarād anantarāntasthāntardhātur bhavati tad dvi-prakṛtīnām sthānam iti pradiśanti*<sup>41</sup> refers to *saṃprasāraṇa*. The meaning “root” is possible here, but so is “abstract verb”. In one occurrence we might see an influence of Pāṇini or some other grammarian like him, when Yāska II 2 claimed that Vedic primary nouns can be derived from colloquial *dhātu-s*, and colloquial primary nouns from Vedic *dhātu-s*. Here *dhātu* could refer to roots in the Pāṇinian sense, or it could refer to abstract verbs.

In a further development (which we may label Stage Three), grammatical thinkers must have stripped this “base” of the ubiquitous present tense stem suffixes and obtained the “half base,” as in *bhav-a-ti*, *gṛh-ṇā-ti*; suffixation to this “half base” was referred to as *ārhadhātukā* and contrasted with the other called *sārvadhātukā*. The Kāśikā on VII 3 95<sup>42</sup> claims that “The [followers of] Āpīśali recite [the corresponding sūtra] as “*tu-ru-stu-śam-yamaḥ sārvadhātukāsu cchandasi*” – with a feminine term *sārvadhātukā*! Since *sārvadhātukā* is a feminine adjective, we must look for a feminine noun of reference; K. C. Chatterji<sup>43</sup> has plausibly suggested *vibhakti* which in Pāṇini’s grammar<sup>44</sup> denotes both the case endings of nouns and the personal end-

40. E.g., RV X 89,10 *Indro diva Indra īse pṛthivyāḥ* “Indra rules heaven, Indra [rules] the earth” and RV I 7,1 *Indram id gāthino bṛhat* “The chanters [praise] very much Indra alone.”

41. “With reference to this, it is pointed out that when a *dhātu* contains a semi-vowel contiguous to a vowel it becomes the origin of two primary bases.”

42. Pāṇini’s sūtra VII 3 95 reads *tu-ru-stu-śam-yamaḥ sārvadhātuke*; the Kāśikā supplies *bahulam chandasi*.

43. K. C. CHATTERJI, *Technical Terms*, 2<sup>nd</sup> ed., p. 51.

44. A I 4 99-104.

ings of verbs<sup>45</sup>. *vibhakti* meets the requirement that the noun encompasses the different role of both terms: the elements that *sārvadhātukā* refers to are part of the “whole base,” while the others are attached to the “half base” in the view of Āpiśali. If the statement of the Kāśikā reflects an authentic tradition, one might attribute the *ardha-dhātu/sarva-dhātu* concept to Āpiśali, one of Pāṇini’s predecessors (whom he quotes in VI 1 92<sup>46</sup>). Jinendrabuddhi elaborated in his commentary Nyāsa on A VII 3 95: *strī-liṅga-nirdeśaḥ, strī-liṅgasya sārvadhātukā-śabdasyāpiśalinā samjñātvena praṇītatvāt* “Taught in the feminine gender, because the word *sārvadhātukā* in the feminine gender was introduced by Āpiśali as a term.” As the *ardhadhātu* “half *dhātu*” refers to the nucleus, whether in its shortest or its *guṇa* form (e.g., *bhū* or *bho/bhav*), the \**sarvadhātu* “whole *dhātu*” would refer to a larger unit. It has been suggested “that at one time the term *dhātu* was used to denote what we would call the Present-stem, *bhava-*, *dīvyā-*, *sunu-* etc.”<sup>47</sup>. There are two problems with this interpretation. There is no indication that a term *sarvadhātu*, denoting the root plus stem suffix<sup>48</sup>, ever existed. And secondly, the stem forming suffixes (*vikaraṇa*: *-a*, *-ya*, *-nu* etc., with the exception of *-u* of the eighth verbal class) are called *sārvadhātuka* themselves. A better scenario, one demanding fewer missing steps, is that the nucleus that we call the root, was called the “half *dhātu*” and the suffixes attached to it the *ārdhadhātuka* [suffixes]; in contrast the other suffixes were called the “whole *dhātu* [suffixes]” – both based on the old concept of a “base” (*dhātu*), i.e. an abstract verb form.

45. Patañjali (Mbh I 484,8f.) proposed to change A II 4 35 *ārdhadhātuke to ārdhadhātukāsu* and supplied a string of possible nouns of reference: *uktiṣu yuktiṣu rūḍhiṣu praṇītiṣu śrutiṣu samjñāsu*.

46. Āpiśali held that the sandhi of an initial /r/ of a denominative verb with a prefix results only optionally in *vṛddhi*. Patañjali quotes in Mahābhāṣya II 281, 3f. a śloka referring to Āpiśali and one of Āpiśali’s sūtras.

47. G. B. PALSULE, *The Sanskrit Dhātupāṭhas*, pp. 10f., following K. C. CHATTERJI, *IHQ* 9 (1933), pp. 279-281 (also *Technical Terms and Technique of Sanskrit Grammar*, p. 51). Cf. also B. SHEFTS, *Grammatical Method in Pāṇini*, New Haven 1961, pp. 13-16 and G. CARDONA, *Pāṇini. A Survey of Research*, The Hague 1976, p. 198.

48. Such a combination might fall under the larger term *aṅga* in Pāṇini’s terminology: Mahābhāṣya I 316, 1-3 with Kaiyaṭa’s comment (and Nyāsa and Padamañjari on A I 4 13).

Pāṇini or one his predecessors redefined this newly identified nucleus, the smallest unit that still carried the essential meaning of the verb (and related nouns), as *dhātu* “root”; but Pāṇini retained the two traditional terms *sārvadhātuka* and *ārdhadhātuka*, even though they no longer fit the theory. That would be Stage Four.

In his Dhātupāṭha, Pāṇini attached various tags to these roots that tied them to a number of grammatical classes and processes. In the text of his grammar he, in some cases, referred to roots in the form he used in the Dhātupāṭha, more often he quoted them stripped of their tags. When the grammar was written down, the desire for clear pronunciation may have resulted in the appearance of an /a/ at the end of a root name that is nowhere defined or explained. In other instances an /i/ is added to the root that probably represents a technique used by predecessors of Pāṇini; if that is true, it would support the view that the discovery of the root (whatever it was called) was made before Pāṇini<sup>49</sup>. Pāṇini’s contribution would then be the addition of tags to the roots that account for the different paths of word formation for the various roots. The discovery of roots was the ultimate abstraction. It reduced the many meaning aspects and forms that are found in verbs and nouns to one last source: a root that was neither noun nor verb. True, root has often been defined as “denoting action,” but action is not synonymous with verb; *gamana* denotes an action but is a noun. The Dhātupāṭha contains roots for which no verb is found. Relying on a common pattern of word formation a root can still be postulated: to explain *ganḍa* “cheek” a root *gaḍi* (DhP I 65a and I 384) is postulated; when at a later time meanings were added to the roots in the text of the Dhātupāṭha, the compiler could do no better than saying *vadanaikadeśe* “for a part of the face.” A root  $\sqrt{ghr}$  (DhP III 14) is postulated to explain *gharma* “heat,” *ghṛta* “melted butter”, *ghṛṇa/ghṛṇi* “heat”<sup>50</sup>. No corresponding verb form is attested in

49. The old way of quoting the root by a full verb form is perpetuated by tradition; it was useful in differentiating between homonymous roots as in II 4 52 *aster* and VII 4 17 *asyates*; see above pp. 253f.

50. Cf. Mahābhāṣya III 275, 15-17 and G. B. PALSULE, *The Sanskrit Dhātupāṭhas*, pp. 197f.

Sanskrit, though other Indo-European languages have related verb forms. While Śākaṭāyana would have derived *yoga* from *yunakti*, Pāṇini derived both words directly and independently from the root √*yuj* – which is neither verbal nor nominal. √*yuj* represents the ultimate reduction that still conveyed the meaning of “joining, yoking.” The root denotes either an action (*kriyā*) or a form of being (*bhāva*) in its most abstract form: whether the derived word denotes the agent or the object of the action, its location or instrument, or whether it denotes its progress in time and its relation to the speaker depends on the suffixes attached to it<sup>51</sup>.

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51. Cf. already H. SCHARFE, *JAOS* 90 (1970), pp. 585f.