

## PHONETICS OF SHORT A IN SANSKRIT

1. Prof. K. C. Chattopadhyaya in his article 'Did Pāṇini Envisage 'A' as a Close (*saṁvṛta*) Vowel?' [*Charudeva Shastri Felicitation Volume*, Delhi, 1974, pp. 194–205; henceforth: Chattopadhyaya (1974)] has dealt with the question of short *a* in Pāṇini's system. His conclusion is that the short *a*, like long *ā* and extralong *ā̄*, was an open (*vivṛta*) sound for Pāṇini, and that Kātyāyana and Patañjali are wrong in holding that the short *a* was a closed (*saṁvṛta*) sound for him. In support of his thesis, K. C. Chattopadhyaya has adduced arguments from the text of the *Aṣṭādhyāyī*, *Prātiśākhya*s, *Śikṣā*s and Historical Linguistics. This is a very vital point in the history of Sanskrit language and in the history of the Pāṇinian tradition, and, therefore, I plan to discuss K. C. Chattopadhyaya's arguments in detail. With all respect for the great scholar, I beg to differ from his conclusions. I hope the following discussion will help restore the true explanation of the sound *a* in Pāṇini's grammar.

2. Before proceeding to examine K. C. Chattopadhyaya's arguments, let us clearly understand the position of the Pāṇinian tradition.<sup>1</sup> The tradition believes that the sound *a* is a closed (*saṁvṛta*) sound, while *ā* and *ā̄* are open (*vivṛta*) sounds. In this context, the terms *saṁvṛta* 'closed' and *vivṛta* 'open' are used with reference to the size of the gap between the point of articulation (*sthāna*) and the articulator (*karana*), and thus they refer to two types of internal effort (*ābhyantara-prayatna*). Thus the sounds *a* and *ā* differ in their internal effort. Pāṇini defines the term *savarṇa* 'homogeneous' in P.1.1.9 (*tulyāsyaprayatnam savarṇam*). This rule says that two sounds are homogeneous (*savarṇa*) with each other, if they share the same point of articulation and internal effort. [I have independently treated problems of defining and implementing the concept of homogeneity in Pāṇinian and non-Pāṇinian grammars and the traditions of the *Prātiśākhya*s and *Śikṣā*s in a forthcoming monograph.<sup>2</sup>] Since *a* and *ā* do not share the same internal effort, they cannot be called homogeneous with each other by P.1.1.9.

<sup>1</sup> See: *Siddhānta-kaumudī* on P.8.4.68, Vol. I., pp. 17–18, [publ. by Matilal Banarasiass, Delhi, 4th edn., 1961].

<sup>2</sup> Madhav Deshpande, *Critical Studies in Indian Grammarians, I, Theory of Homogeneity [savarṇa], and its Historical Development*, to be published soon by the Center of South and Southeast Asian Studies, University of Michigan, Ann Arbor.

P.1.1.69 (*aṅ-udit savarṇasya cāpratyayaḥ*) says that an *a-N* sound and a sound marked with *U* stands for itself and its homogeneous sounds, if it is not an affix. Though *a* is an *a-N* sound, it would not be able to stand for  $\bar{a}$  and  $\bar{a}3$ . However, Pāṇini wants *a* to stand for  $\bar{a}$  and  $\bar{a}3$ . For that purpose, he needs to have all these to be *savarṇas*. In order that *a* and  $\bar{a}$  should be *savarṇa* “homogeneous”, Pāṇini pronounces *a* as an open sound within the sphere of his grammar. The final rule of his grammar, P.8.4.68 (*a a*) prescribes that open *a* be replaced by a closed *a*. This rule is *asiddha* “as if non-existent” for the rest of the preceding grammar, but is *siddha* “effective” for the expressions in the object language, the final output of Pāṇini’s grammar. Thus, within the limits of his grammar, this fictional open *a* is of metalinguistic significance, while the fiction ends by P.8.4.68, and there is no open *a* in the object language.<sup>3</sup> K. C. Chattopadhyaya thinks that Pāṇini himself did not have this concept of closed *a* in the object language. His object language had an open *a* which was naturally homogeneous with  $\bar{a}$  and  $\bar{a}3$ . He thinks that the procedure described above is a creation of Kātyāyana and Patañjali or of someone preceding them.

3. The starting point of K. C. Chattopadhyaya’s argument is that the rule P.8.4.68 (*a a*) is not a genuine part of the original *Aṣṭādhyāyī*, which, he thinks, ended with P.8.4.67 (*nodātta-svaritodayam a-gārgya-kāśyapa-gālavānām*). In support of his argument, Chattopadhyaya quotes Patañjali’s discussions on P.1.1.1 and P.1.3.1.<sup>4</sup> In P.1.1.1 (*vṛddhir ād-aic*), the logical order of words should have been *ād-aic vṛddhiḥ*, like P.1.1.2 (*ad-en guṇaḥ*), i.e. the sounds to be given a designation should come first and then the designation. On this rule, Patañjali says that Pāṇini changed the word order so that his grammar may begin with an auspicious word.<sup>5</sup> Patañjali, on P.1.3.1, makes a general observation that the *Śāstras* should begin with an auspicious word; in the middle they should have an auspicious word, and they should end with an auspicious word.<sup>6</sup> With this background, Chattopadhyaya says:<sup>7</sup>

<sup>3</sup> Deshpande (1972), pp. 230, 233.

<sup>4</sup> Chattopadhyaya (1974), pp. 196–7.

<sup>5</sup> *etad ekam ācāryasya maṅgalārtham mṛṣyatām/māṅgalika ācāryo mahataḥ śāstraughasya maṅgalārtham vṛddhi-sabdān āditāḥ prayūṅkte*, “This one [irregular usage] of the teacher for the sake of auspicious [beginning] may be excused. The teacher with auspicious intentions uses the word *vṛddhi* ‘prosperity’ in the beginning for the auspicious [opening] of the great tradition [lit. current, flow] of the *śāstra*.” *Mahābhāṣya* on P.1.1.1, Vol. I., Sec. I., p. 110.

<sup>6</sup> On P.1.3.1 [*bhūvādayo dhātavaḥ*], Patañjali says: *maṅgalādīni maṅgala-madhyāni maṅgalāntāni śāstrāni prathante*, “The *śāstras* are known to begin with an auspicious word, to contain an auspicious word in the middle and to end in an auspicious word.” *Mahābhāṣya*, Vol. I., Sec. II., p. 111.

<sup>7</sup> Chattopadhyaya (1974), p. 197.

It is to be noted that Pāṇini has used here [in P.8.4.67] *and here alone* the word *udaya* in place of the term *para* or *uttara* for what comes subsequently. The word *udaya* has been used in this sense in the *Prātiśākhya*s. *Udaya* also means 'rise', 'prosperity', the same as *vr̥ddhi*. It is thus a *maṅgalārthaka* word. It is with this *sūtra* containing a *maṅgalārthaka* word *udaya* that Pāṇini must have concluded his work.

To explain the addition of P.8.4.68 (*a a*), he says:<sup>8</sup>

The *sūtra* 'a a' (8.4.68), therefore, was added by persons who were surprised that Pāṇini had assumed in his grammar that *a* was of the same character as *ā* and *ā3*, whereas they pronounced it as a *saṃvṛta* vowel. Pāṇini was a native of Śālātura, near Attock in north-western India. His pronunciation must have been different from that current in eastern and southern India. Kātyāyana and Patañjali could not have had the same habit of pronunciation which Pāṇini had in the extreme north-west. They, therefore, had no difficulty in accepting as genuine *Sūtra* 'a a' (8.4.68).

Chattopadhyaya thus tries to drive home the point that Pāṇini had open short *a*, but in later times, in eastern and southern India, short *a* was pronounced closed (*saṃvṛta*). Hence the rule P.8.4.68 (*a a*) was invented and inserted in the *Aṣṭādhyāyī* in post-Pāṇinian times.

4. Before we examine Chattopadhyaya's argument, it may be mentioned that a similar argument had been given by H. Sköld to prove that P.8.4.68 did not belong to the original text of the *Aṣṭādhyāyī*.<sup>9</sup> He went to the extreme that he rejected the latter half of P.8.4.67. He held that the *Aṣṭādhyāyī* ended with the word *udayam*, and hence the original P.8.4.67 was thought to be only *nodātta-svaritodayam*, the other part *a-gārgya-kāśyapa-gālavānām* being considered to be a later addition.<sup>10</sup> This view is contradicted by Sköld's famous theory of *bhāsyē na vyākhyātām*: rules which were not commented upon by Patañjali did not belong to the original *Aṣṭādhyāyī*.<sup>11</sup> However, Kātyāyana and Patañjali have both commented upon P.8.4.68. K. Madhava Krishna Sharma has a detailed refutation of Sköld's view's.<sup>12</sup> This refutation, to some extent, applies also to Chattopadhyaya's arguments.

5. Chattopadhyaya is apparently satisfied with the fact that P.8.4.67 contains the word *udayam*, but, then, the text of the *Aṣṭādhyāyī* does not end with the word *udayam*. Chattopadhyaya has not gone to the extent of suggesting that the latter half of the rule P.8.4.67, i.e. *a-gārgya-kāśyapa-gālavānām*, is a later addition. If Pāṇini supposedly changed the word-order in P.1.1.1 to have the word *vr̥ddhi* first, why did he not attempt to have the word *udayam* placed at the end of P.8.4.67? Thus, Chattopadhyaya's

<sup>8</sup> *Ibid.*, pp. 197–8.

<sup>9</sup> H. Sköld (1926), pp. 2–8.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*, pp. 22–3.

<sup>12</sup> K. M. K. Sharma (1968), pp. 9–14.

argument based on the concept of *maṅgalānta* 'auspicious ending' does not hold good for P.8.4.67.

On the other hand, P.8.4.68 (*a a*) itself could be considered as an auspicious ending of the *Aṣṭādhyāyī* Nāgeśabhaṭṭa, in his *Uddyota* on P.8.4.68, has brought out the auspicious character of the sound *a*.<sup>13</sup> He says that *a* stands for Viṣṇu, and Pāṇini's rule repeats this name of Viṣṇu twice. He also refers to a passage from the *Aitareya-Āraṇyaka*, which says that the sound *a* is all the speech itself, and being manifested through stops and sibilants it becomes manifold.<sup>14</sup> To this may be added a passage from the *Bhagavad-Gītā* where Kṛṣṇa says that he is the sound *a* of all sounds.<sup>15</sup> Nandikeśvara's commentary *Kāśikā* on the *Śiva-sūtras* also brings out the auspicious significance of the sound *a*.<sup>16</sup> Thus P.8.4.68 has a legitimate claim to be the auspicious end of the *Aṣṭādhyāyī*.

6. After establishing the legitimate claim of P.8.4.68 (*a a*) to be the auspicious end (*maṅgalānta*) of Pāṇini's grammar, we may turn to other arguments of Chattopadhyaya. He says:<sup>17</sup> "A difference in pronunciation in different areas is as likely as in matters of accident and syntax. . . . Hence it is quite possible that in Pāṇini's time *a* was an open vowel in north-western India." Apart from this vague general claim of possible regional differences in pronunciation of Sanskrit, Chattopadhyaya has not adduced substantial evidence that *a* in north-western India was an open sound in Pāṇini's time. In modern times, except in Bengal, the short *a* sound is uniformly a closed sound. Chattopadhyaya has noted this fact himself.<sup>18</sup> This also does not support his case.

P.8.4.68 is not only commented upon by Patañjali, but also by Kātyāyana.

<sup>13</sup> *evam sūtra-kāreṇāpi viṣṇu-vācakākārasya dvir uccāranād dvir viṣṇu-smaraṇa-rūpaṁ maṅgalam ācaritam. kim ca 'akāro vai sarvā vāk, saiṣā sparśoṣmabhir vyajyamānā nānā-rūpā bhavati' iti śruter akārasya sarva-śabda-prakṛtīvāt, a iti brahmeti śabda-brahma-rūpatva-śravaṇāc ca mahā-maṅgalārthatā,* "Thus by repeating twice the sound *a* which denotes Viṣṇu, the author of the *sūtras* has performed an auspicious act in the form of twice remembering Viṣṇu. Moreover, [the utterance of the sound *a*] has an exceedingly auspicious purpose, since the sound *a* is the primal material of all the sounds on the authority of the following Vedic passage: 'The sound *a* is indeed all the speech; it becomes manifold being manifested through stops and sibilants', and also because it is learned from the Vedic scriptures such as: '*a* is *brahman*' that [the sound *a*] is of the nature of the *śabda-brahman* 'sound as the ultimate reality'." *Uddyota on Mahābhāṣya* on P.8.4.68, Vol. III., p. 511.

<sup>14</sup> Ref. to fn. 13. The passage *akāro vai sarvā vāk* etc. is from *Aitareya-Āraṇyaka* 2.3.6.

<sup>15</sup> *akṣarāṇām akāro 'smi, Bhagavad-Gītā* 10.33.

<sup>16</sup> Nandikeśvara's *Kāśikā* with a commentary by Upamanyu, *Mahābhāṣya*, Vol. I., Nirṇaya Sagara Press edn., ed. by Paṇḍita Śivadatta D. Kudāla, Bombay, 1917, pp. 333ff.

<sup>17</sup> Chattopadhyaya (1974), p. 198.

<sup>18</sup> *Ibid.*, p. 194.

Kātyāyana mentions objections against this rule and attempts to find solutions to these objections.<sup>19</sup> It seems that the rule was held to be an integral part of Pāṇini's grammar long before Kātyāyana. Kātyāyana's final *vārttika* on the *Aṣṭādhyāyī* tries to justify the form of the rule as it stands, and specifically refers to the rule as belonging to *Bhagavān* Pāṇini.<sup>20</sup> Some of the modern scholars like Vidyā Niwas Misra characterize this rule as an unimportant phonetic observation.<sup>21</sup> However, Kātyāyana and Patañjali realized its functional value in Pāṇini's grammar, and there is no reason to doubt Kātyāyana's or Patañjali's interpretation of the rule.

7. Patañjali says that an open *a* is not found either in the Vedas or in the common spoken language.<sup>22</sup> Chattopadhyaya characterizes this as "an uninformed boast" and remarks: "There is ample evidence about its *vivṛta* character in the Vedas."<sup>23</sup> However, as we shall see, Chattopadhyaya's evidence is absolutely inconclusive. He quotes instances of *a* and *ā* freely alternating in the *R̥gveda*, and thinks that this could not be possible if one was closed and the other open<sup>24</sup> [*viśváha* (3 times), *viśvāhā* (14 times) and *viśvāhā* (15 times)]. Similarly, for metrical reasons, *a* is sometimes lengthened into *ā*<sup>25</sup> [*arāik* (in the *Padapāṭha*), *āraik* (in the *Sarṁhitā*)]. These examples cannot prove that *a* must be open in the *R̥gveda*. Even if *a* were a closed sound, still *ā* is the nearest vowel to alternate with it. We have alternations like *sūrya/sūriya*, despite the fact that *y* and *iy* do not have the same internal effort.

Chattopadhyaya points out that the Sanskrit diphthongs contain the sound *a*. Then he remarks:<sup>26</sup> "The mutation of *e* (= *a-i*) into *ā3i* or of *o* (= *a-u*) into *ā3u* was possible because the first element *a* in these diphthongs was of the same nature as *ā3*, i.e. *vivṛta*." Many texts support that diphthongs were more open than other vowels.<sup>27</sup> We can agree that the element *a* in these diphthongs was an open sound, though there were phonetic traditions which held that *a* in *ai* and *au* was *sarivṛta-karana-tara* "with a more closed

<sup>19</sup> Deshpande (1972), pp. 226, 230 and 233.

<sup>20</sup> *ekaśeṣa-nirdeśād vā svara-bhinnānām bhagavataḥ pāṇineḥ siddham, Vārttika 4 on P.8.4.68.*

<sup>21</sup> "Nevertheless Sköld's observation that the last *sūtra* (VIII.4.68) is extraneous to the *Aṣṭādhyāyī* seems to be well founded, as this *sūtra* gives a phonetic observation that is not relevant to the analysis." V. N. Misra (1966), p. 20.

<sup>22</sup> *naiva loke na ca vede 'kāro vivṛto 'sti, Mahābhāṣya*, Vol. I., Sec. I., p. 64.

<sup>23</sup> Chattopadhyaya (1974), pp. 198–9.

<sup>24</sup> *Ibid.*

<sup>25</sup> *Ibid.*

<sup>26</sup> *Ibid.*, pp. 199–200.

<sup>27</sup> For instance: *Śaunakīyā Caturādhyāyikā* (i.34) [*ekāraukārayor vivṛtatamam*]; *R̥ktantra* (i.3) [*vivṛtataram akāraikāraukārāṇām*].

articulator".<sup>28</sup> However, this cannot prove in any logical way that *a* as an independent sound had to be open. Patañjali accepts components of diphthongs to be *vivṛtatara* 'more open', and yet he declares that *a* as an independent sound is open neither in the Vedic nor in the spoken language.<sup>29</sup> Chattopadhyaya's arguments seem to be based on analogy and are not sound. This may be compared with the sounds *r* and *ṛ*. Some texts considered *r* as being *danta-mūlīya* 'produced at the root of the teeth', but *ṛ* and *ḷ* both as being *jihvā-mūlīya* 'produced at the root of the tongue'.<sup>30</sup> Other texts consider both *r* and *ṛ* to be *mūrdhanya* 'cerebral'.<sup>31</sup> Yet the rules which give relations between *r* and *ṛ* are the same. Despite the difference of opinion on the point of articulation of *r* and *ṛ*, all texts agree that *n* changes to *ṇ*, if preceded by *r*, *ṛ* and *ṣ*. Thus it would be a mistake to claim that one could infer *exact* phonetic details from grammatical features of written literature. Such inferences can never be stronger than the explicit statements of ancient Indian phoneticians.

8. Chattopadhyaya discusses the *Prātiśākhya*s and *Śikṣās* to some extent and tries to conclude that these texts generally support his theory of open (*vivṛta*) short *a*. On this point there has been great difference of opinion from the time of Weber and Whitney. Traditionally, there is a dichotomy between different texts on this point. Texts which are held to stand for closed *a* and open *ā* are the *Aṣṭādhyāyī*, *Vājasaneyi-prātiśākhya* and the *Śaunakīyā Caturādhyāyikā*, while the *Ṛgveda-prātiśākhya* and the *Taittirīya-prātiśākhya* do not clearly distinguish the quality of *a* from that of *ā*. Whitney comments:<sup>32</sup> "But it is very doubtful whether we are to regard the silence of these two treatises upon the point in question as any evidence that they are of notably earlier date than the others, as Weber seems inclined to do: their peculiarity is much more likely to be due to a local or a scholastic difference of pronounci-

<sup>28</sup> *Taittirīya-prātiśākhya* (ii.27) [*saṁvṛta-karaṇa-taram ekesām*].

<sup>29</sup> *yad atṛāvārṇaṁ vivṛtataṛaṁ tad anyasmād avarṇāt. ye apīvarṇovarne vivṛtare te anyābhyāṁ ivarṇovārṇābhyāṁ*, "The *a*-vowel that is in here (i.e. in a diphthong) is more open than other *a*-vowels. Similarly, the *i*-vowel and the *u*-vowel that are [in here] are more open than other *i*-vowels and *u*-vowels." *Mahābhāṣya*, on the *Siva-sūtra: e-o-N*, Vol. I., Sec. I., p. 64. See fn. 22 for Patañjali's statement on independent *a* being always a closed sound.

<sup>30</sup> *ṛkāralkārāv atha ṣaṣṭha ūsmā jihvā-mūlīyah prathamāś ca vargaḥ, Ṛgveda-prātiśākhya*, 1.8 and *danta-mūlīyas tu takāra-vargaḥ. sakāra-repha-lakārās ca, Ṛgveda-prātiśākhya*, 1.9–10.

*jihvā-mūle ḥ-k-ṛ, Ṛktaṅtra*, 2.4 and *repho (danta-)mūle vā, Ṛktaṅtra*, 2.8.

*ṛ-ḥ-kau jihvā-mūle, Vājasaneyi-prātiśākhya*, i.65 and *ro danta-mūle, Vājasaneyi-prātiśākhya*, 1.68.

<sup>31</sup> *ṛ-tu-ra-sāḥ mūrdhanyāḥ, Apīśali-śikṣā-sūtra*, 8, *Sthāna-prakarana, Śikṣā-sūtrāṇi*, p. 2, and *syur mūrdhanyā ṛ-tu-ra-sāḥ, Pāṇinīya-śikṣā*, 17, *Śikṣā-saṁgraha*, p. 379.

<sup>32</sup> Whitney, *Saunakīyā Caturādhyāyikā*, p. 32.

ation, or they may have simply disregarded as of little account, the discordance of quality between *a* and *ā*.” In this remark, Whitney has hinted at many different possibilities, without coming at a definite conclusion.<sup>33</sup> Max Walleser has considered these alternatives and he concludes as follows: ‘Mir scheint nun nur die an zweiter Stelle gegebene Erklärung angängig zu sein, nämlich die Annahme, dass der Unterschied in der Aussprache schon in der ältesten Zeit bestanden habe, aber erst nach der Zeit der Rk. und Taitt. Pr. bemerkt worden ist, und zwar aus vier Gründen: . . .’, Walleser (1927, p. 195). I tend to agree with his general conclusion, but, unfortunately, his ‘vier Gründe’ are not very convincing. He seems to believe that no sound changes are heard of or have been observed within the ‘Literaturschicht der Prāṭisākhyaen’, and that the Vedic speech being a dominating ‘Kultsprache’, any organic sound changes were generally unlikely. The arguments adduced by him to prove that the Sanskrit short *a* was a closed sound are based on the historical relationship of the Sanskrit *ā* with Indo-European *a*, *e* and *o*. The thrust of the argument is that the Sanskrit short *a* is the Indo-European Schwa, which is described by linguists as an ‘unbestimmten Vokal’ or as an ‘unvollkommen gebildeten Vokal’ (*Ibid.*, p. 197). For this reason it as if concealed the distinctions of the Indo-European *a*, *e* and *o*. I am not yet convinced of the historical validity of this argument.

9. Chattopadhyaya says:<sup>34</sup> “The *Rk Prāṭisākhya* uses the terms *vivṛta* and *saṁvivṛta* about consonants only and not about vowels.” This is not quite correct. The *Ṛgvedapṛāṭisākhya* says<sup>35</sup> that the glottis could be open (*vivṛta*), closed (*saṁvivṛta*), or in between. If it is closed (*saṁvivṛta*), then *nāda* ‘resonance’ is produced. If it is open (*vivṛta*), then *śvāsa* ‘unintonated breath’ is produced. If the glottis is in between, both of these are produced. The emission of *nāda* ‘resonance’ is shared by vowels (*svara*) and voiced (*ghoṣavat*) consonants, while *śvāsa* ‘unintonated breath’ is shared by unvoiced (*aghoṣa*) consonants. Thus, the description of glottis being closed (*saṁvivṛta*) applies to all the vowels. However, this is not the same as *saṁvivṛta-prayatna* ‘closure as an internal effort’, which refers to a minimal gap between the articulator and the point of articulation. The *Ṛgveda-pṛāṭisākhya* classifies vowels, sibilants and

<sup>33</sup> The chronology of the *Prāṭisākhya*s is still not settled definitively and that makes it hard to decide this question.

<sup>34</sup> Chattopadhyaya (1974), p. 200.

<sup>35</sup> *vāyuḥ prāṇaḥ koṣṭhyam anupradānaṁ kaṅṭhasya khe vivṛte saṁvivṛte vā/āpadyate śvāsatām nādatām vā vaktrīhāyam ubhayaṁ vāntarobhau//tā varṇānām prakṛtayo bhavanti śvāso ghoṣānām itareṣāṁ tu nādaḥ/*, *Ṛgveda-pṛāṭisākhya*, 13.1–2. The word *itareṣāṁ* is explained by Uvaṭa with *svarānām ghoṣavatām ca* ‘vowels and voiced consonants’. Also see: *Taittirīya-pṛāṭisākhya* 2.8.

*anusvāra* as being *aspr̥ṣṭa* ‘without contact’, stops as being *spr̥ṣṭa* ‘with contact’ and semi-vowels as being *duḥspr̥ṣṭa* “with obscured contact.”<sup>36</sup> Thus *a* and *ā* are both *aspr̥ṣṭa* ‘without contact’ between the articulator and the point of articulation. However, this does not necessarily mean that there could not have been a difference in the size of the gap. Despite having a small and a big gap, both could be classified as being ‘without contact’. Thus, we can never be sure if there was any difference or not in the size of the gap. The concept of non-contact does not permit any subclassification, but the concept of a gap or openness does permit such a subclassification.<sup>37</sup>

10. The *Ṛktaṅtra*, ascribed to *Śākaṭāyana*, shows some terminological development. It uses the terms *saṁvṛta* and *vṛta* in the context of glottal aperture.<sup>38</sup> But it extends the term *vṛta* to the gap between the articulator and the point of articulation. It replaces the older notion of *aspr̥ṣṭa* “without contact” with *vṛta* ‘open’. It says that all vowels and sibilants are *vṛta*.<sup>39</sup> It also says that *akāra*, *e/aikāra* and *o/aukāra* are *vṛtatara* ‘more open’.<sup>40</sup> This is a very strange statement. Literally it means that *a* is more open than *ā*. Is it possible that the term *akāra* is used in the sense of *avarṇa*, or is it a misreading for *ākāra*? It is hard to answer this question. The stage of the *Ṛktaṅtra* still seems to be quite primitive. There is no differentiation in the efforts of vowels and sibilants, and openness has only two types: open and more open. It is possible that this terminological underdevelopment is responsible for not differentiating *a* from *ā* qualitatively. For this reason, I cannot accept the *Ṛktaṅtra* statements as indicating definitive identity of the internal efforts of *a* and *ā*.

11. The *Taittirīya-prātiśākhya* extends both *saṁvṛta* and *vṛta* from glottal aperture<sup>41</sup> to internal efforts. It distinguishes the effort of vowels from that of all the other consonants. It describes all vowels as having

<sup>36</sup> *tad-viśeṣaḥ karaṇam spr̥ṣṭam asthitam, duḥspr̥ṣṭam tu prāghgakarūc caturṇām. svarānusvāroṣmanām aspr̥ṣṭam sthitam, Ṛgveda-prātiśākhya*, 13.3.

<sup>37</sup> The *aspr̥ṣṭa* ‘non-contact’ classification of vowels is probably the older classification, and it is gradually seen being replaced by the more advanced categories such as *vṛta* ‘open’, *vṛtatara* ‘more open’, *vṛtatama* “most open” and *saṁvṛta* ‘closed’. This is my personal judgement. However, in the available recorded documents, the term *vṛta* ‘open’ appears first. What is not clear is whether it stands for glottal openness or for openness as an internal effort. For details, cf. Madhav Deshpande, ‘New Material on the *Kautsa-vyākaraṇa*’, appearing in the *Journal of the Oriental Institute*, Baroda, (1975?).

<sup>38</sup> *saṁvṛto ghoṣavān, vṛto ghoṣaḥ, Ṛktaṅtra*, 1.3.

<sup>39</sup> *vṛtam svarāṣmanām, Ṛktaṅtra*, 1.3.

<sup>40</sup> *vṛtataram akāraikāraukārāṇām, Ṛktaṅtra*, 1.3.

<sup>41</sup> *saṁvṛte kaṅthe nādaḥ kriyate, vṛte śvāsaḥ, Taittirīya-prātiśākhya*, ii.4–5.



*upasaṁhāra* ‘approximation’ between the point of articulation and the articulator, while all other consonants have *sparsana* ‘contact’.<sup>42</sup> It says that the middle of the articulator is *vivṛta* ‘open’ in the case of sibilants, while the rest of the articulator is still with *sparsana* ‘contact’.<sup>43</sup> This is what distinguishes sibilants from the other consonants. It states that according to some phoneticians *a* in *ai* and *au* is *saṁvṛta-karaṇa-tara* ‘with a more closed articulator’.<sup>44</sup> This could mean that the normal *a* was *saṁvṛta*, despite Whitney’s remarks to the contrary.<sup>45</sup> Chattopadhyaya considers this rule (ii.27) to be an interpolation, because the word *saṁvṛta-karaṇa-tara* is used without ever defining or using elsewhere the term *saṁvṛta*.<sup>46</sup> This is a very weak argument. This text has used many terms without defining them, and it would be catastrophic to consider all such rules as interpolations. Pāṇini has also used many technical terms without defining them; such terms are ascribed to *pūrvācāryas* ‘previous teachers’ by the commentators, implying that they were well established before Pāṇini wrote his grammar. The rule (ii.12) of the *Taittirīya-prātiśākhya* literally says that in the case of *a*-vowels (*avarṇa*), lips and jaws are neither too closed, nor too much apart.<sup>47</sup> Chattopadhyaya quotes Whitney on this rule to show that this rule does not indicate *a* as a closed sound.<sup>48</sup> However, contrary to Whitney’s comments, all the three available commentaries on the *Taittirīya-prātiśākhya* interpret the rule to mean that *a* is not ‘too closed’, and *ā* and *ā3* are not ‘too open’.<sup>49</sup> This indicates that there is a possibility of *a* being closed and *ā* being open, despite the

<sup>42</sup> *svaṛāṇāṁ yatropasaṁhāras tat sthānam, Taittirīya-prātiśākhya*, ii.31 and *anyeṣāṁ tu yatra sparsanam tat sthānam* ibid., ii.33.

<sup>43</sup> *karaṇa-madhyam tu vivṛtam, Taittirīya-prātiśākhya*, ii.45.

<sup>44</sup> *saṁvṛta-karaṇa-taram ekeṣāṁ, Taittirīya-prātiśākhya*, ii.27. The previous rule (ii.26) says that there is a half-mora quantity of *a* in the beginning of *ai* and *au*. The rule (ii.27) says that this half mora of *a* is a ‘more closed’ sound according to some. The natural interpretation of this would be that for others this *a* was not ‘more closed’. The real question is whether it was ‘open’ or ‘closed’. The comparative degree in the expression *saṁvṛta-karaṇa-tara* can be better justified if normal *a* were a ‘closed’ sound, contrasting with this ‘more closed’ occurrence.

<sup>45</sup> Whitney on the *Taittirīya-prātiśākhya*, ii.27, p. 65.

<sup>46</sup> Chattopadhyaya (1974), p. 201.

<sup>47</sup> *avarṇe nāty-upasaṁhṛtam oṣṭha-hanu nāti-vyastam, Taittirīya-prātiśākhya*, ii.12. “In forming the *a*-vowels, the lips and jaws must not be too nearly approximated, nor too widely separated.” Whitney’s translation, *Taittirīya-prātiśākhya*, p. 55.

<sup>48</sup> Chattopadhyaya (1974), pp. 201–2.

<sup>49</sup> *ākāre nāty-upasaṁhṛtam, ākāre ca plute ca nātivyastam*, *Tribhāṣyaratna* on the *Taittirīya-prātiśākhya*, ii.12, p. 55.

*ākāre nāty-upasaṁhṛtaḥ, ākāre ca plute ca nātivyastah*, Māhīṣeya’s *Padakramasadanabhaṣya* on the *Taittirīya-prātiśākhya*, [Madras edn.], p. 19. *hrasve avarṇe upaśleṣa-bhūyastvam, dīrgha-plutayos tu viśleṣa-bhūyastvam iti. ata eva “akāravād oṣṭhau”* (ii.21) *iti atidekṣyati. na tv avarṇavad iti. śikṣāyām ca smaryate – “vivṛtam uṣṁāṇāṁ svarāṇāṁ ca, saṁvṛtam akārasya” iti, Vaidikābharāṇa on the Taittirīya-prātiśākhya* [Mysore edn.], p. 73. The commentary *Vaidikābharāṇa* has brought out an important piece of evidence to show that this text does differentiate *a* and *ā* qualitatively. The rule (ii.21) says that

explicit statement that they both have approximation (*upasaṁhāra*) between the point of articulation and the articulator. There can be different degrees of approximation.<sup>49 a</sup>

12. The *Śaunakīyā Caturādhyāyikā* most clearly says that *a* is *saṁvṛta* ‘closed’, while *ā* is the most open (*vivṛta*) of all sounds.<sup>50</sup> Chattopadhyaya has accepted this fact.<sup>51</sup> This text is identical with the *Vyākaraṇa* ascribed to Kautsa.<sup>52</sup> Patañjali has quoted this text in his *Mahābhāṣya*.<sup>53</sup> Patañjali’s *Mahābhāṣya* refers to Kautsa as a student of Pāṇini.<sup>54</sup> If this Kautsa is the same as the author of the *Śaunakīyā Caturādhyāyikā* or *Kautsa-vyākaraṇa*, then this concept of *a* being *saṁvṛta* ‘closed’ can be traced to Pāṇini’s own disciple. However, this needs more historical research. Anyway, the text clearly distinguishes *a* from *ā*. I have checked the manuscripts of this text in the Bhandarkar Oriental Research Institute, Poona, and the Vaidika Samśodhana Maṇḍala, Poona, and the rules in question are found in all the manuscripts.

13. The *Vājasaneyi-prātiśākhya* (1.72) [*ṣavarṇavac ca*] is normally interpreted to mean that *a* is closed, and yet is to be treated like a *ṣavarna* “homogeneous sound” with respect to *ā* which is open. This is Uvaṭa’s explanation and has been accepted by Weber and Whitney.<sup>55</sup> Chattopadhyaya says:<sup>56</sup> “Whitney’s reference(s) to the close character of *a* according to *sūtra* 1.72 is

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when no special directions are given, the lips are in a position similar to the production of the short *a*, i.e. *akāra*. The commentary says that this rule differentiates the position of the lips in producing *a* from the position in producing *ā* and *ā3*. Thus the rule specifically refers to a short *a*, and not to *a-varṇa*, i.e. *a-vowels*, which include *ā* and *ā3*.<sup>49a</sup> The notion of *upasaṁhṛtatara* ‘more approximated’ is seen in the rules *Taittirīya-prātiśākhya* ii.14, 16 and 18. Similar gradations are seen in ii.15 and 27. These are different gradations in ‘non-contact’.

<sup>50</sup> *tato’py ākārasya, saṁvṛto’kārāḥ, Śaunakīyā Caturādhyāyikā*, i.35–6.

<sup>51</sup> Chattopadhyaya (1974), p.202.

<sup>52</sup> Katre S. L. (1938). I have myself compared the two manuscripts of the *Kautsa-vyākaraṇa* in the Vaidika Samśodhana Maṇḍala, Poona, with the manuscripts of the *Śaunakīyā Caturādhyāyikā* in this collection as well as in the collection at the Bhandarkar Oriental Research Institute, Poona. These two texts are virtually identical.

<sup>53</sup> *Mahābhāṣya* on P.1.1.10, Vol. I., Sec. I., p. 160.

<sup>54</sup> *upasedivān kausaḥ pāṇinim, Mahābhāṣya* on P.3.2.108, Vol. II., p. 172.

<sup>55</sup> *atrākārasya mātrikasya saṁvṛtasya-prayatnasya itarayoḥ ca vivṛtasya-prayatnayor dvi mātrika-tri mātrikayoḥ saha sāvarṇyam tulyam na sambhavatīti tadartham idam ārabhyate/ṣavarṇavac ca kāryam bhavati, ṣavarna-dīrghatvam bhavatiṭy arthaḥ/*, Uvaṭa on the *Vājasaneyi-prātiśākhya*, i.72, p. 29. *dīrghaplutayor avarṇor vivṛtatvam/saṁvṛtam hrasvasyetyi bhinna-prayatnatvena dīrghādīnām sāvarṇyābhāvād vacanena sāvarṇyam abhihitam/*, Anantabhatta’s *Bhāṣya* on the *Vājasaneyi-prātiśākhya*, i.72, p. 29. Also see: Whitney on the *Śaunakīyā Caturādhyāyikā*, i.36, pp. 31–2; *Vājasaneyi-prātiśākhya*, ed. and tr. by Albrecht Weber, *Indische Studien*, Band 4, Berlin, 1958. pp. 118–9.

<sup>56</sup> Chattopadhyaya (1974), p. 201.

wrong. ... Uvāṭa's reference to the *saṁvṛta* character of *a* and the *vivṛta* character of other vowels is against the text and has been imported from the *Vārttika* and the *Mahābhāṣya*." Having thus discarded the older interpretation, Chattopadhyaya proposes a new interpretation for the rule I.72. He says:<sup>57</sup> "Sūtras I.65 to 71 all speak about the *sthāna* of vowels and consonants. 'Savarṇavac ca' must mean in this context, that *savarṇa* vowels, such as *a, ā, ā3, i, ī, ī3, u, ū, ū3*, have the same *sthāna* of utterance." It must be pointed out that this interpretation is not correct. In the system of the *Vājasaneyi-prātiśākhya* we do not need a rule to that effect. The rule I.63 [*hrasva-grahaṇe dīrgha-plutau pratīyāt*] says that when in the following rules a short vowel is mentioned, it also stands for long and extra-long varieties. The rule of I.64 [*prathama-grahaṇe vargam*] says that in the following rules the first of the stop-series stands for the series. Thus a rule like I.66 [*icaśeyās tālau*] literally says: "the sounds *i, c, ś, e* and *y* are produced in the palate." By the rule I.63, *i* stands for *ī* and *ī3* also. Similarly, by I.64, *c* stands for *c-varga*. Thus I.72 need not say what Chattopadhyaya makes it say. Actually, Uvāṭa's explanation is quite sound. The sound *a* continues from I.71 [*ahavisarjanīyāḥ kanṭhe*] into I.72 [*savarṇavac ca*]. By I.63, *a* also stands for *ā* and *ā3*. Thus the rule naturally means: "The sounds *a, ā* and *ā3* are also *savarṇavat* 'treated like *savarṇa*'." This is a legitimate interpretation and implies that these sounds are not *savarṇas* by the regular definition of I.43 [*samāna-sthāna-karaṇāsya-prayatnaḥ savarṇaḥ*], which requires sounds to have the same point of articulation, the articulator and the internal effort. By I.71, *a, ā* and *ā3* have *kanṭha* 'throat' as their point of articulation. The rule I.84 [*kanṭhyā madhyena*] says that throatal sounds have *hanu-madhya* 'middle of the jaws' as their articulator. Thus the only possible difference between *a* and *ā* is that of *āsya-prayatna* 'internal effort'. Thus Uvāṭa's explanation of the rule seems to be quite natural.

14. Chattopadhyaya quotes the versified *Pāṇinīya-śikṣā* to support his thesis of open *a*.<sup>58</sup> The verse 21 says that vowels and sibilants are *vivṛta* 'open', *e* and *o* are more open, and *ai* and *au* are most open.<sup>59</sup> However, he ignores the verse 20ab: *saṁvṛtam mātrikaṁ jñeyam, vivṛtam tu dvi-mātrikam*. This line is found only in the *Rgveda* version of the *Pāṇinīya-śikṣā*, and has not been explained by any of the commentaries.<sup>60</sup> However, Chattopadhyaya quotes

<sup>57</sup> *Ibid.*

<sup>58</sup> *Ibid.*, p. 202.

<sup>59</sup> *svarāṇām usmaṇām caiva vivṛtam karaṇam smṛtam, Pāṇinīya-śikṣā*, 21ab, *Śikṣā-saṁgraha*, p 380.

<sup>60</sup> Manmohan Ghosh (1938), p. 41. He translates this line as: "A *saṁvṛta* (close) sound is one *mātrā* long, and a *vivṛta* (open) sound is two *mātrās* long." *Ibid.*, p. 64. This is a

this line and yet does not seem to realize its significance.<sup>61</sup> It can only refer to a closed *a* which is of one mora, and to an open *ā* which has two moras. The *Śikṣā-sūtras* ascribed to Āpiśali explicitly refer to closed *a*.<sup>62</sup> The long and the short versions of the *Pāṇinīya-śikṣā-sūtras* also refer to closed *a*.<sup>63</sup> Chattopadhyaya quotes the *Cāndra-varṇa-sūtras* to show that there is no closed *a*.<sup>64</sup> This is a misrepresentation of these *sūtras*. Candragomin clearly refers to *saṁvṛtatva* 'closedness' as an internal effort.<sup>65</sup> Chattopadhyaya himself quotes this rule.<sup>66</sup> However, the edition of these *sūtras* used by Chattopadhyaya does not have a rule for stating that *a* is a closed sound. He uses the edition by K. C. Chatterji [an appendix to his two-volume edition of the *Cāndra-vyākaraṇa*, Deccan College, Poona, 1953, 1961]. It would be strange to have *saṁvṛta* on the list of internal efforts, and not have any sound possessing it. I have checked three other editions of these *sūtras*, and all of them have the rule *saṁvṛtatvam akārasya* "the internal effort of *a* is *saṁvṛtatva* 'closedness'."<sup>67</sup> Many other *Śikṣās* and grammatical traditions accept *a* as a closed sound.<sup>68</sup>

15. The notion of an open *a* gained prominence among some of the Jaina grammarians. Among them, Śākaṭāyana alone speaks of *a* being a closed sound.<sup>69</sup> Hemacandra holds that *a* is an open sound, and says that others, i.e. the Pāṇinīyas, consider it to be a closed sound.<sup>70</sup> Hemacandra's main source is the *Śikṣa* of Āpiśali, and it is not clear why he differed from Āpiśali on this point. In the rules of the *Jainendra-vyākaraṇa* there is no indication of *a*

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very neutral translation and does not clarify anything. If the terms *saṁvṛta* and *vivṛta* were to refer to glottal aperture, then this distinction of short and long cannot apply to this classification. This line has to refer to a closed *a* and an open *ā*.

<sup>61</sup> Chattopadhyaya (1974), p. 202.

<sup>62</sup> *saṁvṛto 'kārah*, Āpiśali-śikṣā-sūtra 11, *antaḥ-prayatna-prakaraṇam*, *Śikṣā-sūtrāṇi*, p. 4.

<sup>63</sup> *saṁvṛtas tv akārah*, *Vṛddha-pāṭha* of the *Pāṇinīya-śikṣā-sūtras*, *sūtra* 12 in the *antaḥ-prayatna-prakaraṇa*, *Śikṣā-sūtrāṇi*, p. 12. The same *sūtra* is found in the *Laghu-pāṭha* of the *Pāṇinīya-śikṣā-sūtras*, *Ibid.*, p. 21.

<sup>64</sup> Chattopadhyaya (1974), pp. 202–3.

<sup>65</sup> *tatrābhyantarāḥ; saṁvṛtatvaṁ vivṛtatvaṁ sprṣtatvaṁ īṣat-sprṣtatvaṁ ca*, *Cāndra-varṇa-sūtrāṇi*, *Śikṣāsūtrāṇi*, p. 25.

<sup>66</sup> Chattopadhyaya (1974), p. 202.

<sup>67</sup> Candragomin's *Varna-sūtras*, an appendix to the *Cāndravvyākaraṇa*, ed by Bechardas J. Doshi, *Rājassthāna Purātana Grantha-mālā*, No. 39, 1967, p. 81.

*Cāndra-varṇasūtras*, *Śikṣāsūtrāṇi*, p. 25.

*Cāndravarnasūtras*, appendix to the *Pāṇinīyaśikṣā*, Manmohan Ghosh (1938), p. 45.

<sup>68</sup> *akārah saṁvṛto jñeya itare vivṛtāḥ, svarāḥ*, *Yājñavalkya-śikṣā* 209ab, *Śikṣā-saṁgraha*, p. 32; *akārah saṁvṛto jñeyo vivṛtāḥ cetare svarāḥ*, *Varna-ratna-pradīpikā-śikṣā* of Amareśa, 40ab, *Śikṣā-saṁgraha*, p. 120. *saṁvṛtatvam akārasya*, *Sarvasammata-śikṣā*, 181a, Mss No: 383, 1883–84, Bhandarkar Oriental Research Institute, Poona. *saṁvṛtaṁ cety akārasya*, *Saiśirīya-śikṣā*, the *Journal of Vedic Studies*, Vol. 2., No. 2., August 1935, p. 3.

<sup>69</sup> *saṁvṛtatvam akārasyeti*, *Amoghavṛtti* on the *Śākaṭāyana-vyākaraṇa*, 1.1.6, p. 3.

<sup>70</sup> *akārah saṁvṛta ity anye*, *Brhad-vṛtti* on *Hema-śabdānuśāsana*, 1.1.17, p. 4.

being an open sound. But Abhayanandin, the author of the *Mahāvṛtti*, holds that *a* is an open sound, and criticizes Pāṇini for holding that *a* was open only in grammar, while it was a closed sound in the real usage.<sup>71</sup> Malayagiri also accepts *a* as an open sound.<sup>72</sup> None of the other grammars accept this view.

16. Chattopadhyaya believes that the closed *a* came to be used in Sanskrit in post-Pāṇinian times. He says:<sup>73</sup> “In view of these facts, it appears very likely that in Pāṇini’s bhāṣā *a* differed from *ā* only in *mātrā* and was fully its *savarna* and that *a* became a *saṁvṛta* vowel *later* or in the eastern and southern parts of the country under the influence of Primitive Dravidian unaffected by Sanskrit scholasticism.” He considers that the cerebral sounds in Sanskrit show influence of Dravidian on ancient Sanskrit. There is little disagreement on this point. But nobody has ever claimed that the closed *a* in Sanskrit is due to Dravidian influence. As a new suggestion of Chattopadhyaya this is certainly worth exploring. However, this argument cannot be used to prove that *a* in Pāṇini’s time was open and it became closed later due to the Dravidian influence. The cerebral sounds and *ḷ*, which are ascribed to Dravidian influence, appear already in the *R̥gveda*, the oldest compositions in Indo-Aryan. If we want to ascribe closed *a* to Dravidian sources, there is no reason why it should not be coeval with cerebral sounds. By this line of argument, we may have to push back the appearance of closed *a* to R̥gvedic times. This certainly goes against Chattopadhyaya’s thesis.

17. In conclusion, we may say that there is no evidence to show that the traditional interpretation of Pāṇini’s system concerning phonetics of *a* is wrong. On the other hand, there is overwhelming evidence to the contrary. Chattopadhyaya thinks that *a* was originally an open sound, which later became a closed sound. The evidence discussed above shows that it is more probable that *a* has been a closed sound from early times, and that it became an open sound only in a province like Bengal, and in some of the Jaina

<sup>71</sup> *vivṛta-karanāh svarāh, . . . anye saṁvṛtam akāram icchanti loke. śāstra-vyavahāre tu vivṛtam etac cāyuktam. loka-śāstrayor uccāraṇam praty aviśeṣāt., Jainendra-mahāvṛtti* [on the *Jainendra-vyākaraṇa*, 1.1.2], p. 2.

<sup>72</sup> Malayagiri’s *Sabdānuśāsana*, with the autocommentary, p. 5.

<sup>73</sup> Chattopadhyaya (1974), p. 204. Contrast Chattopadhyaya’s overall assessment with the following remark of Jules Bloch: “For example, even the grammarians have noted that *a* was more closed than *ā* and this is confirmed in several ways, particularly by the oppositions of timbre, which nowadays replace the ancient oppositions of quality, e.g. Bengali *ā*, *o* opposed to *a* (written *ā*), European Romany *e* opposed to *a*.” *Indo-Aryan, from the Vedas to Modern Times*, [tr. from the original French by Alfred Master], Paris, 1956, p. 34. If actually the closed *a* is due to Dravidian influence, it can be pushed back to the shift from Indo-Iranian to Indo-Aryan. The existence of Brahui and Elamite in the Iranian regions and other similar facts may lead us to believe that the migrating Aryans might have come into contact with Dravidians even before they entered India proper.

traditions. We must be thankful to Chattopadhyaya for his novel suggestion that this closed *a* may be due to Dravidian influence on old Sanskrit. This certainly needs further exploration in the ancient linguistic history of Sanskrit, Iranian and Dravidian, and must be accepted at this stage only as a hypothesis.

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