CHAPTER-I

MEANING AND SIGNIFICANCE OF ŚIKṢĀ AND GENERAL ŚIKṢĀS
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I.1 Definition of Śikṣā

Paṇīni derives the word Śikṣā from the desiderative of ‘śak’, (to be able). Thus the literal meaning of Śikṣā is “a desire to be able”. Interestingly this meaning finally developed into “phonetics”. The Vedas were taught through oral tradition only. Thus it may be assumed that the difficulties in reciting the Vedas in correct phonetic procedure were so great that those who wanted to learn the Vedas, had to make a strong effort to be able to recite the mantras correctly. Thus the original implication of “a desire to be able to recite the Vedas correctly” finally developed into a general sense of the study of phonetics.

The pronunciation of Vedic mantras is an extremely complex affair and this complexity arose through various phases in the development of the ancient speech. Comparatively speaking, the early Vedic reciters had lesser difficulties in pronouncing the Vedic mantras correctly than their successors of later times. Correct pronunciation of Vedas is regarded as the highest achievement on the part of the priest who is expected to be well-versed.

In his commentary to RV, Śāyaṇācārya has defined Śikṣā as “svaravarpādyuccāraṇapraṅkāro yatra śikṣyate upadiṣyate sā śikṣā” which means śikṣā is that treatise where instructions are laid down on the mode to pronunciation of svara and varṇa etc. In another place, he has further elaborated it as:- śikṣā nāma yayā mantrāṇāṁ
Sikṣa is known as that text by which the knowledge of pada, varṇa, mātrā, svara, the process of pronunciation and the places of utterance of the alphabet of the vedic mantras are made possible. The Śikṣāvalli of Taittirīyopaniṣad explains Śikṣa as:- śikṣāṁ vyākhyāsyāmaḥ / varṇaḥ svarah mātrā balam sāma santāna ityuktah // which means Śikṣa is the explanatory text of the alphabet, accents, moras, places of utterance and various efforts, balance in utterance and euphonic combinations etc.

Further in the introduction of Śikṣāsangraha two derivations have been given of Śikṣa as:

i) śikṣayati yā sā śikṣā /

ii) saktam saktu bhavitum icchā śikṣā /

This is yogarūḍha and resorting to the yogasakti of śikṣayati yā sā śikṣā, any text that gives instructions on any subject is to be known as śikṣa. But here the rūḍha meaning is dominant rather than the yogārtha and thus the texts which are conducive to the proper pronunciation of Vedic mantras are known as Śikṣa.

I.2 Origin of śikṣa as a science of phonetics and it's complexities

“sākṣātkṛtadharmāṇa ṛṣayo babhūvah”- As for this declaration of Yāska, the early Vedic seers who had visualized the mantras had lesser difficulties in pronouncing the Vedic mantras correctly. But later on the problem in pronunciation arose through various phases in case of successive seers. Correct pronunciation of the vedic mantras was
regarded as the highest achievement on the part of a priest. According to Patañjali the priest was expected to be well-versed in the proper inflexion syllabication, accent and articulation of speech sounds.

Even the period of Patañjali was marked for the decadence with regard to proper teaching of phonetics, as Patañjali had remarked that the Brahmins in the hoary past used to study grammar and after completing their initiation were given instruction on Vedic words when they had already learnt the vocal technique. But it was not so in Patañjali’s time, when people reading the Vedas were gradually becoming reciters of the same. This shows the chronological distance between Patañjali and the early experts on Vedic phonetics. Correct pronunciation of speech sounds was regarded as the sole scope of Śikṣā at the earliest stage of it’s development and the phonetic teachings were imparted to students only through oral tradition. But later on they were codified in the form of Śikṣā vedāṅga.

I.3 Śikṣā as a part of Vedāṅga

The first information about the various constituents of Śikṣā occurs in the seventh book of Taittirīyopanisad which, for that reason, is also called the Śikṣāvalī. According to the description, Śikṣā consists of (i) Varṇa (letters), (ii) Svara (pitch accent), (iii) Mātrā (quantity), (iv) Bala (stress), (v) Sāma (utterance in a medium tone) and (vi) Santāna (euphonic combination). The above translation of these terms is given after Śankara’s commentary of the Taitt. Up. But different scholars have differently translated them, for example, Macdonell,

1. om śīkṣām vyākhyāśyāmaḥ
   varṇah svarah mātrā balam sāma
   santānāmyetat śīkṣāhyāyaḥ (Taittīryopanisad-1.2)
2. Macdonell, History of Sanskrit Literature, p. 256
following Sayana translates these as letters, accents, quantity, pronunciation and euphonic rules. Siddhesvara Varma translates varṇa as individual sounds, svara as accent and santāna as chanting of Vedic verses; But in this connection he ignores bala.

W.S. Allen translates varṇa as sound unit, svara as tone, mātrā as quantity, bala as degree of buccal closure, sāma as tempo and santāna as junction.

While referring to the Śikṣā, in his introduction of the Ṛgveda commentary, Sayana thinks of the developed state of this Vedāṅga for he quotes the passage from the Taittirīyopaniśad. The Prātiśākhyaśas probably belong to this developed stage of the Śikṣā-vedāṅga and that’s why they have a much wider scope than the manual of the subject produced in the first stage. But when we go through the contents of Prātiśākhyaśas, we find that the scope of the Śikṣā as given in the Taitti. Up. applies to a considerable extent, to the Prātiśākhyaśas which may be regarded as secondary Śikṣās.

1.4 Differences between Śikṣās and prātiśākhyaśas

There are a large number of differences between Śikṣā and Prātiśākhya. The Prātiśākhyaśas may be found to be wanting in certain respects. For example, the treatment of sāma and bala is non-existent in the Prātiśākhyaśas. As these two topics are matter of oral instructions, they were omitted by the Prātiśākhyaśas.

The Vāj. Prāt. (123-24) which is an elaborate one than the other Prātiśākhyaśas, deals with manual gestures for indicating accents and letters. But they have been elaborately dealt with in the Śikṣās.

3. S. Verma, Critical Studies in the phonetic observations of Indian Grammarians, p. 4
Some differences between Śikṣā and Prātiśākhya are stated below:

- Rarely Prātiśākhyaṇa deal with the varieties of vivṛtti (hiatus) and svarabhakti (vowel fragment), which are so accurately described and classified in the Śikṣās.

- Except Vāj. Prāt, no other Prātiśākhya treats of the varieties of the circumflex accent in the manner they have been dealt with in the Śikṣās.

- Prātiśākhya very rarely describes the relation of the seven musical notes with the three original accents viz. the uḍāṭṭa, anuḍāṭṭa and svarīta. But this has been clearly described in the Śikṣās.

- Minute details regarding the general condition of correct pronunciation are exclusively found in the Śikṣās.

- Minute details regarding the relation of the vowel and consonant are a distinct contribution of the Śikṣās. It is important to note that for the explanation of all such subtle points the commentators on the Prātiśākhyaṇa rely upon the Śikṣās.

- The Śikṣās unlike Prātiśākhyaṇa, give interesting observations on the nature and quantity of anusvāra and raṅga, on the different modifications and designations of the Visarjanīya.

- Nearly all the Śikṣās give many valuable didactic verses towards the end, which are extremely useful to young students.

- Śikṣās unlike Prātiśākhyaṇa describe the mode of pronunciation
of individual sounds giving beautiful similies intended for
driving away the drudgery and dryness of the subject.

Maxmüller defines Prātiśākhyā as a collection of phonetic rules peculiar to one of the different branches of four Vedas; to one of those different texts in which each of the Vedas has been handed down for ages in different families and different parts of India. Whitney in his edition of Ath Prā, has subscribed to this view. The term Prātiśākhyā has been etymologically explained by Madhava as a treatise belonging to each individual branch or school of Vedas.

This suggests that there were in existence as many Prātiśākhyas as there were schools in Vedas. Anantabhatta in the introduction to his commentary on the Vāj. Prā. defines the word Prātiśākhyā as related with all the fifteen शाखाः of white yajurveda. Durga in his commentary on the Nirukta takes the Prātiśākhyas as relating to more schools than one. Therefore it may be concluded that Max Müller might have misunderstood the word Prātiśākhyā, for while he translates prātiśākhyam as “one” शाखा, it should be equivalent, more or less to each शाखा as the above authorities have already shown.

It is interesting to note that the Prātiśākhyas were sometimes called Śiksās. Thus Uvata, in his introduction to the commentary of the Rk. Prāt, has considered this work to be a Śiksā. Vishnumitra speaks of Rk. prāt. as a Śiksā treatise composed by Saunaka. Madhusudan Saraswati, not only calls Prātiśākhyas as Śiksās but also regards them as the Vedāṅga.

Besides all these, one of the Prātiśākhyas definitely speaks of

4. Ancient Sanskrit Literature, pp. 105-06.
5. Prātiśākham bhavam prātiśākhyam on Siddhanta Kaumudi, IV.3
itself as a Śikṣā of sounds. A hard and fast line between Śikṣā and Prātiśākhya is hardly possible. Sāyana was fully conscious of that, so he had ascribed a correct tradition to both Śikṣā and Prātiśākhya. Thus there was close interaction between Śikṣā and Prātiśākhya from the remote past leading to the advancement of both these classes of literature forming the basis of the Prātiśākhya, according to Vaidikābharana and Uvata's Śikṣā and grammar. Śikṣās being purely phonetic treatises, the Prātiśākhyas, on the other hand, are phonetico-grammatical works. Concerning the relation between Śikṣā and Prātiśākhya, Uvata points out that the sounds of the alphabet are taught in the world; Ṛk. Prāt. selects only those sounds of the alphabet, which belong to its own sākhā.

The Vaidikābharana states that the sounds enumerated in the Śikṣās are common to secular and Vedic pronunciation. Thus some Śikṣās mention sixty eight sounds, some sixty four (Pān. Śik.) and some, one hundred and eight (Laxmikanta Śikṣā). But Prātiśākhyas specify the sounds peculiar to their own vedic texts. Śikṣās prescribe rules of pronunciation common to all the sākhās without any specification, which however is made in the Prātiśākhyas. The Prātiśākhyas mostly presuppose Śikṣās of a general character. This may be confirmed by the observation of Ath. Prāt., which states that the origin of accent is not seen in the pada or sarinhitā texts. As the relation of pada or sarinhitā texts is the main scope of Prātiśākhyas, the Ath. Prāt. probably refers to those wider principles of accentuation that are embodied in the Śikṣās. Thus the scope is the specification of adoption of sounds that are prescribed by the Śikṣās. upadiṣṭo varṇasamāmnaya laukiko vidyate,
Haug in his essay "The nature and value of Vedic accents" arrived at the conclusion that शिक्षास are decidedly older than प्रतिशाख्यास and that the doctrines of the former are incorporated and further developed in the latter. Burnell in his thesis, the Aindra School of Sanskrit grammarians has subscribed to this view and ascribed the शिक्षास to the school of pre-पाणिनian grammarians. Kielhorn, on his own investigation and perusal of a large number of शिक्षास, observes that the views of two scholars require modification. He believes that there is at least one शिक्षा, the व्यास, which is not older than प्रतिशाख्या as it follows the तैत्तिरीय प्रतिशाख्या, that it may be regarded as nothing more than metrical version of the latter. There is still another among the extant शिक्षास viz. The Sarvasammatā शिक्षा which contains the expression that if शिक्षा and प्रतिशाख्या are found at variance, the शिक्षा is said to be less authoritative as the deer is weaker than the lion.

Besides, there is a distinct reference to the author of रक्षप्रति in the यज्ञ शिक्षा, which, while describing the mode of pronunciation of the raṅga vowel, has actually quoted the authority of शौनाक. The व्यास शिक्षा, in its treatment of the medium tempo, further quotes the प्रतिशाख्यास in plural.

Such distinct references to the प्रतिशाख्यास in the शिक्षास, can by no means prove that all the शिक्षास that have come down to us are later than प्रतिशाख्यास. This may be true of the majority of these treatises, which though bearing many high sounding and ancient names

6. Burnell, A.C. On the Aindra School of Sanskrit Grammarians, their place in the sanskrit and subordinate literature, 1875.
can easily be proved to be recent compilations. But there still remains the minority of these works, which on a careful perusal appears to be older than the Prātiśākhyaśas. One may not hesitate to agree with the view that the contents of the Śikṣās are in the main, as old as those of Prātiśākhyaśas. We may in this connection quote the words of W.S. Allen, "whilest it is likely that the Prātiśākhyaśas are based on an early Śikṣā (such as that referred to in the Taittiriya Āraṇyaka) our extant texts of the latter appear to be of later date than the former." Allen agrees with Varma in placing the Prātiśākhya in the period 500-150 B.C. and the extant Śikṣā literature between 800 and 500 B.C.

I.5 Superiority of Śikṣās over prātiśākhyaśas

The chief object of all Śikṣā is to lay down rules for the proper recitation of the Vedas. They state in a general way, the physical and mental qualities essential for Vedic recitation. They lay down even the minutest rules for pronunciation of certain sounds and their euphonic combination. They treat of the musical modulation of voice, the right postures of the body and the gestures of hands and fingers, which form an essential part of the recitation. It may be easy enough to understand these rules when one sees them demonstrated. But anyone without hearing the recitation repeatedly will hardly be able to explain them with satisfaction. It is therefore necessary to take the help of traditional scholars, for any accurate, minute and intelligible description of these rules.

It is accepted that the teachings of the Śikṣās have been more fully developed in Prātiśākhyaśas. But it may be wrong as in whatever point one goes to compare these two classes of literature, one can easily

8. W.S. Allen, Phonetics in Ancient India, p. 5.
see that the teachings of the Śikṣās are more complete and more minute in details than those of Prātiśākhyaṣ.

1.6  Versification in the Śikṣās

The tendency towards versification in the Śikṣās can be traced as early as the Mahābhāṣya, which, while pointing out the various defects of accentual pronunciation, quotes a verse which has all the appearance of being a Śikṣā verse. It is—

\[ \begin{align*}
\text{grastam nirastam avalambitam hatam,} \\
\text{ambūkṣṭam dhmūtamatō vikampitam /} \\
\text{samdaśtameṇīkṣtamardhakāni drutam,} \\
\text{vikirṇametah svaradosabhāvanāḥ} \\
\end{align*} \]

That this verse was not composed by Patañjali is evident from his own testimony of “apara āha” which precedes this verse. Thus this was composed by a predecessor of Patañjali. The same verse with slight modification also occurs in such ancient texts as the Nār. Śik. (3.11.12) Yaj. Śik. (2.28.29) and Rk. Pāṛt. (xiv). It appears from the body of Nār. Śikṣā that this verse originally, did not also exist there, as it has been immediately preceded by the statement. “etad viparītā-gūḍidoṣa ucyante, bhavanti cātra ślokāḥ” which proves that it (this verse) is a quotation from external source about which we are, at present ignorant. The same might be spoken about Rk. Prāṭ. which, it is believed was originally existing in sūtras, but later on, it was versified, evidently for mnemonic advantage. From this, it may be concluded that the above verse originally existed in the Yāj. Śik. and that the statement “apara ahā” of Patañjali referred to Yājñavalkya. It is interesting to note that

maximum śikṣā texts are written in simple and lucid verse forms.

I.7 Collection of śikṣā literature

Śikṣā literature though forms an important branch of Vedic literature, yet has not been given the attention which it's due. Except the Yājñavalkya and Pāṇ. Śik., the rest are little known to scholars. F. Kiellhorn in 1876 collected for the first time, a large number of Śikṣā manuscripts from different parts of India. But he was unable to publish them because the manuscripts were full of scriptural and orthographical errors. In 1893 a collection of 32 Śikṣās entitled as “Śikṣāsamgraha” was published by Pandit Yugal Kishore Vyasa from some original manuscripts. Due to abundance of orthographical errors it was not critically edited by him. Further in 1929 Siddheswara Varma published his “Critical Studies in Phonetic Observations of Indian Grammarians” in which he has examined fifty-five Śikṣās and has given a general concept of “Indian Phonetic Literature.” Subsequently Acharya Ram Prasad Tripathy collected and edited the “Śikṣāsamgraha”, which is published from Sampurnananda Sanskrit University, Varanasi in the year 1989. Besides these collections, some significant single Śikṣā texts published so far are as follows:

1. Pāṇ. Śik. or The Śikṣā Vedāṅga ascribed to Pāṇini critically edited in all its five recessions by Monomohan Ghosh published by the University of Calcutta, 1939.

2. Vyāsāśikṣā along with Vedatajasa commentary of Sri Surya Narain Suravadhani and Sarva Laksanamanjari Samgraha of Sri Raja Ganpathi, edited by Acharya Sri P.N. Pattabhirama Sastri,

1.8 The chronology of Śikṣās

The chronology of Śikṣās is very obscure, as, like other sanskrit works, a very few of them quote any authority or give any geographical data. Moreover the informations if at all found are so common in various Śikṣā texts that it becomes difficult to decide exactly the originality of these data. The commentaries on Śikṣā are also very few and most of the commentaries are also obscure. Moreover the corruption in the text of the MSS. also creates a lot of difficulties to know exactly about their chronology. The repetition of verses makes it impossible to judge the original text of a particular Śikṣā. As observed by S.Varma, “Generally speaking, however, most of the Śikṣās as they exist in their present form bear the stamp of recency”.  

11. Some Śikṣā texts refer to the Prātiśākhya as they exist in their present form whereas some follow closely the prātiśākhya. The extant Śikṣā texts may be classified as follows:

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1. General Śikṣā
2. Śikṣās of Rgveda
3. Śikṣās of Sukla Yajurveda
4. Śikṣās of Kṛṣṇa Yajurveda
5. Śikṣās of Sāmaveda
6. Śikṣās of Atharvaveda

Under the general Śikṣā, Pān. Śik. is the most important treatise owing to its complete character and it has two main recensions belonging to Rv. and Yv.

Among the Rgvedic Śikṣās the Svara-vyañjanaśikṣā quotes the Rk. Prāt. and it is post-Pāñjinian. As remarked by S.Varma, the work follows the Rk. Prāt. for it not only quotes in full two verses from it (IV. 8.9), but also uses throughout the terminology of this Prātiṣākhyya, such as various terms of sandhi, nītya, bhugna, kṣaipra (Rk. Prāt., II.8), anuloma sandhi (Rk. prāt., II.3), etc. The work is post-Pāñjinian for it quotes Pāñini, VII.4, 28 and VI. 1, 168.

The Pārā. Śik. names eight Śikṣās among which Yāj. Śik. is the most complete Śikṣā. Regarding it's date and time, everyone draws a very confusing view. Somasarma has mentioned Yājñāvalkya’s name in his opinion on quantity. As Somasarma is a recent name so Yājñāvalkya’s upper limit should not be earlier than 5th century A.D. With Uvaṭa’s data, it is assumed that the Yāj. Śik. is about three centuries earlier than the Vyā. Śik. So approximately Yāj. Śik.’s date cannot be assigned to more than thirteenth century. The Vyā. Śik., the second in the list of the Śikṣās of the white Yajurveda is mainly selected from the Sarvānukramaṇī. From terms and accents traced in this Śikṣā, it is no doubt a work mainly employed in the later phase of vedic literature. The rules of metres
prescribed in the Kātyāyana Śikṣā are repeatedly stated in the Vāj. prāt., so it is more recent and a later work than Vāj.prāt. Pārā. Śik. mentions nearly all the leading Śikṣās of white Yajurveda; it should be posterior to them. It’s kernel is comparatively older, but its modernity is confirmed from the pronunciation of ‘v’ in various positions. Goutami Śikṣā refers mainly to Prātiśākhya, so it's date is posterior to some extinct Prātiśākhyas. Amogh. Śik. also follows Vāj. Prāt. So it is posterior to Vāj. Prāt. Thus it is stated clearly that the lower limit of the four complete Śikṣās i.e; Yaj. Śik. Pārā. Śik. Amogh. Śik. and Varn.pra. Śik. is 10th century A.D. Regarding Bhā. Śik., everyone is in a mysterious state. The author of Siddhānta Śikṣā mentions the name of Bhāradvāja as the first among the list of the Śikṣās. Lüders put the date of Vyā. Śik. at the middle of the thirteenth century. Sambhū Śikṣā, according to some expert phoneticians is a contemporary of the Vyā. Śik. The Vāś. Śik. as to Lüders opinion seems to be older than Vyā. Śik. In Sarvasamnataśikṣā, certain portions are found to be repeated of Vyā. Śik. So it is a more recent work than Vyā. Śik. The Veda-laksanānukramaṇikā, a manuscript work refers to nine primary Śikṣās as follows:

1. Bhāradvāja Śikṣā
2. Vyāsa Śikṣā
3. Sambhū Śikṣā
4. Pāṇini Śikṣā
5. Kauhalīya Śikṣā
6. Baudhāyana Śikṣā
7. Vāśiṣṭhi Śikṣā
8. Vālmiki Śikṣā
9. Hārita Śikṣā
The secondary Śikṣās mentioned by Veda-laksanānukramanīkā are:

1. The Sarvasammata Śikṣā
2. The Āraṇya Śikṣā
3. The Siddhānta Śikṣā

Āraṇyaśikṣā is written in a later period as it speaks itself as nectar extracted from the ocean of the nine Śikṣās. All the primary Śikṣās including Vyāśik. must be more recently enumerated than the Bhatta Bhaskara Mishra and Gangesha. Bhatta Bhaskara Mishra lived according to Burnell at about 950-1000 A.D. and the date of Gangesha is 1150-1200 A.D. The authors mention Tribhāṣyaratna and Vaidikābharaṇa, so it should therefore have been presumably composed before the fifteenth century A.D. As Vyā śik. borrowed a portion from the Kālanirnaya Śikṣā, so it should be earlier than the thirteenth century A.D. Pari. Śik. is earlier than the Siddhānta Śikṣā, as it is quoted by Vaidikābharaṇa and Tribhāṣyaratna. So the lower limit for the date of its composition is 15th century A.D. The Nār. Śik. is one of the old treatises, mainly attributed to Nārada. Regarding its date we have to depend on external evidence. The lower limit of its date may be pushed back several centuries before Sangītaratnakara, it's date was possibly the 5th century A.D. and it is the probable date of Bharata’s Nātya Śāstra. As this treatise seems to be one of the oldest of the Śikṣās, its chronology cannot be given so early as to precede even the Prātiśākhyaśas. It is posterior to Vaitūsa Brāhmaṇa. The chronology of Lomaśī Śikṣā is shrouded in mystery, so also the date of Goutami Śik. remains fully unsolved. Nār. Śik. is contemporary with or posterior to Yāj. Śik. of the tenth century A.D. So the Śikṣā literature is extended to a period as late as 12th to 15th century A.D.
I.9 The General śikṣās

Before going to discuss about the importance of Yajurvedic Śikṣās, it is essential to write something or to gain knowledge about general Śikṣās. General Śikṣās are just like stepping stone to Yajurvedic Śikṣās: Among them, Pāṇiniya Śikṣā, Āpiśalīya Śikṣā sūtra, Śikṣā Samuccaya, Kālanirṇaya Śikṣā, Pari Śikṣā, Kaupḍīnyāyana Śikṣā are noteworthy. First it is important to discuss about Pāṇiniya Śikṣā.

I.9.i Pāṇiniya Śikṣā

It has been critically edited in five recensions by M. Ghosh, the five recensions are:-

1. The Agni purāṇa recension.
2. The Ṛgveda. recension.
3. The Yajus recension.
4. The Pañjikā recension.
5. The Prakāśa recension.

The Agni Purāṇa contains the shortest available text of the Pāṇ. Śikā and this recension mostly resembles the reconstructed text of the Pāṇ. Śikā. Ghosh has given sufficient reasons for the assumption of this recension. The Pañjikā recension has been reconstructed by conjecture from the commentary called Śikṣā Pañjikā. It is sometimes wrongly identified with Yajus recension. Comparing the Pañjikā with Prakāśa recension, it appears that the latter is an inflated version of the former. There are no sufficient data to suggest any precise date for the Pañjikā recension. But it appears by no means recent, as it quotes Audavrājī mentioned in the Nar. Śikā which, except for its interpolated passage is as old as 200. B.C. Audavrājī has also been mentioned in the Ṛk, tantra
Vyākaraṇa, and the Śiksā Prakāśa another commentary, on the Pāṇ. Śik. Since Audavrajī, has not been mentioned in any of the recent treatises on phonetics it appears that this work, was lost in course of time, and that the author of the Pañjikā probably flourished earlier than the time when Audavrajī's work was still available. This was also the case with the authors of Rk. tantra Vyākaraṇa and Śiksā Prakāśa between 1000 A.D. and 1300 A.D. the Pañjikā recension in 1200 A.D. and the Agni Purāṇa recension in 800 A.D.

The Prakāśa recension like Pañjikā, was also reconstructed by conjecture from the commentary called the Śiksā Prakāśa. Ghosh has taken it as a separate recension. The Yajus recension of Pāṇ. Śik. has been edited by Weber in his "Indische Studien" (iv, pp. 345 ff). This was adopted by Ghosh for his purpose. The Rk. recension of Pāṇ. Śik., has also been edited by Weber in his Indische Studien (iv, pp. 345ff) on the basis of three MSS. After comparing it with the Pañjikā recension, Ghosh has adopted this edition omitting some minor details.

The Rk. recension is much older than 18th century, for its MSS. used by Weber are all later than 1833 Vikramasamvat. This is the most inflated version of Pāṇ. Śik. and contains 60 stanzas divided into 11 sections. 18 verses have been taken genuine by Ghosh. Other 42 verses of the present recension, may be regarded as later additions and may be traced to some late Śiksas. Ghosh accepts the Rk. recension as the origin of the Pañjikā, Prakāśa and Yajus recensions, although the Rk. recension, in its kernel, and the Agnipurāṇa recension were both adopted from the latter texts of Pāṇ. Śik.

There are two existing commentaries on Pāṇ. Śik.:-

a) Śiksā Pañjikā
b) The Śikṣā Prakāśa

(a) Śikṣā Pañjikā

Of the two available commentaries of the Pāṇ. Śīk., the Śikṣā Pañjikā is written in a simpler style, and has better acquaintance with the old phonetical traditions.

It defines Śikṣā as the science by which the pronunciation of speech sound is learnt.

“śikṣyate’nayā varṇoccaranamiti śikṣā”

This is to be compared with the term “Varṇa-Śikṣā” occurring in Rk. Prāt., (xiv.30) which possibly does not mean prātiśākhya, but simply relates to a śikṣā of the earliest period. Instead of one, it speaks of two anusvāras viz. anusvāra, and nāsikya, which is sometimes shortened as “nāsikya” or “nāsikā”.

It is important also on account of the information it gives about Audavraji who has been mentioned in four other works.

1. Nāradī Śikṣā (118.5)
2. Śikṣā Prakāśa commentary to Pāṇ. Śīk.
3. Varnāśa Brāhmaṇa of Sānaveda and
4. Rk. tantra (S-60)

Besides, the Pañjikā quotes such authoritative works as the Aitareya Brāhmaṇa, Chāndogya Upaniṣad, Paṇini’s Aṣṭādhyāyī, Uṇādi Sūtras, Bhagvadgītā, Patañjali, Manu Samhitā, Rk Prātiśākhya, and the Nāradī Śikṣā, for the validity of its statements.
(b) The śikṣā prakāśa

Though it is inferior in worth to Pañjikā, it has its importance for the following reasons.

a) It ascribes the authorship of the Pāñ. Śik. to Pīṅgala who is said to be the younger brother of Pāṇini.

b) It defines Śikṣā as a science for the utterance of proper accents and speech sounds (Śikṣā svara varnoccārātmakatī śāstraiḥ).

This is different from the definition given in Pañjikā where speech sounds are only the subject of instruction. It may be assumed that the two definitions point to two distinct traditions having their origin in two successive stages in the study of Vedic phonetics. It has quoted passages from Pāṇini, Yaska, Nāradī, Goutamī, Śaunaka, Patañjali and Audavraji. The fact that it does not quote any of the late Śikṣās, except Nāradī and Goutamī probably shows that it is an old commentary.

I.9.ii. Śikṣā Samuccaya

It is different from "Śikṣā Samuccaya" compiled by Śāntideva, which is a compendium of Buddhistic teaching derived from early Mahāyāna sūtras. It has been edited by C Bendall and published in the Bibliotheca Buddhica, of 1897. Verma includes this work in the list of abbreviations to his "critical studies."

The work dealing with phonetics bearing the same name is the one described by Kielhorn, in his article. Remarks on the Śikṣās. This Śikṣā cites Ātreyā, Nārada, and Parāśara and the Śikṣā treatises
attributed to some authorities. It has freely used Pāṇ. Śik. Hence it must be later than Pāṇ. Śik. It contains about three hundred ślokas divided into 24 chapters with following titles.

(i) svrabhakti, (ii) dviroṣṭhya, (iii) prayatna, (iv) anusvāra, (v) anunāśika, (vi) mātrā, (vii) ekāṣruti, (viii) varṇayatva (enphonic change), (ix) kathaka (completion of chandas), (x) dvirukti, (xi) apūrva, (xii) yama, (xiii) krama, (xiv) jatā, (xv) raṅga, (xvi) kampa and (xvii) anīga (syllabication).

I.9.iii. Kālanirṇaya śikṣā

This Śikṣā is exclusively devoted to the quantity of vowels. It had come to the notice of Whitney and Lüders. But they could not trace it out. Burnell suggested it's date as the 14th century and thought it to be a work of Sāyaṇa. But since it has borrowed a chapter from Vyā Śik. it should be earlier than the 13th century, the date of Vyā Śik. As regards the upper limit of it's date, no particular data are available, but this work is evidently posterior to Prātiśākhyaś, for in the introductory verses the author says- “after studying according to my lights, the śāstras like the Prātiśākhyas, I proceed to describe quantity for the comprehension of Vedic truth” (Verse-5). Several verses quoted by the Tribhūṣyaratna and Vaidikābharaṇa can be traced out in this Śikṣā. It has been accompanied by a commentary named the Kālanirṇaya Dīpikā' by one Muktisvarācārya. On his view on quantity, the author of this Śikṣā sometimes differs from Patañjali.

I.9.iv. Pāri śikṣā

It is a complete Śikṣā with a lucid commentary. Aufrecht in his

12. Aindra School of Grammarians, p. 49.
“Catalogus catalogorum” identifies Pāri with the Pārāśarī. This shows his lack of acquaintance with the Pāri. Śik. for it has little similarity with Pārāśarī Śik. The name of the author is Cakra who represents the views of Pāri on phonetics. The name Pāri comes in the list of sages such as Bhāradvāja, Vyāsa, Pāri, Śambhū etc, who had composed their respective treatises on phonetics. The name “Pāri is not to be met with elsewhere in Sanskrit literature. It can hardly be taken as an orthographical error for “Pāṇini” because the commentator on his Śikṣā also calls Pari Śikṣā as has been quoted by Tribhāṣyaratna. It contains striking observations on doubling, quantity and accent.

I.9. v  Āpiśali śikṣā sūtra

The phonetic sūtras of Āpiśali escaped the notice of the vedic scholars for long, until Raghuvir (1934) published a critical edition of the text (from two MSS. of the Adyar Library) in the Journal of the vedic studies (Lahore). The fact that Āpiśali was a predecessor of Pāṇini and the author of a grammatical treatise, is evident from the Aṣṭādhyāyī (vā supyāpiśaleḥ vi.1.92). It is not easy to ascertain the exact time intervening between Āpiśali and Pāṇini—the two authorities on grammar.

The statement 'aṣṭaka āpiśala pāṇiniyaka' occurring in the Amoghavīti of Abhinava Śākaṭāyana makes one believe that like Pāṇini’s Aṣṭādhyāyī the Āpiśala system of grammar had eight chapters- all composed in sūtras, almost similar in form and matter to those of Pāṇini. Similarly, the Āpiśala system of phonetics is almost coincident with that of the Pāṇinian system composed in sūtras. Like pāṇini, Āpiśali also composed the appendix to his work. A number of quotations from his Dhātupāṭha and Gaṇapāṭha can easily be traced in many ancient treatises. Of all the existing Śikṣās, that of Āpiśali is the most suitable for the
beginner. It deals exhaustively with the mode of production of the sound material and it’s final culmination into individual articulate sounds. It ignores altogether the complicated modifications which the sounds are liable to undergo in connected speech. It is not associated with any particular branch of the Veda. As a general phonetic introduction to grammar, it has never been superseded by any other treatise. Āpiśali is not popular with vedic students of a particular recension, but those of Pāṇinian and non-Pāṇinian schools of grammar have used the Āpiśali Śik. extensively. Many passages from the Āpiśali Śik. have been quoted by some of the ancient authorities whom Raghuvir mentions towards the end.

1.9.vi. Śikṣā sutras of Pāṇini or Varnoccāraṇa Śikṣā

A set of phonetic sutras has been attributed to Pāṇini by Svami Dayananda, which occurs in his Varnoccāraṇa Śikṣā. The first part of vedāṅga prakāśa, which is written by Svami Dyananda is known as Varnoccāraṇa Śikṣā. This is completely different from the various versions of Pāṇinīya Śikṣā. This is not a versified Śikṣā, but is in sutra form. There are in total 86 sutras of which 2-4 sutras are in the form of verse. This recension has 8 prakaraṇas along with one introduction.

In this Śikṣā, first of all the etymology of “aksara” sabda, the origin of sound and the significance of knowledge of varṇas have been stressed upon. Then sixty three varṇas have been enumerated along with definition of sabda, the characteristics of svara, like udātta, anudātta, svarita, the hrasva, dīrgha and pluta as well as the short and long divisions of alphabet have been dealt with. Then the character of consonants, the lacunas in the utterance of vowels and consonants have been discussed in this Śikṣā. In the preface to this book, Dayananda
writes that he had secured a manuscript of these sūtras after a laborious search. No second manuscript of these has been available to any other scholar since the time of its first discovery by Svami Dayananda. This fact led M. Ghosh to conclude that the phonetic sūtras attributed to pāṇini, were collected from different sources such as the Mahābhāṣya and the Varna sūtras of Candragomin, by some late grammarian, probably Dayananda himself, who might have fathered these on Pāṇini for gaining a superior authority.

But S.K. Gupta in his article “Authorship of the phonetic sūtras edited by Dayananda”¹³ has tried to refute M. Ghosh by pointing out that the latter’s view is mostly based on conjecture and hypothesis as evident in his reconstruction of the Pāṇ. Śīk. in five recensions. In accusing Svami Dayananda of literary forgery, Ghosh seems to be somewhat malicious towards him. Gupta questions: “Was there any time or circumstance which suggested to Dayananda to forego these sūtras on Pāṇini? Or is there any reason to disbelieve the statement of Dayananda, that he had secured a manuscript of these sūtras after a laborious search”?¹⁴

The above two questions can easily be set at rest the moment one takes into consideration the phonetic sūtras of Āpiśali, composed in eight chapters, resembling the sūtras of Varṇoccaśaṇaśīkṣā in content, arrangement and style. Should one then conclude that the Āpiśala sūtras too, are an imitation of the varṇa sūtras of Candragomin? Certainly not.

The sūtrakāra Pāṇini and the śikṣākāra Pāṇini appear to have been two different persons. Otherwise it remains inexplicable as to why Pāṇini wrote his famous Aṣṭādhyāyī in sūtras and the phonetic rules in

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¹⁴. Ibid.
verses. He should and must have adopted the same style of *sūtras* for writing the phonetic rules. This is further corroborated by the first verse of the *Pāṇī.Śik.* which states that the verses that follow, embody the teachings and views of Pāṇini on phonetics. The first verse, thus leads one to the supposition that the rules written by Pāṇini were existing in *sūtras*. One is therefore inclined to consider the phonetic *sūtras* edited by Dayānanda as genuine works of Pāṇini. It is very likely that like the *Aṣṭādhyāyī*, these *sūtras* might have suffered some interpolations.

I.9.vii *Varṇasūtras* of Candragomin

Liebich in his “Das Datum Candragomin’s and Kālidāsa’s” fixes the lower limit of the date of these *sūtras* in the seventh century A.D. In Kalhana’s *Rājatarangini* and Bhartṛhari’s *Vākyapadīya*, it has been stated that Candragomin recovered the mutilated text of the *Mahābhāṣya* at the command of Abhimanyu, the then king of Kashmir. According to Varma and Ghosh, Candragomin had exercised a considerable influence on the later grammarians of the Pāṇinian school. But S.K. Gupta and Pandit Yudhisthira Mimāṁsaka held just the opposite view. According to Gupta, Candragomin, rather was immensely benefited by the *Aṣṭādhyāyī*, *Mahābhāṣya* and the *Uṇādi sūtras* of Pāṇini’s school. Likewise, he was also benefited by the phonetic *sūtras* of Pāṇini, which Ghosh regards as a mere product of the re-edition and amplification of the *Varṇasūtras* of Candragomin. But this view of Ghosh is being refuted on the basis of the phonetic *sūtras* of Āpiśali which may be regarded as old as or perhaps, older than the phonetic *sūtras* of Pāṇini.

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15. Bresluk, 1903, p. 11
17. *sanskṛt* *vyākaraṇa-śāstra kā itīhas.*
The *Varṇasūtras* of Candragomin are almost based on those of Āpiśali. Nevertheless, the Cāndra School of grammarians is undoubtedly one of the earliest coming only after the Kātantra, and was once spread throughout the whole Buddhist sphere of Sanskrit studies. Candra’s grammar has been utilized even by the authors of *kāśikā*. Candra wrote the grammar, its commentary, *uṇādisūtras*, *gaṇapāṭha*, *dhātupāṭha*, *liṅgānuśāsana*, *upasargavṛtti* and also the *varṇasūtras*.

The arrangement of the *varṇa sūtras* is the same as that of Āpiśala *sūtras*. In using the minimum number of syllables and in maintaining uniformity of expression, Candra has closely followed Āpiśali. The name of *sthāna*, *karaṇa* and *prayatna*, always opens the *sūtras* which have mostly the nominative singular termination. Being a Buddhist, Candra does not recognize the vedic verse and excludes the first Āpiśala verse from his treatise, which is devoted to the description of *Śabdabrahma*.

I.10  **Comparison of Āpiśali, Varnoccarana and Varna sūtras of Candragomin**

I.10.i  **sthāna prakaraṇa**

1) ākāśavāyuprabhavaḥ sarirat samuccaran vaktramupaiti nādaḥ / sthānāntareṣu pravibhajyamāno varṇatvamāgacchatī yaḥ sa śabdaḥ/  

*Pū. Ś.S.-1* Candra (wanting)

The verse attempts to give a definition of *Śabda* as follows:-

The inarticulate sound, originating from the sky and the wind and rising up from the body, enters the mouth; and being obstructed at various places of articulation attains the quality of the articulate sound; that is the word.
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2) \textit{tamakṣaraṁ brahma pariṁ pavitraṁ guhākṣayatṁ samyagusanti vipṛḥ/ saśreyasā cābhuyudayena caiva samyak prayuktah puruṣatṁ yunakti/}

\textit{Pāṇ. Ś.S., i. 2. Candra (wanting)}

Candra being a Buddhist, might have omitted this verse from his treatise. This verse has been dedicated to ‘akṣara’, syllable. Etymologically ‘akṣara’ means indestructible. It is the highest purifying agent. It’s nature is ever shrouded in mystery. Hence the wise men are desirous of revealing its nature. Rightly employed, it brings happiness and prosperity to its devotee.

3) \textit{sthānamidaṁ karaṇamidaṁ prayatna eṣa dvidhā, anila sthānaṁ pīḍayati vṛttikāraḥ prakrama eṣo’tha nābhitalāt.}

\textit{Pāṇ. Ś.S. i.4. Candra (Wanting)}

This gives a synopsis of the chapters to be dealt with in the treatise. These are:

i. Place of articulation (\textit{sthāna})
ii. Articulator (\textit{karaṇa})
iii. Two kinds of articulatory process (\textit{prayatna})
iv. The pressure of wind on the articulatory organs (\textit{anila-sthāna-pīḍana})
v. Phonetic observations of the commentators (\textit{vṛttikāra})
vi. Succession of letters (\textit{prakrama})
 VII. Neural process in the production of sounds (\textit{nābhitala})

4) \textit{tatra sthānakaraṇaprayatnebhyo varṇāstriṣaṣṭiḥ / (candra)}
\textit{sthānakaraṇaprayatnebhyo varṇā jāyante // Pāṇ.Ś.S.}

Letters, produced through place of articulation, articulator, and articulatory effort, are sixty three in number. Pāṇini simply enumerates
the sounds without mentioning 'sthānakaraṇaprayatnebhyo' which Āpiśali mentions. Since a sūtra always guards it against proximity, Pāṇini is justified to omit this portion from his sūtras. Candra on the other hand does not enumerate the sounds but mentions how they are produced. One can easily omit the sūtra 'sthānakaraṇaprayatnebhyo varṇā jāyante' which appears to be redundant in the treatise.

5) tatra varṇānāṁ keśāṁ kim sthānam kim karaṇāṁ prayatnaśca kal keśāṁ ityucyate. Pāṇ Ś.S. Candra (wanting)

This sūtra questions about the 'sthāna' 'karaṇa' and 'prayatna' of individual letters.

6) tatra sthānam tāvat, Candra : Pan. Ś.S. (wanting)


'a, ka, kha, ga, gha, tī, ha and the visarjanīya are glottals (kaṇṭhya). The word 'kaṇṭhya' is generally translated as guttural being derived from 'kaṇṭha' which is non-technical usage kaṇṭhya means, 'throat' or more specifically the aperture of the throat. The word 'kaṇṭha' in it's technical sense denotes the 'glottis'. Vopadeva regards "e" as a glottal sound.

8) 'ha-visarjanīyāvurasayāvekeśām' Pāṇ Ś.S.-6, Candra (wanting)

According to some, 'h' and the visarjanīya are pulmonic. The word 'uras'denotes the 'chest'; 'h' and the visarjanīya in certain contexts, are chest sounds.
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cp. (i)  *Rk.*prā. I (39) ‘h’ and the visarjanīya are glottal; or as some say pulmonic

(ii)  *Rk.*prā. 2.3 ‘h’ and the visarjanīya are glottal; the visarjanīya is alternatively regarded as pulmonic.


The jihvāṁūliya is lingual or velar. In calling the jihvāṁūliya a velar sound, Candra is more clear than Āpisāli. The term literally means “formed at the root of the tongue”; hence it should be regarded as velar. Abhayacandra in his commentary on the Śākaṭāyana prakriyā sarṅgrāha (ṣūtra, 6) regards the jihvāṁūliya as a glottal sound. In one sense, he might be right; for, the jihvāṁūliya is an ayogavāha sound; an ayogovāha sound becomes homorganic with the letter on which it depends; since the jihvāṁūliya depends on ‘k’ and ‘kh’, it should be homorganic with these two letters; in other words, it should be glottal. But it cannot be so asserted on account of the prevailing controversy on the place of articulation of the ‘k’ mute-series. While the authors of the phonetic sūtras invariably treat this series as glottal, Pīṅgalācārya (the author of the versified *Pāṇ. Śik.*) and others, treat it as a velar series. It seems, however, that the sūtrakāras are more accurate in jihvāmadhyā etc., as more appropriate as a name of an articulator (karaṇa name) rather than that of a place of articulation (sthāna nama) which Pīṅgalācārya takes to be (jihvāṁūla tu kuḥ proktaḥ) etc. *Pāṇ. Śik.*

10) ‘kavargavarpānusvārarajjihvāṁūliya jihvyā ekeśām’

*Pāṇ.* Ś.S. 8.; Candra (wanting)

According to some, the ‘k’ mute-series, ‘a’, anusvāra and the jihvāṁūliya are velar. Pāṇini does not recognize anusvāra as a velar
sound; hence the corresponding *sūtra* has ‘r’ instead of *anusvāra*. *(kavarga rvarṇaśca jihvyah)*. The term ‘jihvya’ etymologically means originating from the tongue, without referring to its parts. But Pāṇini and Āpiśali use it in the sense of jihvāmūlīya. Candra excludes this *sūtra* from his treatise; it seems he is not satisfied with the term ‘jihvya’ which being generic, may at once denote the root, middle, top etc. of the tongue. Hence he uses the term ‘jihvāmūlīya’ for ‘jihvya’, and thus, he may be more accurate in his observation than Āpiśali or Pāṇini.

11) “*sarvamukhasthānam avarṇam eke*” Pāṇ. Ś.S. i.9; Candra (wanting). Cp. Mahābhāṣya I-1.9; Bhāṣāvyarttivīrti of Śṛṣṭidhra, i.1.9

According to some, ‘a’ is articulated in the entire mouth. For ‘mukha’ Pāṇini uses the word ‘āsyamātra’. The term ‘āsyā’ refers to the area from the lips to the ‘Kakālaka’ *(oṣṭhāt prabhṛti prāk kakālakāt, Mbh.i.1.5)*, the thyroid cartilage or ‘Adam’s Apple’. (grīvāyām unnatāḥ pradeśāḥ, Kaiyyata on Mahābhāṣya)


There is no difficulty with regard to the term ‘tālu’. The palatal plosives are pronounced like prepalatal affricates in M.I.L. (Grierson, J.R.A.S., 1913, pp. 391 ff.)


The word ‘mūrdhanya’ is derived from ‘mūrdhan’, ‘head’. The commentator on the *Taitt.Prā* (ii.37) explains it as ‘vaktravivaroparopibhāga’, upper part of the mouth cavity. Max, Müller
(Rk.Prä.-44) equates this term with the Greek 'ouranos' (lit. vault of heaven), applied to the roof of the mouth. Pike (Phonetics, p.123) translates 'mūrdhanya' as cacuminal although it is generally translated as cerebral. However, the modern translation of the term, is 'retroflex', which, though not literal, is interpretative. For, the ‘ta’ mute-series involves a special process rather than a place of articulation. Jacobson regards the retroflex series as a later addition to the Indo-Aryan from the Dravidian tongue (Allen, op.cit.p.53, f.n.6).

There are divergent views on the place of articulation of r and r. All the Pratiṣākhyaśa state that ‘r’ is an alveolar sound. The alveolar position is indicated by the term ‘dantamūla’, root of the teeth. The Yāj. Śik. (p.154) states that among all alphabetic sounds ‘r’ alone is alveolar. The Rk.Prä. quotes some authorities who regard ‘r’ as ‘vartsya’, produced from the teeth-ridge. The term ‘vartsya’ has been explained by Uvata as denoting ‘the projection behind the roots of the teeth’ which in Pike’s terminology is the alveolar or rather the gingival arch, since the contact is made against the gum, not the bone (op.cit.p.122). Sweet in his ‘Primer’ (p.8) distinguishes the teeth-rim (mūla) from the teeth-edges (agra). The Pān.Ś.S-14 and some other authorities regard the dental series (ta varga) as alveolar. “In such cases the reference is to the junction of the teeth with the gums, and the alveolar position of ‘r’ is then clearly distinguished by a further description e.g. for r, contact is made by the centre of the tongue-tip behind the roots of the teeth” (Allen, op.cit.p.54 ff.). The vaidikābharana on Taitt. Prā. (i.19) states that ‘r’ is produced when the middle of the front of the tongue touches a point close to the teeth. The sound, thus produced is ‘repha’ whose etymology is given as “ripīyate vipāṭyate vastrapāṭana dhvanivad uccāryate iti rephaḥ” “It is called ‘repha’ because it is pronounced like the sound of tearing or
ripping a piece of cloth”. But the above etymology though popular, may be cancelled by the formative elements of ‘repha’. Had ‘repha’ been a single word, there would have been no difficulty about the above etymology. But the Taitt.Pra. states that in ‘repha’ there are two elements viz.. ‘r’ and ‘epha’, the latter, being a substitute for ‘kāra’ added to each consonant. The purpose of coining ‘epha’ instead of kāra has been explicitly stated there.

However, the Vaidikābharaṇa wants to point out that ‘r’ is a rolled sound, and therefore it should be regarded as dental. Thus according to all the Prātiśākhyaṣ ‘r’ was either dental or alveolar, but according to the Pāṇ. Śik. it is cerebral.

15) “ḥulasā dantyā” Pāṇ. ŚS. 15; Candra.7; Nyāsa, part.1. p.58, ‘l’, ‘t’, ‘ṭh’, ‘d’, ‘dh’, ‘n’, ‘l’ and ‘s’ are dentals. The word ‘danta’ denotes either the teeth or the rim of the teeth. ‘l’ is a mixed vowel, as it combines the features of vowel and consonant. There is difference of opinion on the place of articulation of ‘l’. Rk. Prā. (i.18) regards it to be a velar sound Vāj. Prā. (i.65) takes it to be dental; Ath. Prā. (i.26) regards it as veolar; Taitt. Pra. (ii.18) regards it as alveolar and according to Rk. Tantra (4) it is not located. l (त) is said to be articulated by the two sides of the tongue (Max Müller on Rk. Prā. xiv-27).

16) “vakaro dantoṣṭhyālī” Pāṇ.ŚS.16; Candra 12, Pāṇ.Śik.18 ‘v’ is dentolabial. It's earlier pronunciation was bilabial (double ‘v’) but in course of time it changed into dento-labial. Beniel Jones in his ‘Outlines of English Phonetics’ (p.693) observes: “Indians generally replace ‘v’ by a center front tooth lightly and is so held as to allow the air to escape chiefly at the sides”.


17) “śikvasthānam eke” Pāṇī. Ś.S.17; Candra (wanting)

According to some, ‘v’ is articulated at the corners of the mouth. ‘śikva’ in this sense occurs in the *Indische Studien, Kathāsaritsāgara* and *Suśruta*.

18) “upūpadhmāniyā oṣṭhyāḥ” Pāṇī. Ś.S.18; Candra 11. *Nyāśa*, part.1 p.58

‘u’ p, ph, b, bh, m, and the upadhmāniya fricative are labials. ‘Oṣṭha’ as a place of articulation occurs in the sound, in the singular, (*Rk.Tantra*-9, ’u-veh-pa oṣṭhe’) but as an articulator, it occurs in the dual (*Taitt.Prā. ii. 39, oṣṭhābhyyāṭī pavarge*)

19) “anusvārayamā nāsikyāḥ” Pāṇī. Ś.S.-19; Candra 8.

‘nāsikāṇusvārasya’-- anusvāra and the *yamas* are nasals. Candra is silent about the *yamas*.

20) “kaṇṭhanāsikyamanusvārameke” Pāṇī.Ś.S-20; Çandra (wanting)

According to some *anusvāra* is glotto-nasal. The description of *anusvāra* as glotto-nasal limits its sphere of articulation. For, *anusvāra*, being an ayogavāha sound becomes homorganic with the letter on which it depends and in that capacity, it may be dento-nasal, or glotto-nasal or labio-nasal or palato-nasal or cerebro-nasal etc., according to its context. Better, it should be regarded as nasal.

21) “yamāśca nāsikyajihvānūliyā ekeṣām” Pāṇī.Ś.S-21; Candra (wanting)

According to some, the *yamas* are naso-velars.
22) “edaitau kaṃṭhatālavyau” Pāṇ. Ś.S.22; Candra 4; Nyāsa, part-I p.58.

‘e’ and ‘ai’ are glotto-palatals Candra in sūtra-10 also regards ‘i’ as glotto-palatal.

23) “odaутau kaṇṭhyoṣṭhyau” Pāṇ. Ś.S.23; Candra 5; Nyāsa, part-1 p.58.

‘o’ and ‘au’ are glotto-labials. Candra (in sūtra-11) also regards ‘u’ as glotto-labial.

24) “nīṇṇmāḥ svasthāna nāṅkāsthānāśca” Pāṇ. Ś.S.-24; Candra.9 ‘ṁ’ ṅ, ṇ, n, and m, are nasals and are homorganic with their respective mute-series.

25) “dvivarṇāṇi sandhyāksarāṇi” Pāṇ. Ś.S.-25; (dve dve varṇa) sandhyāksarāṇāmārāṃbhake bhavata iti), Candra (wanting)

‘Sandhyāksara’ denotes a compound vowel, a diphthong. ‘e, ai, o, au’ are diphthongs. The Yāj. Śik.(ii.2.20) says in ‘ai’ and ‘au’, the first morā is glottal and the second palatal or labial. As regards ‘e’ and ‘o’, the Pāṇ.Śik.(13) says; “in ‘e’ and ‘o’, the glottal element has a length of ½ mora and in ‘ai’ and ‘au’ 1-mora “. Although diphthongs are combinations of vowels, they are treated as single letters. (Vāj.Prā IV. 145).

26) “sarepha vvarṇaḥ” Pāṇ. ŚS.-26; Candra (wanting) ṛ is homorganic with ‘r’. The Sarvasammata Śik. (19) observes;

\[
\text{ṛkārasya svarūpāṁ hi śīṣṭāṁ padacatuṣṭayam} / \\
padeṣu teṣu vijñeyo nādavanto svarātmakam / \\
anu rephasya madhye tu vijñeyāṁ vyañjanātmakam //
\]
The characteristic of 'V' is that it is a compound of four segments; of these, the first and the last are vocalic, whilst the central two are consonantal. Regarding the method of combining the vocalic as well as the consonantal elements the commentator of the *Ath.Prā.* (i.37) observes;

"yathāṅgulya nakhariṁ tathā sūtre maṇirivetyeke trṇe kṣmiriveti ca"

The vocalic and the consonantal elements in 'V' are combined like a nail on the finger, or a pearl on a string or a worm in the grass.

27) "evam etāni sthānāni" Pāṇ. Ś.S. (wanting); Čandra (wanting)

Here ends the chapter dealing with the place of articulation.

I.10.ii.  **Karaṇa prakaraṇa**

1. "karaṇam api" Pāṇ. Ś.S. (wanting) Čandra-14

While, 'sthāna' denotes the passive organ of articulation, 'karaṇa' denotes the active organ of articulation. The 'sthāna' is that which is approached and the *karaṇa*, that which approaches. The terms closely correspond to what Pike (Phonetics, p.120) calls 'point of articulation' and 'articulator' 'karaṇa' always denotes an area of the tongue viz. root of the tongue (*jihvāmūla*), middle of the tongue (*jivāmadhva*), tip of the tongue (*jihvāgra*) etc. In the articulation of the labial sounds, the lower lip is the 'karaṇa' and the upper lip is the 'sthāna'. In the articulation of the glottal sounds, the lower part of the glottis is considered to be the *karaṇa*. Hence the articulation is infra-buccal. The articulation of the nasal sounds is however, a complicated affair. The complicacy is due to the fact that the nose by some authorities is described as 'sthāna' while by some others, it is described as 'karaṇa'.
2. "jihvyatālavyamūrdhanya dantyānāṁ jihvā karaṇam" Pāṇi. Ś.S.-1; Candra (wanting)

The tongue is the articulator of the velars, palatals, cerebrals and dentals.

3. "katham iti?" Pāṇi. Ś.S.(wanting), Candra(wanting)

4. "jihvāmūlena jihvyānāṁ" Pāṇi. Ś.S. 2. Candra (wanting) Pāṇini adds "tad yeṣāṁ abhyāsam"

The velars are articulated by the ‘root of the tongue’. The ‘sthāna’ of the velar series is the “hanu mūla” (root of the jaw, the soft palate).

5. "jihvāmadhyena tālavyānāṁ" Pāṇi. Ś.S.-3; Candra. 17

The palatals are articulated by the middle of the tongue (cp. Ath.Prā.-1.21; Vāj. Prā.-i 79; Taitt.Prā.-ii.36).

6. "jihvopāgrena mūrdhanyānāṁ" Pāṇi. Ś.S.-4; Candra.16.

The articulator of the cerebrals is the tip of the tongue retroflex or rolled back (prativeṣṭita) cp. (Ath.Prā. i.22; Vāj.Prā. i.78; Taitt. Prā. ii.37) ‘upāgra’ denotes the part lying next to the tip or the under-side of the tip.Regarding the retroflex articulation of the t-series J.R. Fifth observes:

"The Indian ‘t’ is not made with the tip in the English manner, but with the very edge or rim of the tip, which is slightly curled back to make this possible"

(vide, Bulletin of the School of Oriental and African Studies, xii. 859).
7. "jihvägrädhaḥ karaṇatī vā" Pāṇ. Ś.S. 5; Candra (wanting)

Optionally, the bottom of the tip of the tongue is the articulator of the retroflex sounds.

8. "jihvägreṇa dantyanām" Pāṇ. Ś.S. 6; Candra 15.

The tip of the tongue is the articulator of thedentals. In the articulation of the dentals, the tip of the tongue is thrust forward (‘prastāra’ Ath. Prā-i.24). Excessive spreading of the tongue has been prohibited by the Rk. Prā. (xiv.21) in any of the mute-series.

9. "sesah svasthīnakaraṇah" Pāṇ. Ś.S. (wanting) Candra 18

The rest have the same organ or organs as the place of articulation and articulator.

10. "ityetat karaṇam" Pāṇ. Ś.S.-7; Candra (wanting)

Here ends the chapter dealing with articulator.

I.10.iii. Antaḥ-prayatnaprakaraṇa

1. "prayatno dvividhāḥ" Pāṇ. Ś.S.-1; Candra 19.

Pāṇini adds ‘api’. ‘prayatna’ denotes the articulatory process. It is of two kinds.


(1) intra-buccal and (2) extra-buccal

The sūtra (no.19) of Candra has been divided into two separate sūtras by Āpiśali and Pāṇini.
3. ‘ābhyantarastāvat’ Pāṇ. Ś.S.-3; Candra 20.

4. “śprṣṭakaraṇaḥ sparṣaḥ” Pāṇ. Ś.S.-4; Candra-27,

Candra (in sūtra 21) points out that the intra-buccal processes are of four kinds: (1) closure (2) openness (3) full contact and (4) slight contact. Neither Āpiśali nor Pāṇini enumerates these processes, but both deal with them in describing the prayatna of different sounds. This sūtra and succeeding two sūtras are quoted in the Nyāsa (Part.1.p.59). Patñjali observes:

“stops have full contact, semivowels have slight contact, fricatives have openness, (the adjective ‘slight’ should proceed) and vowels have openness (the adjective ‘slight’ should drop) Mbh. i.1.10”

cp. (i) Bhartrhari’s Mahābhāṣya Dīpikā, p.183
(ii) Śrṣṭidhara’s Bhāsā Vṛtti, i, 1.9

5. “Isatsprṣṭakaraṇaḥ anṭahsthāḥ” Pāṇ. Ś.S.-5; Candra. 28

The term ‘antahstha’ (literally standing between) may be interpreted as referring to the intermediate degree of contact. The ending as ṣṭha, ‘standing’ refers to the place between the stops and the fricatives. Plato distinguishes between ‘phoneenta’ (sonant) and ‘aphona’ (non-sonant), the distinction being phonological. Aristotle distinguishes between ‘aneu-prosboles’ (non-contact, skt. asprṣṭa) and ‘meta-prosboles’ (contact, skt. spṛṣṭa) the distinction being phonetic rather than phonological. Plato further mentions consonants having noise (psophos) and having no voice (phthongos). The latter he calls intermediate (mesa). Aristotle calls it ‘semiphona’, half-sonant and proceeds to define it by a combination of phonetic and phonological criteria.
The semivowels are still eminently spirants, fricatives and constrictives. The term ‘semivowel’ has its origin in the Greek ‘semiphonon’ through the medium of the Latin ‘semivocalis’ and its employment generally corresponds to Skt. ‘antahstha’. Among the semivowels, ‘r’ and ‘l’ are called liquids. The term ‘liquid’ has its origin in the Greek (lit.moist) through the medium of the Latin ‘liquidus’. The semivowels have slight contact.

6. "Iṣatvivṛṭakaraṇā uṣmāṇah" Pāṇ. Ś.S.-6.; Candra’23

Pāṇini adds “vivṛṭakaraṇā vā” Candra: “vivṛṭatvam svarāṇān uṣmāṇān ca”. It seems that Āpiśali is more correct than Pāṇini or Candra, for if ‘vivṛṭatva’ (openness) is accepted for both vowels and fricatives, there is no means to distinguish between the articulatory processes of the vowels and the fricatives. Therefore, Pāṇini optionally regards them to be produced with vivṛṭatva (openness). Slight contact and slight openness provide classificatory criteria for the semivowels and fricatives respectively.

The present observation regarding the articulatory process of the fricatives, finds an echo in the statements of western authorities such as Grammont (French phonetician), Sievers (German phonetician) and Pike. Grammont says that in pronouncing the retroflex fricative (s), “the tongue disposes itself in the form of a gutter and forms a canal very narrow” (Traite de phonetique, p.69). This is similar to the statement of the Ath.Prā.(i.23) that in pronouncing the retroflex fricative, the tongue assumes the form of a trough (ṣakārasya dropīka). Sievers in his “Grundriss der Phonetik” (Sec. 314) also makes a similar statement: “In the articulation of fricatives, the tongue in its equator, is indented to several small and deep canals” which is parallel to Pike’s statement of
the grooved tongue for a sibilant (op.cit.p.121).

7. “vivṛtakaranāḥ svarāḥ” Pāṇ. Ś.S.-8; Candra 23

Patañjali derives the word ‘svara’ as svāyam rājate = autonomous (on Pāṇ.i.2.29-30). Nāradī śīk.(Ś.S.p.361) compares the vowel to a powerful monarch and the consonant, to a weak king, the latter submitting to the force of the former. Consonant is like a pearl in a necklace, but the thread which supports it, is the vowel (Ś.S.p.361). For the vowels, ‘the place of articulation’ signifies the place to which approximation (upasatīhāra) is made, and the ‘articulator’ refers to the organ which effects the approximation. For the rest, the place of articulation refers to the place where contact (sparśana) is made, and the ‘articulator’ refers to the organ which effects contact. For vowels, the articulator is open.

8. “tebhya ‘e’ ‘c’ vivṛtatarau” Pāṇ. Ś.S.(wanting); Candra-24

‘e’ and ‘c’ are more open than the vowels, cp. Nyāsa. Part.1.p.18; Padamañjarī Part.1.0.18.

9. “tābhyaṁ ai au” Pāṇ. Ś.S.(wanting); Candra -25 ,

‘ai’ and ‘au’ are more open than ‘s’ and ‘c’. Candra adds: ‘tābhyaṁapakārāḥ’ ‘a’ is more open than ‘ai’ and ‘au’. This sūtra has been left out by Āpiśali and Pāṇini, but it occurs in the Nyāsa (Part 1.p.8).

10. “sarivṛtastvakārāḥ” Pāṇ. Ś.S.-9; Candra- 22

‘a’ is produced with closure or contraction.

11. “ityeṣo’ntaḥ prayatnaḥ” Pāṇ. Ś.S.-10; Candra (wanting)
Here ends the chapter dealing with intra-buccal processes.

I.10.iv. Bāhyaprayatna prakaraṇa

1. “atha bāhyāḥ prayatnāḥ” Pāṇ. Ś.S.-1; Candra -29

And then begin the extra-buccal processes.

2. “vargāṇāṁ prathamadvitīyāḥ śaśasavisarjanīyajihvāṁūliyopadhmānīyā yamau ca prathamadvitīyau vigṛtakaṇṭhāḥ svāsānupradānā-ścāghosāḥ” Pāṇ. Ś.S.-2; Candra 30.

Candra omits ‘yamau ca prathamadvitīyau’. The first two letters in each mute-series, (i.e., ‘k kh, c ch, t, ṭ th, t th, p ph’, ‘ṣ ṣ s’ the visarjanīya, jihvāṁūliya, upadhmānīya, and the first two yamas (i.e., the long and short anusvāras) these eighteen letters are produced with the openness of the glottis, emission of breath and nonvoice. sūtras 2-7 of Āpiśali, have been quoted in the Nyāsa (part.1.p.57) with slight variation. For instance, in sūtra-1, there occurs ‘tatra varganām’ instead of ‘vargāṇām’; in sūtras-3, 5, ‘vargayamāṇām’ instead of ‘vargayamāṇām’. cp. Padamanjarī (part-1.p.59) Mahābhāṣya i.1.9 “tatra varganām .... madhiko guṇāḥ”

The term ‘anupradāna’ (lit. after-effect) denotes secondary features which according to the Śīk. Prakāśa are nasality, breath, voice etc. Whitney (Taitt.Prā. xxiii.2) translates this as ‘omission’ and Weber as “Ausstossung” (Ind. Stud. iv.p.107). Varma (op.cit.p.3) translates it as ‘sound-material’. From the etymology of the word, the author of the Śīk. Prakāśa seems to have given a more appropriate interpretation than the rest.

3 & 5. varganāṁ prathamālpaapraṇā itare sarve mahāprāṇāḥ
varga-yamaṇāṁ tṛtiyā antahiṣṭhaḥ śaḍaḥprāṇāḥ itare sarve mahāprāṇāḥ.
Pāṇ. Ś.S.-3,5; Candra 31, 32

The first, third and the fifth letters of each mute-series; (i.e., k g n, c, j, ṃ, t, d, n, ṇ, p, b, m) the semivowels (i.e., yrlv); the first and third yamas (i.e., the short anusvāra and anunāsika) are unaspirate sounds (alpaprāṇa, lit. little breath). The rest (kh, gh, ch, jh, th, dh, ṭh, ḍh, ph bh, ś s h, visarjanīya, jihvāmūliya, upadhmānīya, anusvāra, the second and the fourth yamas (long anusvāra and ī) are aspirate sounds (mahāprāṇa, lit. big breath). Candra, being a Buddhist does not include the yamas either among aspirate or unaspirate sounds.

4. "vargānāṁ tṛtiyacaturthā antahiṣṭhā hākārānusvārau yamaucaturthau sarinṛtaḥ takṣaṁ sādinupradānā ghoṣavantaśca" Pāṇ. Ś.S.-4; Candra-33

The third and the fourth letters in each mute-series (g gh, j jh, d dh, ṇ ṇh, b bh); the semivowels; h; anusvāra; the third and the fourth yamas (anunāsika and ī) are produced with the contraction of the glottis, emission of voice and with the soft articulation called ‘ghoṣa’. The difference between ‘śvāsa’ and ‘nāda’ has been pointed out by most of the Prātiśākhya and the Pāṇ. Śik. The Rk.Prā. (xii.1.2) observes:

“The air, respiration or pulmonic emission, at times of vocal activity, becomes ‘śvāsa’ (breath) or ‘nāda’ (voice) according as the glottis is open or closed”

6. “yathā tṛtiyastathā pañcamalīḥ” Pāṇ. Ś.S.-6; Candra- 33.

Like the third letters of the mute-series, the fifth letters are also produced with the contraction of the glottis, emission of voice and with
soft articulation (\textit{ghoṣa})

7. “\textit{anunāsikyam eṣām adhiko guṇah}” \textit{Pāṇ. Ś.S.-7} Candra (wanting)

Nasality is the extra quality of the nasal consonants which are articulated both in the buccal cavity as well as the nose.

8. “\textit{śādaya uṣmāṇah}” \textit{Pāṇ. Ś.S.-8}; Candra (wanting)

\textit{ś ṣ s} and \textit{ḥ} are fricatives as well as aspirates.

9. “\textit{sasthāṇena dvitīyāḥ}” \textit{Pāṇ. Ś.S.-9}; Candra (wanting)

The second letters in the mute-series are aspirates resembling \textit{s}.

10. “\textit{hakareṇa caturthāḥ}” \textit{Pāṇ. Ś.S.-10}; Candra (wanting)

The fourth letters in the mute-series are aspirates resembling \textit{ḥ}.

11. Semivowle (except \textit{ṛ}) are of two kinds:

(1) \textit{sānunāsika} and (2) \textit{niranunāsika}, \textit{Pāṇ. Ś.S.-8}; Candra- 50.

12&13. \textit{ṛ} and the fricatives have no \textit{sa\varṇa} letters. Two or more letters are called \textit{sa\varṇa} when they belong to the same class of sounds. \textit{Pāṇ.Ś.S.-9-10}; Candra (wanting) cp. \textit{Mahābhāṣya Dipikā}, p.184.

I.10.v. \textit{Vṛttikāra prakaraṇa}

1 & 2. The commentators state: \textit{Pāṇ. Ś.S.VI-1}; Candra 38-39 ‘a’ has eighteen divisions; (1) \textit{ḥrasva, dīrgha, pluta, udāṭta, anudāṭta, svarita sānunāsika, niranunāsika} = 18

3. So are \textit{i u} etc. \textit{Pāṇ. Ś.S.-2}; Candra 40.
4 & 5. ‘I’ is not long (dīrgha); hence it has twelve divisions. Pan. Ś.S.-3-4; Candra 41.

6. Some Śākhās accept the long ‘I’; e.g. Kl̐paka. In those Śākhās ‘I’ has eighteen divisions. Pāṇ. Ś.S.-5: Candra (wanting)

7 & 8. The diphthongs are not short (hrasva); hence, they have twelve divisions. Pāṇ. Ś.S.-6-7; Candra 42.

9 & 10. The Satyamugri and the Rānāyaṇīya schools of the Sāmaveda recognise the short (hrasva) diphthongs; hence in these schools, diphthongs have eighteen divisions Pāṇ. Ś.S.(wanting) Candra (wanting) cp. Mahābhāṣya i.1.47.