

one on the left side and one on the right. Here there exists a peculiar combination of *māruṭa* (air), *agni* (fire), *ākāsha* (ether), etc., which takes on activity in accordance with the will or intention of the speaker. This volitional action passes along various *nāḍis*, nerves, into the *uras*, (thorax, chest). It becomes *nāḍa*, (resonance?) here, and then, passing on into the *kantha*, (throat, larynx), or other 'place,' appears as *śabdā*, sound. It may be noted here that sound is a property of *ākāsha*, but is *manifested* by means of *vāyu*. The *ākāsha*-element is in full operation in the two ganglia mentioned; *vāyu* also acts similarly there (in subordination and as vehicle' to *ākāsha*) and is the means of the appropriate effort. When the wish to speak arises with reference to some desired object, then words or 'sounds' expressive of that desired object are uttered. That is to say, effort takes place in accordance with the wish to speak. The *vāyu* moves the *ākāsha*; that raises the *unnāḍa-dhvani*, (the 'upward-hum-explosion'?) ; this takes shape after the intention, *abhiprāya*, of the speaker; when the *sarpiṇī*-nerve above the navel is

expressions about 'bowels of compassion,' a 'bilious or splenetic, i.e., irritable person,' etc.

¹ Each plane has the next denser for 'vehicle' or 'sheath'. See *The Science of Peace*, pp. 295, 296.

reached, the full 'intention' enters into it (the *dhvani*?); thence, passing into the *uras* or thorax it becomes transformed into *śabdā*, voice; finally, arriving in the *kantha* or larynx, etc., it manifests (as language).

Some letters are pronounced from or with the left side (or *kamala*) and some with the right; others from the middle between the two. Generally, vowels are uttered from the right ganglion and consonants from the left. The two combine in the chest. In the case of some (persons or sounds or both?) the pronunciation takes place with or from the middle. In such the vowels and consonants are not clearly distinguishable, the pronunciation is vague, for the two *kamalas* are very close together and 'occupy but one place' (as it were). The pronunciation of persons so specially constituted is unpleasant. Only when the two ganglia are each fully and separately developed and not mixed up and imperfect, do the *ākāsha* and *vāyu* elements find full play and the voice is pleasant in tone, distinct and easy to follow. Generally speaking, the voice is unpleasant as the two organs are close together and pleasant as the reverse is the case. Very various are the voices in this world. Some bring intense pleasure so that one longs to hear them always. Others cause pain, or irritation

or sadness. The special cause in each case is the special location, *abhiḍhāna* (?), of the *kamalas*.

Yet again, as these are *sūkṣhma*, 'small,' 'subtle,' finely-grained, the voice will be low and sweet; and as they are large and coarsely-formed it will be loud and harsh. For this reason are the voices of children generally sweet and soft and beautiful; for the ganglia are small. As they grow in size, the voice acquires fullness. The voices of women are soft for the same reason, ordinarily; their 'lotuses' are well-opened, small, even or equal-sized (?) and neither too near together nor too far apart. Thus there are women whose very voice inspires love.

These *kamalas* are formed (by the appropriate agencies) according to the laws which govern the formation of bodies or organisms under the dominance of *karma*, which presides over the formation and evolution of every body; hence the voice of a person is sweet or harsh according to his *karma*, like everything else.

Yatna, vocal effort, is of two kinds, internal and external. The former consists in bringing about the coalescence of the meaning intended to be expressed with the appropriate letters of the appropriate words, and the deter-

mination of the order in which they shall be uttered or expressed. The latter is the projection of the appropriate *śakṭi* (or nerve-force) into each letter. Thus, in the utterance of the (imperative) expression, *tvam āgacchha*, '(you) come,' *śakṭi* is projected into each syllable, in some a smaller, in others a greater, in still others an 'even' amount of it, in accordance with the varying moods intended to be expressed. The *śakṭi* thus differs with differing moods of anger or avarice or depression and confusion or religious fervour or feeling of duty or love and affection, or necessity or absence of need or definite purpose or doubt, and so on, endlessly.

The purpose of the science of *Śikṣhā* is to teach how to project this *śakṭi* so as to speak well, easily, plainly, intelligibly and with efficient rendering of the mood intended to be conveyed.

(A few remarks may be added with reference to the intimate instrumentality of *ākāśha* and *vāyu* in the production of voice¹). When 'I'

¹ Modern science ignores *ākāśha*, ether, in the production of sound, and regards *vāyu* as the only medium of sound. This arises from the fact that the rarefactions and compressions of the air which form sound-waves are observable, while the etheric waves are imperceptible. The relation of *vāyu* to

speak to 'you' the hearing of my speech rests in and with you, and the consciousness arises in you, 'This person has said so and so, the reply to which is this'; and then the reply is given which I hear. Now all this *utterance* is performed only by vāyu. Ākāśha is universal; it exists in you, in me, in the space between the two. So, vāyu too is universal. Hence is voice *manifested* by the 'moving' of the vāyu under the guidance and stress of 'my' intention. By the energy of that same intention also there results the 'moving' of the vāyu in the interval of space between you and me, and finally the hearing of the sounds by you. And you, hearing my words, either begin a reply or commence an action in accordance with my words. And so on. But there are some who do not hear, who are deaf. The reason is that while ākāśha exists evenly, in the proper proportion, in the speaker and in the interval of space, in the deaf person addressed there is a deficiency in the number of ākāśha-atoms needed. But so far as dhvani, inarticulate sound is concerned, vāyu acts surely, for dhvani is heard even if there be but one single atom of

sound, here shown, is consonant with modern science; in the latter, the omission of ākāśha as the chief factor of sound, disturbs the order of the senses and causes much confusion. (A. B.)

ākāśha present, sound being the property thereof and vāyu acting upon it.

The utterance of sound, the hearing of it, the recollection thereof, the expression of intention—all this exists in each atom.

The Trinity appears in this science thus: the varṇa or letter is the A; the prayatna or effort is the U; the sthāna, region or part of the vocal apparatus, is the M; the whole science is the summation. As the Self manifests in every act, so the varṇas show forth in the various efforts and vocal parts.

The main purpose of this science is to explain, in reference to the *Vedas*, matters like these: such and such varṇas are used in such and such a ṛchā or scripture-verse; they should be pronounced thus; the sandhi, coalescence of letter-sounds, in this place is of this kind; the form of this letter in this sandhi is this; its color, this; this letter should be pronounced after this other; and for this purpose; in this metre, this letter should be pronounced in this fashion and for this reason; this is the proper vocal organ of this letter; the internal effort is this; the outer, this; the action or effect thereof is this; this is needed for the accomplishment of such and such a purpose. The connexion or combination of effort and vocal region is the cause of all sound-effects; special effects arise from special causes; the methods of pronuncia-

tion; the evil consequences of omission or inaccuracy; the losses following on those evil consequences; the need to chant in that manner if the loss itself is desired to be inflicted; or to chant otherwise if a corresponding gain is wanted; or in such another fashion if instead of ascendancy over others, equality with them is desired; and so on. Briefly, because all is necessary in *samsāra*, the method and order of the use of the letter-sounds of the whole of *samsāra*, as employed in the *Veḍas*, is explained in the science of *Shikṣhā*.

But, apart from all this, and in Itself, the *Ātma* is ever the True, the Eternal, beyond all speech.¹

(iii) *Kalpa*, 'methodology'.—The appurtenances and appliances of study.—The special application of this science to the study of the *Veḍas*.—The scope of the science, generally.

The third *Āṅga* is *Kalpa*. It deals with the *vyavasthā*, the order of arrangement, the method of treatment, the way of discussion and investigation and examination, of all subjects of

¹ Pāṇini's *Vyākaraṇa* and *Shikṣhā* are now current; also special *Prāṭishākyā-Vyākaraṇas* and *Shikṣhās* for the different *Veḍas*; but, of course, they do not cover the ground marked out here. Indeed the available works of *Shikṣhā* do not extend beyond a few score of verses.

human enquiry. Discussion on such and such a subject should proceed thus, in this order, for this reason and in such a style; such a *vyavasthā*, significance, efficacy, is connected with such a word; such and such words should be employed in such and such a discussion; in such and such a subject, this item comes first, this second, this third, this fourth; it should be commenced thus and closed thus—all these matters are dealt with by *Kalpa-shāstra*.¹

The reason of the birth of all *abhiprāyas*, intentions, purposes, objects, aims and ends; the manner in which these arise and the subjects thereof; the reason why these two, intention and its object, appear in the world—are also all described herein. Thus: This is the *abhiprāya*, the intention, sense or significance of this, for this reason, with this motive; it is open to such a doubt or objection, the solution whereof is this; this is born of joy; this, of sorrow;

¹ If the material of which modern works of criticism of the higher sort are made up, and the 'introductions' of the well-edited classics also, could be systematised into a science, a science of critical study, methodology and pedagogy combined, it would perhaps answer to *Kalpa-shāstra* as described here. Current knowledge of this science has dwindled down to a comparatively small body of rules dealing with the method of performing certain Vedic rites.

this in turn gives birth to sorrow; this, to joy; this, to equability; this yields fruit to, of, or through, another; this to, of, or by, oneself; and so on, with endless detail of purpose within purpose.

In application to the *Vedas*, this science shows what subject-matter each *Veda* begins with; what is the order of the mantras therein; the further matters treated of, with their reasons and uses; their mutual connexion, consistency and continuity; their various parts or sections, with the proper beginnings and endings of each; the special method of description of its subject-matter followed in each kind of mantra or ṛk; the order inhering in it; the order and the development of the *Brāhmaṇas* and *Upaniṣads*; the necessity and the manner of their origin, etc.

Such a mood or emotion should be rendered in language thus; if in prose, then thus; if in verse, thus; in the universal language, thus; in another language, thus; the method of translation; the proper way of raising a point and of passing from it to another; the ways of ascertaining the intention or sense of the author and of inferring his physical or mental condition from his work; the reasons or necessity for the study of any particular subject; the way of appraising the value of a treatise—all this may also be learnt from this science. For it is desirable to

learn beforehand the technicalities of the subject of any work that is going to be studied, its terms, its definitions, its rules, exceptions and constructions; its applications, its aims, its extent of authority, its utilities and inutilities; whether there exist any previous works on the same subject, their nature, their similarity or otherwise with the work now to be studied; the reason for the compilation of the new work, the name of the author, his life-history, his qualifications and attainments—it is desirable to get some idea of such matters before commencing the study of any work, otherwise the study does not bear its full fruit. (Corresponding to the merits of the author, are the merits of the reader). All things are not fit to be taught to everybody; and such matters should also be duly considered with the help of *Kalpa* as, viz., whether this child or student has or has not such and such capacities and qualifications, what his circumstances are, his future work in life, his inclinations, and so forth. Instruction should be commenced only after duly considering these matters. According to the subject-matter towards which the inclinations of any one run, should corresponding atoms¹ be directed. Comments, glosses,

¹ See the opening paragraphs of Sec. III. ch. xi. (on the *Upa-vedas*) *supra*.

annotations of various kinds, should be constructed accordingly also.

Without the study of this *Kalpa-shāstra*, it is impossible to understand the *Vedas*, or indeed any work.

The *abhiprāya*, the intention or sense, here is the A; its orderly manifestation, expression or utterance is the U; the cause or reason of the intention is the hidden relation between them, the M.

But apart from these, and in Itself, the *Ātmā* is ever beyond 'all intents and purposes,' (Self-realisation being the final and the only 'intent and purpose,' of all, always and everywhere).

(iv) *Nirukṭa*, 'etymology,' 'lexicography,' 'dictionary'.—Subject, predicate and object.—The various kinds of prose and verse.—The special application of the science to Scripture.

The fourth *Āṅga* is the *Nirukṭa*. It is also called *Koṣha*, 'sheath,' 'receptacle,' 'treasury (of words).' It deals with words and their meanings. It has been said before, that language is intended to express desire, and grammar to express the proper order of language; the connecting of 'meaning' with that ordered language is the work of *Koṣha*. It tells us what sense to attach to which word and why; what the grada-

¹ Yāska's *Nirukṭa* is the Vedic lexicon now current.

tion and alliance is between the various meanings of the same word; why there are more than one and how they evolve gradually; why any one only should be inferred and in which circumstances; how the *svara*, accent, emphasis or tone helps to specify the meaning; how also the special position of a word in a sentence, and the subject in the treatment of which it occurs, and other similar facts specify or change it and why; how and why many words come to have the same meaning; and so on.

That by which the meaning of a word is declared, *uchyaṭe*, with certainty, *nishchaya*na, that is *Nir-ukṭa*. The certain is the necessary, the needed, the desired; and that is expressed by means of words. This science also teaches that the systematic interpretation of all works should be effected by, (a) the separation of the *padas*, distinct and complete words, simple or compound, (b) the explanation of each word, and (c) the explanation of their connexion with each other. This *anvaya*, analysis of how a sentence 'hangs together,' depends entirely on *Nirukṭa*.

There are three kinds of *anvaya*, arrangement or 'mutual following' of words, *ḍaṇḍānvaya*, *khaṇḍānvaya* and *shuḍḍhānvaya*. In the first, the subject or the nominative term comes first, then, the object or the

accusative term and finally, the predicate or the verb. In the second, the object comes first, then, the predicate, then, the subject. In the third kind the order is, subject, predicate and object. The successive coming into relief of the meaning (of the speaker or writer) follows the *anvaya*, and therefore by means of it only should the sense of a sentence be fathomed.

The *karṭā*, actor, subject, is the A; the *karma*, object, acted on, is the U; the *kriyā-paḍa*, the verb, the predicate, acting, which mediates between subject and object and shows the relation between them as also the union between the doer and the doing, is the M. Again, the *śuḍḍh-anvaya* corresponds to the A; the *ḍaṇḍ-anvaya* to the U; and the *khaṇḍ-anvaya* to the M; the summation is *gaḍya*, prose, 'that which has to be spoken'. The *anvaya* or the 'prose-order' of *paḍya* or verse is *gaḍya* or prose. (From another standpoint, we might say, a special arrangement or 'order' of prose is verse.)¹ Each of the three

¹ It may be debated whether prose arises first or verse. All natural elemental sounds seem to be 'repetitive' and uniform, the roar of ocean-breakers, the hum and rustle of forests, the rush and rattle of rivulets, the cries of animals, the 'songs' of birds, the sobbing and the laughing of human beings. And because repetitive and uniform, therefore

kinds of 'order' has its own appropriate place and significance for special reasons, as is explained by *Nirukṭa*.

In its application to the *Veḍas*, the science shows how any particular *ṛk* or *Veḍa*-verse should be analysed; what each word in it means and why; how a certain subject-matter is denoted by a certain word only and by no other; and so on.

Thus, everywhere, for the discriminative use of every word and employment of every kind of verse or prose is the *Nirukṭa* useful. It also ascertains the *bhūṭas*, elements, spoken of (?); the work of *vāyu* here is this; from such *ākāśa* such sound arises, etc.

But the Self is above and beyond all such meanings and senses.

rhythmical and harmonious and 'verse'-like. Thereafter comes differentiation, loss of uniformity, growth of individualism and separateness, and prose. By a higher synthesis, a further turn of the spiral, arises deliberate word-poetry. 'Rotation' is the mean between the two extremes, the secret of the reconciliation between the opposed views. Yet, out of reverence for the Self which *may* be said to be more important than and to precede, though in strictness, it is not and does not, the not-Self, it *may* also be said that 'uniformity,' the 'type,' and verse precede heterogeneity and prose.

'Tis not the sense of any word, nor prose
 Nor verse adequately may speak of It;
 The many ways in which our spoken words
 May be arranged, construed and analysed,
 And all *Nirukṭa* leave It all untouched;
 Endless, Surpassing, AUM, ever the AUM—
 The I, the I, the I, the I alone,
 The Pure, the True, the born of Truth,
 Supreme,
 The added This, the This, the This, the This,
 Unborn, without desire or sense or speech,
 Timeless in time, Spaceless in space, Beyond,
 Encompassed only by the Endless speech,
 The Not, Negation of all else than I.

(v) *Chhandah*, metre, verse.—Three principal notes.—Permutations yield seven.—Whence twenty-one and so on.—Definition of 'song'.—Its purpose, the expression of emotions.—Its application to scripture.

The fifth *Āṅga* is *Chhandah*, metre, also called *paḍya*, verse. The difference between prose and verse with regard to the order of words is taught herein, and the various kinds of metre and the subjects to which they are severally appropriate are also explained by it. It shows what *svaras*, accents, are used in which metre, how many *udātṭas*, *anudātṭas*, *svariṭas*, and *samāhṛṭas* go into it, and why.

The basis of this science is the triplet just mentioned together with its summation. By permutation of these we have seven sounds or notes of music, *ṣhadja*, *ṛṣhabha*, *gāṇḍhāra*, *maḍhyama*, *pañchama*, *ḍhaivata* and *niṣhāḍa*.¹ The first three are the principal notes however. The *ṣhadja* corresponds to A, and is uttered in *udātṭa* and *anudātṭa* accents. The *ṛṣhabha* corresponds to U and is uttered in *udātṭa* and *svariṭa* accents. The *gāṇḍhāra* corresponds to M and is sounded in *anudātṭa* and *svariṭa*. Thus there arise seven (?). A triple sub-division of each gives the twenty-one *mūrchanās*. In this wise the world of *svaras* grows to infinity, there always being notes within notes. These *mūrchanas* are called *laghu*, *guru*, *hrasva*, *dirgha*, *pluṭa*, *vyāpluṭa*, *vyāhrasva*, etc., in various orders.

The orderly utterance of these makes *chhandah* or metre, and is the subject-matter of the science of music. The essence and whole secret

¹ For explanation of the technical terms occurring here and for further details as to how out of the primary three notes the more complicated ones arise, the reader who cannot read Samskr̥t may consult Mr. Bhāvanrao A. Pingle's *Indian Music* (published by "The Education Society's Press," Bombay.)

of music is the fullness or perfection of sound. And as sound is (to us in the present cycle of evolution, the first manifestation of the limitless and countless wonders hidden in) the Self, therefore the realisation of the fullness of the Self is true music.¹ The exact description, in the best manner, of whatever becomes, happens, occurs, is music. Hence the aphorism of this science: The *anu-kaṭhanā*, rendering or description, of some *bhāva*, fact, occurrence, mode, mood, emotion, is song or music, *gīṭa*.

Three 'orders' or metres are the chief, *anuṣṭup*, *ḍaṇḍaka* and *indira*. Of these too, the first, corresponding to A, is the very first of all metres, capable of expressing all emotions.² The second (a kind of endless rhythmic prose, without any strict limitation of the number of syllables), corresponds to U. The third is the M. The summation of them is the *chhandah-praḍhānam* (? mere metre). By permutations and combinations of these three, endless metres arise, all being summed up in the AUM.

¹ So also Pythagoras. "Mathematics and Music" had to be studied before the student became the Master; the knowledge of numbers, the knowledge of sounds—these led to the knowledge of the Self. (A.B.)

² It is the metre in which the bulk of the older Sanskrit literature is written.

Rāga arises out of the use of *svaras*.

In application to the *Vedas*, this science explains what the metre of a ṛk or scripture-verse is; what *svaras*, notes, accents, or vowel-sounds occur in it; what is the proper way to chant it and why; what results follow from its utterance or omission; what are the proper times and other circumstances for its employment; why only such and such letters of the alphabet are used in a particular ṛk and not others; why there are breaks, *sṭhala-bheda*, (?) and of what kinds, in the ṛks; what is the place of each ṛk with reference to others, and of each word within each ṛk with reference to the other words, and why; what is the relation of the verse to *viḍhi* (scriptural ordinance, or ceremonial rule, etc.), and so on.

This science of *Chhandah* applies to all the four *Vedas*.

Metres of various kinds arise in accordance with the constitution of the atoms composing the *kamalas*, nerve-ganglia, spoken of before in the paragraphs on *Śikṣhā*. Hence their endlessness of number. There are two kinds of *vyavahāras*, (?) behavior, operation, treatment, one concerned with the *varṇa*, letter, the other with the *mātrā*, vowel-mark; the third is the absence of both. By the permutation of the first two, 9,200,000 (nine million two

hundred thousand) varieties of metre arise, each expressing a different mutual relationship of letter-sounds and a corresponding different mood of mind or emotion.

Thus, then, the *Chhandah-shāstra* should be studied in order to understand the endless successions that prevail all over the World-process and their mutual relations. But it should also always be remembered that Brahman is in reality independent of all this verse and metre.

(vi) *Jyotiṣha*, 'the science of the heavenly lights,' astronomy-astrology.—Sound-words, their 'measures' and their 'potencies'.—Relation with and proportion of the atoms of the various elements.—Application of the science to practical affairs, *e.g.*, marriage.—Its three sub-divisions.

The sixth *Āṅga*, *Jyotiṣha*, deals with practical affairs (the daily business of life). In this science the *śakṭi* and the *mātrā* of each *śabda*, sound or word, are calculated; there is so much *mātrā*, measure (proportions of the various elements, also vowel-marks?), in it, and such *śakṭi*, potency. The *mātrā* is indicative of or in accordance with the *ṭaṭṭva*, the element (or elements entering into the composition of the object denoted by a word?); such and such elements, *ākāśa*, *vāyu*, etc., are used here; according to the laws of pronunciation

such are the possibilities (of results), such is the existing condition now, such will it be later on, such was the case in the past, and so on. According to the *śakṭi* and the *mātrā* in the word is the result produced thereby, as is made clear by *Vyākaraṇa*. Hence is it necessary to know details about these two and their effects with reference to each word and its relation or application to or connexion with any particular action or work—all which is the subject-matter of *Jyotiṣha*¹.

¹ The reader may perhaps remember some statements, in the Introductory notes, upon the subject of the inclusion of *Jyotiṣha* in *Śabda-shāstra*, the science of sounds or words, generally. These pages of the text may possibly help to suggest some reason; but it is exceedingly obscure and I have translated it in very groping fashion. I have shown the original text to a modern Paṇḍit of *Jyotiṣha* as now current in India. He can make nothing satisfactory out of it and says there is nothing of the kind in extant works. He has added however that a solitary verse is met with now and then in the older of the current works which just suggests the possibility of some treatment of such matters also, now lost, in older and inextant works. Thus, chapter viii. of the *Bṛhaj-jāṭaka* of Varāha-mihira contains the following verse: छायां महाभूतकृतां च सर्वैऽभिव्यजयति स्वश्शानवाप्य। वदंस्त्रिवाप्यंवरजान्गुणान्श्च नासास्यदृक्त्वक्श्रवणानुमेयान्॥; also two or three similar verses in the *Horā-makaraṇa*-

This calculation extends to every atom ; there is such ākāśha, such vāyu, such tejās, etc., in such a paramāṇu; the proportion of this element is greater and of this other less in this

śa of Guṇākara. The Paṇḍit says that the effect of these is to suggest that 'the relative condition of the planets concerned with or influencing a person may be inferred from the condition of his sense-organs and sensations' etc. The transition to *Jyotiṣha* as now known and practised may be discerned in some of the later sentences, indicating the prevalence of *special elements* at special times. We have only to read 'special planets,' (as specially embodying particular elements or predominantly made up of them) in place of 'special elements' to understand the transition. This may also help us to see the distinctive significance of the opening sentence that this science deals with practical affairs; otherwise the other five also deal with practical affairs; only they do so a little more indirectly. But how understand the transition from 'sounds' to the state of the elements? Can it be that experts had made barometers and thermometers of their vocal apparatus and inferred the prevalence or otherwise of one or other from their ability or inability to utter the appropriate sound perfectly, and, conversely, after such ascertainment of the elemental conditions, performed or did not perform any particular work, especially of Vedic ritual and chanting? Even to-day we have works like the *Svarodaya*, dealing with the science of breath, by which certain people (very

atom; this is an atom of only this single element; this other is composed of all; in or for this work this kind of atom is required in larger and this other in smaller proportion; and so on. After the attainment of all such knowledge by means of *Jyotiṣha* such words or sounds should be employed as will best accomplish the work in hand. Thus, with reference to the marriage of man and woman, for example, the following matters should be considered in the light of this science: There are such and such atoms of ākāśha in the man, such in the woman; such of vāyu; such composite ones; this is in greater propor-

few, and those regarded generally as cranks), guide all their actions, according as the breath is flowing through the right nostril, or the left, etc. (It is an interesting fact, by the way, perhaps not generally noted, that human beings ordinarily breathe through only one nostril at a time.) Presumably, according to the text, the 'atomic' constitution of men and women, for purposes of marriage, would be inferred from their voice, principally, and the times and seasons of birth, etc., secondarily. The Law of Analogy, manifesting in correspondences running endlessly through and threading together all departments of the World-process, and all sciences and arts—is the key to the majority of the 'fanciful' statements in the old books. For a few tables of such, see *The Secret Doctrine*, Vol. III. pp. 452, *et seq.*

tion here, this less; the power or energy or vital force of the one or the other is greater or less; of their coming together such will be the consequence, desirable or undesirable. Herein *Kāma-Shāstra* also should be consulted to help the final decision of *Jyotiṣha*. If there is an 'equality,' *sāmya*, parity of physical and mental temperament, gross and subtle, then alliance should be permitted; not otherwise. So, with reference to any other action, whether it should or should not be done at such a time. For this science tells us what element (symbolised by a planet in the composition of which that element predominates) prevails or is most powerful at what times or seasons, and what works are in turn connected with and depend for successful accomplishment on the predominance of which elements.

The application of this science to the *Veda* is as follows: In this *mantra*, scripture-verse, and in this *svara*, note, this word or sound should be in the middle or the beginning or at the end of this word or sound (?); it has this potency and this measure; it should be pronounced with a potency governed by this element; by the utterance of such a sound-word, a potency governed by such an element and a measure containing so much of an element are produced; by the utterance of such words, governed by such elements, in such measure and with such potency, such things or words possessing such

other potencies and measures governed by such other elements are destroyed (or created, etc.).

By means of this science the potencies and measures of the word-sounds used in all the *Vedas* are understood and mastered and it becomes possible for the knower to effect the formation, dissolution or maintenance of atoms in this *samsāra*.

There is a triplicity in this science also: *Phaliṭa*, *Gaṇiṭa* and *Pravṛttiṭā*.¹ The description of the *avasthā*, mode, mood, state, 'fruit,' result, of or to a thing or person with reference to others, is *Phaliṭa*; as, this event ought to happen now because of such and such reasons. The knowledge of the *avasthā*, condition, its ascertainment by 'calculation,' is *Gaṇiṭa*; as, this is so and so at this time and place. *Pravṛttiṭā* or 'progression' is *Sāṃudrika*, the 'ocean-science,' which sums up all. But, verily, the Self is above and beyond all calculations.

Such, in very brief outline, are the six 'organs' or instruments, *Angas*, by means and with the help of which the *Vedas* should be studied. With reference to the appellation of organs or limbs given to these sciences, *Chhandah* is said

¹ *Phaliṭa* is now-a-days a synonym for astrology, and *Gaṇiṭa* for mathematics or more particularly

to be the feet of the *Veḍas* because it teaches *krama*, which means 'footstep' as well as 'succession'. *Kalpa* similarly is called the hands because it teaches 'arrangement' or 'formation' which is generally made with the hands. *Vyākaraṇa* is the mouth which utters the succession of sounds taught by it. *Shikṣhā* is the nose because it teaches the action (intonation?) of those sounds. *Nirukṭa* is the ears, because thereby the meaning of others is understood and facts received. Finally, *Jyotiṣha* is the eyes because it shows forth all numbers and calculations.¹

astronomy. The name *Pravṛtṭitā* is no longer current; but *Sāmuḍrika* is, and means, to judge from the fragments available, a compound of craniology, physiognomy, cheiromancy, and so forth.

¹The reader must have noticed that five out of the primary set of six 'subsidiary sciences' are devoted to sound, and even the sixth (*prima facie* dealing with 'light') is made to concern itself with the same to some extent. Why is so much importance given to sound? We can only make a guess. The fifth principle or 'intelligence,' *manas*, now predominant in humanity, corresponds to *agni*, the substratum of light. Hence present humanity works most with the eye and with fire-heat and electricity. In an earlier day (and perhaps to-day too), the *ṛṣhis* worked, it would seem, more in and by *buddhi-kāma*, love-wisdom corresponding mainly with *vāyu-*

prāṇa, will, prayer and 'sound'. Developments of science may some day restore to the public the full significance of the force of 'sound' in its 'gross' and 'subtle' forms. Even to-day human beings reach each other's minds much more by sound than by sight; the visible writing has to be translated into word-sounds by the reader before it is understood. It may be that Nature-Intelligences, the gods 'presiding over' the so-called inanimate forces of nature, are also better reached by means of 'sound' than 'sight'.