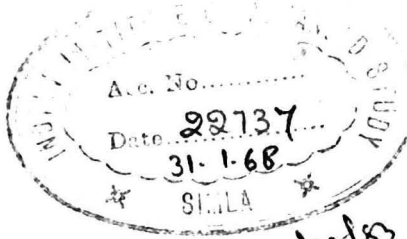




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# Two Methods of Interpreting Pāṇini \*

by

S. D. Joshi

Pāṇini's descriptive study of the Sanskrit language, according to Patañjali<sup>1</sup>, is primarily concerned with the formation of the significant classes of words. As a true methodologist, Pāṇini presents in the *Aṣṭādhyāyī*, the technical procedure which makes it possible for one to produce infinite forms of the Sanskrit language. His purpose is to describe the mechanical procedure of the word-formation by the skilful application of grammatical rules, an act which is considered by modern linguists as highly creative.

The Pāṇinian system of descriptive analysis has attained the striking and unique achievement in establishing the definite procedure by which several forms usable in the Sanskrit language could be mechanically produced. In general, the modern approach to Pāṇini's systematic grammatical description, is motivated in finding out the basic technique employed by him. One can raise a methodological question: how does Pāṇini proceed to analyse the Sanskrit language? Presumably, the modern methodologists are more interested in understanding the devices or techniques employed by Pāṇini, rather than in the consideration of the actual process of the word-formation. The study of the procedure means study of the fundamental principles which underlie the grammatical notions which are indispensable for knowing the structure of the language. In fact, the device is employed by Pāṇini in his system in such a way that it generates the significant classes of words.

Before entering into a discussion on the devices employed by Pāṇini in his system, I would like to comment on the two conceptions held by the ancient grammarians like Patañjali regarding the interpretation of the Pāṇinian system and its application. In other words, there are two ways of studying the Pāṇinian system—the analytic method (*yathoddeśapakṣa*) and the synthetic method (*kāryakālapakṣa*). The *paribhāṣās-yathoddeśam saṃjñā-paribhāṣam* and *kāryakālam saṃjñā-paribhāṣam* lay down the two standard methods by which the rules of Pāṇini could be interpreted. However, the word *saṃjñā* and *paribhāṣā* need not be taken too literally to restrict the scope of application of these two methods to the technical rules (*saṃjñā*) and the rules of interpretation (*paribhāṣā*).

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1. Patañjali, Vol. I, P. 1. (KIELHORN) अथ शब्दानुशासनम् । अथेत्ययं शब्दोऽधिकारार्थः प्रयुज्यते । शब्दानामनुशासनं नाम शास्त्रमधिकृतं वेदितव्यम् ।

The analytic method (*yathoddeśapakṣa*<sup>2</sup>) shows that the rules in the Pāṇinian system are to be interpreted as and how they are taught by Pāṇini.

The second method—the *kāryakālapakṣa*—shows that the rules are to be interpreted together with each other forming the connected idea<sup>3</sup> for the process of grammatical operations.

The purpose of the *yathoddeśa* view lies in acquainting the students of grammar with the general notion given by the rule, without taking into consideration the technique of application. Kaiyaṭa states that the *yathoddeśapakṣa* is meant for those who sincerely accept what has been given to them by their *ācāryas*. According to him, when one studies the *sūtras* of the *Aṣṭādhyāyī* following the order of Pāṇini's arrangement of the rules, one comprehends the general meaning of a *sūtra*, the knowledge of which will be found useful in the application, reserved for a future occasion. If one follows this method, one cannot acquire the special knowledge by which the rules will be needed in the formation of words. The *yathoddeśapakṣa* on the other hand, is recommended<sup>4</sup> to those who care knowledge for the sake of knowledge and do not insist on its immediate utility. According to the *yathoddeśapakṣa*, rules are studied for understanding the procedure of the Pāṇinian system without caring much for its actual demonstration. If Pāṇini's rules are studied where they are mentioned following the method prescribed by the *yathoddeśapakṣa* they remain ambiguous to the students of grammar. Thus for instance, if the very first rule of the *Aṣṭādhyāyī vṛddhir ād aic* (1.1.1.) is subjected to a critical examination, it will be found that numerous references to the later passages have to be kept in mind for the understanding of this *sūtra*. Consequently, the first *sūtra* presupposes the knowledge of the rules *taparas tatkālasya* (1.1.70), *hal antyaṃ* (1.3.3.) and *ādir antyena sahetā* (1.1.71), besides the fourteen aphorisms of Maheśvara. Furthermore, a complete understanding of the rule 1.1.1. necessitates the knowledge of *vidhi* rule in which the term *vṛddhi* is employed. The notion of *vṛddhi* becomes clear when it can be shown that the substitution of the *vṛddhi* vowels prescribed by the rule *mrjer vṛddhiḥ* (7.2.114) takes effect in the present third sg. formation of

2. *Paribhāṣenduśekhara* Vol. I, P. 2. (1960 ed. B. O. R. I.) उद्देशमनतिक्रम्य इति यथोद्देशम् । उद्देश उपदेशदेशः । अधिकरणसाधनश्चायम् । यत्र देश उपदिश्यते तद्देश एव वाक्यार्थबोधेन गृहीतशक्त्या गृहीतपरिभाषार्थेन च सर्वत्र शास्त्रे व्यवहारः ।

3. *Ibid.* p. 5-6 कार्यकालमित्यस्य च कार्येण काल्यते स्वसंनिधिं प्राप्यत इत्यर्थः । कार्येण स्वसंस्काराय स्ववृत्तिलिङ्गचिह्नितपरिभाषाणामाश्रेप इति यावत् ॥ अत एव पूर्वत्रासिद्धम् [ ८.२.१ ] इति सूत्रे भाष्ये.....कार्यकालं संज्ञापरिभाषं यत्र कार्यं तत्रोपस्थितं द्रष्टव्यमित्युक्तम् ।

4. Kaiyaṭa on Pāṇ. 1.1.11. यथोद्देशपक्षाश्रयेण परिहारः । कथं पुनरयं पक्षो यावता कार्यार्थत्वात्संज्ञापरिभाषस्य कार्यकालतैव न्याय्या । नैव दोषः । यदानुद्दिश्य प्रयोजनविशेषं प्रयोजनमात्रनभिर्मात्राव भविष्यति किञ्चिदनेन प्रयोजनमिति संज्ञापरिभाषं प्रणीयते तदा संभवत्येवायं पक्षो यथाश्रुतग्राहिप्रतिपत्त्रपेक्षः ।

the verbal form *mūrṣṭi* derived from *mrj*. In other words, the first method examines accurately the form of Pāṇini's statement. The second method, on the other hand, is limited to the application of Pāṇini's formal statements. The *kāryakālapakṣa* proposes the way of studying the system with the question : how does Pāṇini's statement demonstrate the result? This view emphasises that mere acquaintance with the notion is inadequate unless we have a clear and distinct apprehension of it through proper application.

Thus, for the study of Pāṇini's system, Patañjali<sup>5</sup> mentions these two models which represent the two approaches—the study of Pāṇinian system according to the *Aṣṭādhyāyī* arrangement, and the study of the system by changing the order of the *Aṣṭādhyāyī*, since it is conducive to application. Patañjali<sup>6</sup> goes to the extent of admitting that the established order of the rule is changed in the *kāryakālapakṣa*. He states in his commentary on P.1.1.12 that, although *pragrhyasamjñā* rules (1.1.11–12) precede the rule *eco'yavāyāvah* (6.1.78 which teaches the substitution of *ay* etc.) the actual application of the *samjñā*-rule should not be allowed to operate in the place where the *samjñā*-rule is taught. Accordingly, the *samjñā*-rule on the *kāryakālapakṣa* is united with the rule *plutapragrhyā aci nityam* (6.1.125), and assumes the position of the rule (6.1.125) with which the interpretation of the rules (1.1.11–12) should be linked.

The *Kāśikā*, commentary on the *Aṣṭādhyāyī*, written by Jayāditya and Vāmana, follows the first model in interpreting the *sūtras* without changing the order of Pāṇini's enunciation of the *sūtras*. It is wellknown to *Vaiyākaraṇas* that the arrangement of the *Aṣṭādhyāyī* is mainly based upon the devices *anuvṛtti* and *adhikāra*. Pāṇini's object in framing the *sūtras* is to avoid scrupulously the repetition of those words which can be supplied from the preceding to the following rules. It is obvious that the arrangement or grouping of the rules has nothing to do with the pertinent formation of words. The aphorisms relating to the particular topic, (e. g. *subanta* formation) are not given consecutively, but they occur in several chapters. However, the rules relating to *guṇa*, *vṛddhi*, *ṣatva* and *ṇatva* operations and to the different topics are described in one place for the sake of brevity. The followers of the *yathoddeśapakṣa* maintain that, if the rules are detached from the fixed arrangement and studied isolately, they are wholly unintelligible<sup>7</sup> without the commentator's exposition.

5. Patañjali, Vol. I, P. 66, (KIELNORN) एवं तर्हि किं न एतेन कार्यकालं संज्ञापरिभाषमिति । यथोद्देशमेव संज्ञापरिभाषम् । *Ibid* P. 68. एवं तर्हि परैव प्रगृह्य संज्ञा । कथम् । कार्यकालं संज्ञापरिभाषम् । यत्र कार्यं तत्रोपस्थितं द्रष्टव्यम् ।

6. Patañjali, Vol. I, P. 68, (KIELHORN) विप्रतिषेधे परमित्युच्यते पूर्वा च प्रगृह्यसंज्ञा परे ऽयादयः । परा प्रगृह्यसंज्ञा करिष्यते । सूत्रविपर्यासः कृतो भवति । एवं तर्हि परैव प्रगृह्यसंज्ञा । कथम् । कार्यकालं हि संज्ञापरिभाषम् । यत्र कार्यं तत्रोपस्थितं द्रष्टव्यम् । प्रगृह्यः प्रकृत्येत्युपस्थितमिदं भवति अदसो मादिति । See also KIELHORN'S translation. *Paribhāṣenduśekhara*, Part 2, P. 12, ed. 1960, B. O. R. I.

7. BALLANTYNE, *Laghukaumudī*, preface P. 1; COLEBROOKE, *Sanskrit Literature*, P. 11.

But in the *Siddhāntakaumudī* and in similar other works, a special emphasis is laid upon the application of the system. Bhaṭṭojī and his followers have attempted an arrangement different from Pāṇini's order by taking into consideration the application of the aphorisms in the formation of the significant words. The adherents of the *kāryakālapakṣa* maintain that, if we follow the *Aṣṭādhyāyī* arrangement, it becomes a really difficult task to bring together the aphorisms which are dispersed in the *Aṣṭādhyāyī*, for the complete formation of words. This method brings out the fact that in the *Aṣṭādhyāyī* arrangement, Pāṇini teaches<sup>8</sup> general rules, exceptions, counter-exceptions and further limitations so that the reader cannot keep in view their intended connection and utility. If a word is given as an example under a rule, sometimes thirty or more rules, taught previously or subsequently have a share in the formation of a word, thereby, making it extremely difficult for one to remember all the rules dispersed in the *Aṣṭādhyāyī* before one can device a given form.

These two methods represent the two outlooks. The *yathoddeśapakṣa* pays greater attention to the procedure and devices of Pāṇini's system for generating the significant classes; that is to say, this method examines Pāṇini's statements, the manner of the arrangement of the rules and the precise scheme of grammatical description. On the other hand, the *kāryakālapakṣa* shows the method in applying the precise scheme for the production of an infinite set of the significant classes of words.

In this way we can distinguish the study of the system from the method of its application. The former examines the theoretical part of the system while the latter throws much light on the experimental side of the system. The theoretical study provides us with the raw materials and by the experimental method, we can produce the finished product out of the raw materials. The theoretical part consists of the tools and patterns; but the experimental methods help in building up the higher units.

Without going too much into the technical details regarding the relative importance of these two views, it can be stated that Pāṇini's system can be compared to a complicated machine, since the study of the isolated rules in his system, is as important as the study of the working of the isolated part of the complicated machine.

Another point which should be stressed here is that Pāṇini's system is closely connected with modern logical principles in the technique of 'description'. In analysing the Sanskrit language, Pāṇini follows the principles of mathematical calculus. It seems so far, that most of the research on Pāṇini is restricted to the study of the linguistic principles, the scheme and the procedure of his system. But I think that more attention should be paid for understanding the logical principles which are employed in his system. The value of the logical elegance of the system cannot be detached from the

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8. BUIJKOOL, *Pūrvatrāsiddham*, Leiden, 1939, p. 2.

fascinating technique of language-description. Furthermore, a study of the fundamental principles and techniques of description cannot be separated from the wonderful, faultless, formal application of the system. It is by both the study of the principles of the system and its logical generative application, that we will be able to judge the merit of the system. Therefore, according to my understanding, *yathoddeśapakṣa* and *kāryakālapakṣa* do not represent two diametrically opposite views, but they form two sides of one and the same coin; in other words, they portray a complete picture of the technique, both in its theoretical and experimental aspects.

Having thus presented the two methods, *yathoddeśapakṣa* and *kāryakālapakṣa* I proceed now to examine how the two methods would be profitably combined with the linguistic technique on the one hand and the formal logical principles on the other. In the application of the formal logical principles, I have shown how these two methods act interdependently. In other words, the first method gives us the logical axioms or the algebraic formulae of Pāṇini while the second method involves the application of the mathematical calculus in generating a new chain out of various former chains.

It has already been pointed out that Pāṇini's system aims at the descriptive analysis of the Sanskrit language. Although his system appears somewhat complicated it can be claimed that strictly from the point of logical formalism the *Aṣṭādhyāyī* is the consistent treatise on grammar. What follows now is to exemplify the validity of the above claim viz, the application of the logical principles in the formation of the significant classes and to certain extent in the interpretation of the rules laid down in his system.

The *Aṣṭādhyāyī*, together with the supplementary texts—the *Gaṇapāṭha* and the *Dhātupāṭha*, forms the corpus of Sanskrit grammar. By using symbolic syllables (*anubandhas*), technical terms named after cases, moods, tenses etc. and by the description of the structure of the language in terms of morphemes (*prakṛti* and *pratyaya*), Pāṇini has given a morphological basis to his grammar, though problems relating to syntax are not ignored altogether. Furthermore, adopting phonemes and morphemes as basic units he has built up a complete descriptive grammar. Listing the phonemic sequences which I call WFFs (Well-Formed-Formulae) in the *Aṣṭādhyāyī*, Pāṇini has presented his algebraic formulae of an extremely formal nature, in such a manner that the significant classes of words occurring in the Sanskrit language can be copiously generated. In other words, Pāṇini's WFFs can be described as a formal, helpful technique whose application lies in generating the significant classes of words which he might have anticipated before designing them.

According to Pāṇini, the first constituent of a sentence is *pada* which consists of two or more than two morphemes (stems, suffixes and empty morphs). He did not attempt to define a phoneme or a morpheme but simply listed the phonemes in his first fourteen *sūtras* and then listed morphemes exhaustively in the rest of his works. Even significant terms

like *dhātu*, *sarvanāsthāna* etc. are mentioned without defining them. In fact, he presents in his works only phonemic sequences which may or may not be morphemes. These are either affixes like *ta*, *ti* etc. or roots or stems or empty morphs like *kuk wuk* etc. or whole words like *pañkti*, *viṃśati* etc. which are unanalysable semantic units. These phonemic sequences are simply convenient segmentations useful in the building up of significant hierarchical structure. He framed and worked out the rules to build the combination of WFFs for reproducing the significant classes. This is not completely realistic, because it will require Pāṇini to exhaust the entire vocabulary of WFFs, but he left certain open categories of morphemes unenumerated in his works, for e. g. the words ending in the *uṇādi* suffixes like *dittha*, *gau* etc. which are unanalysed semantic units. Where Pāṇini allows *avyutpannaprātipadikas* (open categories of morphemes not mentioned) in his system, his formal treatment ceases to be formal (since *avyutpannaprātipadikas* are not WFFs, and thus that, which is derived from these, will not fall in his system). For the time being if we ignore this case nobody can deny that his formation of classes is purely formal and free from semantics; because we can reproduce significant classes on merely formal level without the help of anything outside the system. He presents such an axiomatic system that every stage of grammatical structure is obtained from the WFFs and the rules of substitution and generation. This will be clear from the following examples :—

#### I. Formation-specifications :—

- (i) Pāṇini uses several hundreds of primitive signs *k*, *m*, *ṅ*, *ṇ*, *c*, *t*, *ṭ*, etc. which are technical devices for forming the morpheme from WFFs.
- (ii) Well-Formed Formulae:—The root utterances mentioned in *Ganapāṭha* and the suffixes, prefixes and infixes and augments mentioned in the *Aṣṭādhyāyī*.
- (iii) If *bhū* is WFF and *laṭ* is WFF, then so is the expression formed by writing *bhū+laṭ* but not *laṭ+bhū* or *rāma* (noun)+*laṭ*. To obtain this WFF he presents the rules of concatenation that the verbal suffixes follow the roots but never precede nor do they follow the nouns.
- (iv) If 'A' (a verbal root) is WFF and 'B' (a verbal suffix) is WFF and 'C' (any *vikarāna* suffix) is WFF, then so the expression formed as *bhū+śap+laṭ* is generated WFF.
- (v) Rules of substitution :—If 'A' (a verbal root) is WFF and 'B' (a verbal suffix) is WFF then 'D' (*ādeśa*: substitution) which is obtained by replacing 'A' or 'B' or some part of 'A' or 'B' is also WFF, e. g. if *drś+laṭ* is WFF then so is the expression *paśy+tip* which is obtained by replacing 'A' and 'B'.

I furnish here a formation-specification of the form 'ajarghāḥ' frequentative imperfect 2nd person singular of the root *grdh*. The form is not attested but can be produced in the system. The following utterances are WFFs in Pāṇini's system:—

- (1) *grdhu* (in *Dhātupāṭha*), *yañ*, *lañ*, *aṭ*, *tip* and *ruk*.
- (2) Other WFFs we obtain by the rules of formation, order, substitution, generation and detachment:—
  - ( i ) *grdhu* ( WFF mentioned in *Dhātupāṭha* ).
  - ( ii ) *grdh* ( WFF obtained by the rule of detachment i.e. *it* rule 1.3.2 ).
  - ( iii ) *yañ* ( WFF mentioned in *Aṣṭādhyāyī* 3.1.22. It is a suffixdr ).
  - ( iv ) *ya* ( WFF obtained by the rule of detachment i. e. *it* rule 1.3.3 ).
  - ( v ) The expression *grdh* + *ya* written in the order is WFF ( according to the rules of formation and order 3.1.2 ).
  - ( vi ) *lañ* is WFF ( mentioned in *Aṣṭādhyāyī* 3.2.111 ).
  - ( vii ) The expression *grdh* + *ya* + *lañ* written in the order is WFF ( according to the rules of formation and order 3.1.2 ).
  - ( viii ) *si* is WFF ( mentioned in *Aṣṭādhyāyī* 3.4.78 ).
  - ( ix ) *si* is WFF ( obtained by the rule of detachment 1.3.3 ).
  - ( x ) The expression *grdh* + *ya* + *si* written in the order is WFF ( according to the rules of formation, order and substitution 1.1.56 ).
  - ( xi ) *grdh* + *o* + *si* is WFF ( according to rules of detachment, i. e. *lopa* rule 2.4.74 ).
  - ( xii ) The expression *grdh* + *grdh* + ( *o* ) + *si* written in the order is WFF ( derived from WFF *grdh* + *o* + *si* according to the rule of reduplication *san yañoh* 6.1.9 ).
  - ( xiii ) The expression *gardh* + *grdh* + *si* is WFF ( according to the rule of derivation i. e. *guṇa* rule, *guṇo yañlukoh* 7.4.82 ).
  - ( xiv ) The expression *ga* + *grdh* + *si* written in the order is WFF ( according to the rule of detachment i. e. *lopa* rule *halādiḥ śeṣaḥ* 7.4.60 ).
  - ( xv ) The expression *garuk* + *grdh* + *si* written in the order is WFF ( according to the rule of generation i, e. augment rule *rugrikau ca luki* 7.4.91 ).



- ( xvi ) The expression *gar + grdh + si* written in the order is WFF ( according to rules of detachment, *hal antyamār, upadeśe'janunāsika it 1.3.2-3* ).
- ( xvii ) The expression *jar + grdh + si* written in the order is WFF ( according to the rule of substitution *abhyāse carca 8.4.54* ).
- ( xviii ) The expression *jar + gardh + si* written in the order is WFF ( according to the rule of substitution i. e. *gūna* rule *pugantalaghūpadhasya ca 7.3.86* ).
- ( xix ) The expression *jargardh + s* written in the order is WFF ( according to the rule of detachment i. e. *lopa* rule *itaś ca 3.4.100* ).
- ( xx ) The expression *aṭ* is WFF ( according to the rule *luilāñṛñkṣvaḍudāttaḥ 6.4.71* ).
- ( xxi ) The expression *a* is WFF ( according to the rule of detachment i. e. *lopa* rule *hal antyam 1.3.3* ).
- ( xxii ) The expression *a + jargardh + s* written in the order is WFF ( according to the rule of generation *ādyantau ṭakitau 1.4.46* ).
- ( xxiii ) The expression *ajargardh + o* written in the order is WFF ( according to the rule of detachment i. e. *lopa* rule *halīyābbhyo dīrghāt sutisyaprktam hal 6.1.68* ).
- ( xxiv ) The expression *ajargardh + ( o )* written in the order is WFF ( according to the rule of substitution *ekāco baśo bhaṣ jhaśantasya sdhivoḥ 8.2.37* ).
- ( xxv ) The expression *ajargardh* written in the order is WFF ( according to the rule of substitution *jhalām jaśo'nte 8.2.39* ).
- ( xxvi ) The expression *ajargharr* written in the order is WFF ( according to the rule of substitution *daś ca 8.2.75* ).
- ( xxvii ) The expression *ajargha + o + r* written in the order is WFF ( according to the rule of detachment i. e. *lopa* rule *ro ri 8 3.14* ).
- ( xxviii ) The expression *ajarghā + ( o ) + r* is WFF ( according to the rule of substitution *dhralope pūrvasya dīrgho'naḥ 6.3.111* ).
- ( xxix ) The expression *ajarghā + ḥ* written in the order is WFF ( according to the rule of substitution *kharava-sānayor visarjanīyaḥ 8.3.15* ).

Thus the form *ajarghūḥ* is complete because no more rule is applicable to this grammatical unit to derive further WFF from it.

The introduction of logical formalism in Sanskrit grammar might lead us to doubt the consistency and completeness of the system. We can call this formal treatment a consistent system because it does not produce the incorrect forms. The fact is, that the producibility of two forms—a *rāmah* in the masculine nominative singular (a correct form), and *rāmu* (an incorrect form), would condemn Pāṇini's system as meaningless. But a formal treatment is consistent in so far as it provides only correct forms. The system also can be called complete in the sense that all the correct forms in the Sanskrit language are derivable in this system by the application of the formal rules. At least it is claimed by the Pāṇinīyas, that any other form, not derivable in the system is regarded as *apāṇinīya* (not sanctioned by the rules of Pāṇini's grammar) and therefore, it should be regarded as incorrect.

It has been mentioned that Pāṇini's system is free from semantics. This should not be taken to mean that he has totally dispensed with meaning. In fact, he has classified and grouped all possible meanings in suitable headings such as *cāturarthika*, *kṛt*, *rakta*, *apatya*, *kartari* and others. However, the producibility of forms and process of word-formation in Pāṇini's system does not stem from a semantic conception. Since the WFFs and the rules of detachment, substitution, generation etc. are designed in the form of algebraic formulae, and the system follows a defined and well-planned code. What is produced is significant semantic unit but its formation is concerned with mechanical application of the logical principles.

In conclusion, it can be said that the *yathoddeśapakṣa* is useful in understanding the technical procedure employed by Pāṇini in his system, while the *kāryākālapakṣa* represents its skilful application. Two methods are interdependent, and they can be intelligently combined with the descriptive approach postulated by modern linguists and the principles of logical formalism. Thus that the *Aṣṭādhyāyī* can stand experimentation of modern linguistics and logical methods, is sufficient proof to admit of Bloomfield's tribute that Pāṇini's work is one of the greatest monuments of human intelligence.

