GAṄGEŚA'S THEORY OF THE MEANING
OF VERBAL SUFFIXES (*ĀKHYĀTA*)

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1. Introduction

Since the 14th century Naiyāyikas, Mīmāṃsakas, and grammarians
(*pāṇinīya*) have engaged in disputes with one another regarding the
question of what is the nature of verbal cognition, or understanding
(*śābdabodha, śābdajñāna*).[1] The fundamental differences among
these groups regarding this question can be understood from manual
texts such as the *Nyāyasiddhāntamuktāvalī* (*NSM*, ca. 17 c.) and the
Maṇikaṇa (*MK*, ca. 17 c.),[2] for example, in those sections which deal

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1   The reason I have given the 14th century as the starting point here is that the *Tattvacintāmaṇi*
(*TC*) of Gaṅgeśa, who was the consolidator of the Navya-nyāya school and active in that time,
represents in detail the Naiyāykas' dispute with the Mīmāṃsakas or the grammarians with regard
to verbal understanding. It is much later that the Navya-nyāya technical terms established by him
were introduced into their writings; but this does not mean that the Mīmāṃsakas and the
grammarians had not been aware of those terms up to when those writings appeared. According to
Bronkhorst [2012: 69], the *Vaiyākaraṇabhūṣaṇa* of Kauṇḍa Bhaṭṭa (1640) is the first text we
possess that presents a grammarian's attempt to deal with verbal understanding (*śābdabodha*)
using Navya-nyāya ideas and terminology. However, Bronkhorst [2012: 73] does not exclude the
possibility that Śeṣa Kṛṣṇa (1507), one of the grammar teachers of Bhaṭṭoji Dīkṣita (1590) who
was Kauṇḍa Bhaṭṭa's uncle, began to use the Navya-nyāya tools for refining the theory of verbal
understanding. Bronkhorst [2012: 74] considers that Bhaṭṭoji and Kauṇḍa Bhaṭṭa were the first to
take over the Navya-nyāya technical language and concepts elaborated in the context of verbal
understanding. Bronkhorst [2012: 75] reports Lawrence McCrea's claim in 2002 that a
Mīmāṃsaka called Khaṇḍadeva (1640) introduced into Vedic hermeneutics the method of
complete paraphrasing that had been invented by the Navya-nayāyikas. On the dates of the
above-mentioned authors, I have followed Potter [1995(1970)].

2   The relevant portion of these two texts is so short that I have provided it here. *NSM*, p.
296,3-302,1: *dhātuprakṛtipratyayādīnāṃ śaktigraho vyākaraṇād bhavati. kvacit sati bādhake
tyajyate. yathā vaiyākaraṇair ākhyātasya kartari śaktir ucyate. caitraḥ pacatītyādau kartrā saha
caitrasyābhedānvayaḥ. tac ca gauravāt tyajyate. kin tu kṛtau śaktir lāghavāt. kṛtiś caitrādau
prakārībhūya bhāsate. na ca kartur anabhidhānāc caitrādipadānantaraṃ tṛtīyā syād iti vācyam,
kartṛsaṃkhyānabhidhānasya tatra tantratvāt. saṃkhyābhidhānayogyaś ca karmatvādyanava-
ruddhaḥ prathamāntapadopasthāpyaḥ. karmatvādīty asyetaraviśeṣaṇatvena tātparyāviśayatvam
arthaḥ, tena caitra iva maitro gacchatītyādau na caitre saṃkhyānvayaḥ. yatra karmādau na
viśeṣaṇatve tātparyaṃ tadvāraṇāya prathamānteti. yad vā dhātvarthātiriktāviśeṣaṇatvam
prathamadalārthaḥ. tena caitra iva maitro gacchatīty atra caitāder vāraṇam. stokaṃ pacatīty-
ādau stokāder vāraṇāya ca dvitīyadalam. tasya dvitīyāntapadopasthāpyatvād vāraṇam iti. evaṃ
vyāpāre 'pi na śaktir gauravāt. ratho gacchatītyādau tu vyāpāre āśrayatve vā lakṣaṇā.
jānātītyādau āśrayatve, naśyatītyādau pratiyogitve nirūḍhalakṣaṇā. MK, p. 86,2-11: ākhyātasya
kartṛkarmaṇī vācye. te ca dhātvarthe viśeṣaṇībhavataḥ. 'caitraḥ pacati' ity atra caitrakartṛko
viklittyanukūlo vyāpāra ity, 'taṇḍulaḥ pacyate' ity atra taṇḍulakarmako vyāpāra ity pratīyata ity*

with the meaning of the suffixes of a finite verb. Here, Naiyāyikas uphold that the suffixes denote effort (*yatna, prayatna*); Mīmāṃsakas uphold that they denote operation (*vyāpāra*);[3] the grammarians uphold that they denote the agent (*kartṛ*), the object (*karman*), or action (*bhāva*).[4] It should be noted that Naiyāyikas, Mīmāṃsakas, and the grammarians do not differ in holding that the suffixes denote number, person, tense, and voice. Those manual texts do not lead us to an understanding of those differences from a historical viewpoint. As a cue for reconstructing the discussion by the three schools historically, I have taken up the theory of the New Nyāya (Navya-nyāya) on the meaning of the suffixes of finite verbs, and in particular the theory formulated by Gaṅgeśa (14th cent.). Here I will simply call those suffixes verbal suffixes. For an analysis of his theory I will focus on the "Verbal Suffixes Section" (Ākhyātavāda) in the "Language Chapter" (Śabdakhaṇḍa) of his *Tattvacintāmaṇi* (*TC*).

In carrying out my research, I have used the following text of the *TC*:

> *Tattvacintāmaṇi of Gaṅgeśa Upādhyāya*, 4 Volumes, edited with the *Āloka* of Jayadeva Miśra and the *Rahasya* of Mathurānātha, by Kāmākhyānātha Tarkavāgīśa, Vrajajivan Prachyabharati Granthamala 47, Delhi: Chaukhamba Saskrit Pratishtan, 1990.

Gaṅgeśa's "Verbal Suffixes Section" can be divided into eight parts, and the last Part (H) further into three sub-parts as follows. Page and line numbers given to each part and sub-part refer to those of the above edition.

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vaiyākaraṇāḥ. vyāpāratvena bhāvanaiva ākhyātārthaḥ; saiva vākye pradhānam; ity mīmāṃsakāḥ. yatnatvaviśiṣṭam evākhyātavācyam; tac ced āśrayatayā anveti tadā kartṛlakāra iti yadi viṣayatayā tadā karmalakāra iti vyavahriyate. ratho gacchati ityādau vyāpāre āśrayatve vā lakṣaṇā iti naiyāyikāḥ.

[3]   This is the view of the Bhāṭṭa Mīmāṃsakas, which is represented in Gaṅgeśa's "Verbal Suffixes Section". Kumārila holds a slightly different view, which is that a finite verb, whether in the active or passive voice, denotes productive operation (*bhāvanā*). He avoids specifying that the suffix denotes productive operation, but holds, like Śabara, that the suffix denotes the number of the agent of an active sentence or that of the object of a passive sentence. On his view, see Yoshimizu [2006: 304-305] [2012: 563-566]. The Prābhākaras, on the other hand, hold that verbal roots denote action in general and further imply effort, and that the verbal suffixes denote the person and number of the subjects. On this, see Freschi [2008: 159]. Gaṅgeśa briefly refers to the Prābhākara theory in his "Verbal Suffixes Section" in Part (C), which accords with Freschi's explanation. For his reference, see Wada [2012: 538].

[4]   According to Pāṇini (*P3.4.69: laḥ karmaṇi ca bhāve cākarmakebhyaḥ*), the suffixes denote not only the first two meanings but also action (*bhāva*), which is the meaning of the root. However, Gaṅgeśa has the grammarians articulate only the first two meanings in his "Verbal Suffixes Section" (Ākhyātavāda) in order to facilitate the comparison between the views of the three schools.

Part (H) provides not only the traditional Nyāya and the new Nyāya views marked with the indicators "*saṃpradāyaḥ*" (traditional view) and "*navīnāḥ*" (new Naiyāyikas) respectively, but also Gaṅgeśa's own view marked with the indicator "*vayaṃ brūmaḥ*" ("We claim the following"). Let us number these views (H1), (H2), and (H3) respectively. His view is set forth in Part (H3) too briefly to judge that all he holds on the meaning of verbal suffixes is expressed therein. By collecting views not denied by Gaṅgeśa in Parts (A) through (H2) we can add more to his final statement.

The present paper will make clear this addition. First, I will explain Gaṅgeśa's final statement given in Part (H3). He claims that verbal suffixes can denote objectness (*karmatva*), elaborates on this, and concludes that the suffixes denote agentness (*kartṛtva*) or objectness. Before making his conclusion, he does not spell out what agentness is, but we assume he had in mind a definite idea of what it is. I will expound on the relation between agentness and effort accepted by Naiyāyikas as the meaning of the verbal suffixes. Then, from Parts (A) through (H2) I will collect discussions regarding coreferentiality (*sāmānādhikaraṇya*) and tense, in which Gaṅgeśa has some Naiyāyikas respond to the opponents but does not deny those Naiyāyikas' responses in the following parts. These discussions are concerned with the questions of whether the suffixes denote the agent or object, or only the number (*saṃkhyā*) of either entity, and how the meaning of the suffixes conveys the concepts of the three tenses. I

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5   This part will be translated with annotation by Wada [forthcoming].

would like to claim that the conclusions found in the collected discussions should form part of Gaṅgeśa's final view.

It should be noted that the verbal suffixes to be analyzed are those of finite verbs. Parts (A), (B), (C), (D), (E), (F), and (H1) represent the discussion of the meaning of the suffixes used for sentient agents (*cetanakartṛ*) in the active voice. Parts (E) and (H1) also represent the discussion of the meaning of the suffixes used for insentient agents (*acetanakartṛ*) in the active voice. Parts (E), (G), (H1), and (H2) involve the discussion of the meaning of the suffixes used in the passive voice.

2. Gaṅgeśa's final statement

Part (H3) represents Gaṅgeśa's final, but brief statement as follows:

[Text 1:] We, on the other hand, claim as follows: In the cases of *caitreṇa pacyate taṇḍulaḥ* ("Rice is cooked by Caitra") and *rathena gamyate grāmaḥ* ("The village is reached by the chariot") rice and the village would be understand as the objects; they both [i.e., rice and the village] possess objectness (*karmatva*), i.e., the state of possessing result of action (*kriyā*) inhering in the other [i.e., Caitra in the former case and the chariot in the latter]; it is that [objectness] that is denoted by the verbal suffix [–*te* of *pacyate* and *gamyate* respectively]. The reason [for this] is that objectness is not obtained from [any other meaningful linguistic unit (*pada*)] other than [the suffix –*te* in the above two cases] unlike in the case of *taṇḍulaṃ pacati* ("[Caitra] cooks rice") [in which objectness is obtained] from the second [case-ending]. Therefore, like agentness (*kartṛtva*) objectness is also denoted by L-suffixes,[6] because the loci of them, i.e., [the entities called] the agent and the object, are obtained from the other [meaningful linguistic units].[7]

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[6]   L-suffixes are personal endings applied to roots in six tenses and four modes: *laṭ* (present indicative), *liṭ* (perfect), *luṭ* (periphrastic future), *lṛṭ* (simple future), *leṭ* (subjunctive mode), *loṭ* (imperative), *laṅ* (imperfect), *liṅ* (optative mode), *luṅ* (aorist), and *lṛṅ* (conditional). These suffixes, applied to roots, are replaced by verbal suffixes. On this, see Abhyankar [1985: 137-138]. On the rule that L-suffixes denote the agent or object, see P3.4.69: *laḥ karmaṇi ca bhāve cākarmakebhyaḥ* "The tense-affixes called 'la' are used in denoting the object and the agent; after intransitive verbs, they denote the action as well as the agent" (Translation by Vasu [1977: 584]). An L-suffix does not denote a particular number to be related with the agent or the object, while a verbal suffix substituted for the suffix denotes such a number. It follows from this that the agent or the object should be denoted by the same verbal suffix as denotes its number. It is a rule that the basic meaning of an L-suffix is succeeded by its substitute, i.e., the verbal suffix. As a result, it is inferred that the meaning of a verbal suffix, i.e., the agent or the object, comes from that of the L-suffix.

[7]   *TC*, Vol. 4/2, pp. 845,10-846,2: *vayan tu brūhaḥ. caitreṇa pacyate taṇḍulaḥ rathena gamyate grāma ity atra taṇḍulagrāmau karmaṇī pratīyete asti ca tayoḥ parasamavetakriyāphalaśālitvaṃ karmatvaṃ tac cākhyātavācyam eva. taṇḍulaṃ pacatīty atra dvitīyāta ivānyataḥ karmatvālābhāt. tasmāt kartṛtvavat karmatvam api lakāravācyaṃ taddharmiṇoḥ kartṛkarmaṇor anyata eva lābhād iti.*

At the beginning of this text Gaṅgeśa appears to discuss only the verbal suffix used in the passive voice, and to conclude that it denotes objectness. Gaṅgeśa elaborates objectness further: the state of possessing result of action inhering in the other (*parasamavetakriyā-phalaśālitvaṃ*). A similar elaboration is found in later grammarians' texts such as Kauṇḍa Bhaṭṭa's *Vaiyākaraṇabhūṣaṇasāra*.[8]

Since objectness is distributed to the meaning of the suffixes used in the passive voice, it seems that agentness mentioned in Text 1 is distributed to that of the suffixes in the active voice. And Text 1 does not discuss the meaning of the suffixes of the active voice, and instead reads "like agentness objectness is also denoted by L-suffixes". This indicates that the discussion on the meaning of the suffixes in the active voice has ended in the preceding parts of the "Verbal Suffixes Section", and that Gaṅgeśa agrees with the traditional Nyāya view that those suffixes denote effort (*yatna*, *prayatna*) or resolution (*kṛti*). These two terms, i.e., effort and resolution, are freely replaced by one another in the discussion of the meaning of the verbal suffixes.[9] The traditional Nyāya view is presented in the beginning of the "Verbal Suffixes Section": Part (A).[10]

Next it may be questioned whether agentness is nothing more than effort or not. An agent is the possessor of effort (*yatnavat*),[11] which is demonstrated by the following argument in Part (B):

[Text 2:] If [the Naiyāyika says that] since for [the expression] *pacati* ("[He] cooks") [we have] the paraphrase *pākayatnavān* ("[He is] the possessor of effort at cooking"), [the verbal suffix] denotes effort, then [the Mīmāṃsaka would] in this case [object] that [the verbal suffix] for its part would denote the agent.[12]

This text is a claim which Gaṅgeśa presupposes the Mīmāṃsaka to

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[8]   *Vaiyākaraṇabhūṣaṇasāra*, p. 22,2: *phalāśrayḥ karma, vyāpārāśrayaḥ kartā*. This is on k.2: *phalavyāpārayor dhātur āśraye tu tiṅaḥ smṛtāḥ / phale pradhānaṃ vyāpāras tiṅarthas tu viśeṣaṇam //* According to P1.4.49: *kartur īpsitatamaṃ karma*, that which the agent most desires through his action is called the object.

[9]   For example, Gaṅgeśa quotes Udayana's statement in his *Nyāyakusumāñali* that resolution is replaced by effort or productive operation (*bhāvanā*). On this, see Wada [2007a: 417, 421].

[10]   *TC* Vol. 4/2, pp. 819,2-3: *ākhyātasya yatnavācakatvād acetane ratho gacchatīty ādāv ākhyāte vyāpāralakṣaṇā*. On the context in which this sentence appears, see Wada [2007a: 419].

[11]   *Nyāyakośa* gives the etymology of *kartṛ* under the head of *kartṛtvam*: the agent is the locus of resolution (p. 203,8: *kartṛśabdāvayavavṛttilabhye kṛtyāśraye yaugikaḥ.*).

[12]   *TC* Vol. 4/2, p. 826,6-8: *atha pacatīty asya pākayatnavān iti vivaraṇād yatnārthateti cet, tarhi kartrarthatāpi syāt*. On the context in which this sentence appears, see Wada [2007a: 426].

make, but he does not negate the validity of this paraphrase of an agent as the possessor of effort.

The following claim concerning an agent is also presupposed by Gaṅgeśa to be made by the grammarian in Part (H1). From this claim it is apparent that the grammarian also holds that an agent is the possessor of effort, and Gaṅgeśa does not deny this paraphrase.

> [Text 3:] [The grammarian will argue:] The agent is denoted [by the verbal suffix], because [we can] paraphrase *pacati* ("[He] cooks") as *pākayatnavān* ("[He is] the possessor of effort at cooking").[13]

In Sanskrit we have the general rule that the state of being the possessor of *x*, or possessing *x* (*x-mat-tva, x-vat-tva*) can be regarded as *x*.[14] According to this rule, the possessor of effort is replaced by effort. When Gaṅgeśa says that agentness is denoted by the verbal suffixes, this rule seems to function. As a result, agentness, in the present case, amounts to effort.

To sum up, Gaṅgeśa's final statement will be illustrated by the following examples. He does not agree with the grammarians' view that the verbal suffix denotes the agent or object and holds that it denotes effort (or agentness) or objectness, and the number (*saṃkhyā*)[15] existing in the object denoted by a word associated with the first case-ending. Hence, in our illustration we should make use of the concepts of effort (or agentness), objectness, and that number instead of those of agent and object. In the case of the active voice, *caitras taṇḍulaṃ pacati* ("Caitra cooks rice"), the verbal suffix *–ti* denotes not only effort, or agentness, but also the number which accords with that denoted by the word associated with the first case-ending, i.e., *caitraḥ*. Being denoted by one and the same suffix, agentness and such a number should exist in one entity denoted by such a word, i.e., Caitra.[16] The suffix *–ti* in this case does not denote

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[13] *TC*, Vol. 4/2, p. 842,9-10: *pacatīty asya pākayatnavān iti vivaraṇāt kartā vācya iti cet,*

[14] On this rule, see Wada [2006], of which the revised Japanese version is Wada [2008]. See also K. Bhattacharya [2010].

[15] A number is a quality (*guṇa*) residing in a substance.

[16] According to Nyāya, a verbal understanding has such an entity for the qualificand (*viśeṣya*), and the sentence *caitras taṇḍulaṃ pacati* ("Caitra cooks rice") will generate the following verbal understanding: Caitra is the locus of effort producing action which produces the effect occurring in rice. (*TC*, Vol. 4/2, p. 837,11-12: … *taṇḍulavṛttiphalajanakavyāpārajanakayatnāśrayaś caitra ity pratīyate* …) This type of verbal understanding is called that which has the meaning of the noun in the nominative case for the predominant qualificand (*prathamāntamukhyaviśeṣyakaśābdabodha*). On verbal understanding according to the Mīmāṃsakas and the grammarians, see Wada [2007a: 418] or [2012: 532].

objectness, because objectness is obtained from the second case-ending –*am* of *taṇḍulam*.

Similarly, in the case of the passive voice, *caitreṇa taṇḍulaḥ pacyate* ("Rice is cooked by Caitra"), the verbal suffix –*te* denotes objectness and the number which accords with that denoted by the word associated with the first case-ending, i.e., *taṇḍulaḥ*. Being denoted by one and the same suffix, objectness and that number should exist in one entity denoted by such a word, i.e., rice.[17] This suffix does not denote agentness, because agentness is obtained from the third case-ending –*ina* of *caitreṇa*.

Part (E) gives one Naiyāyika's view that the suffix used for the insentient agent of a sentence in the active voice means operation (*vyāpāra*) through indicative function (*lakṣaṇā*). This Naiyāyika says in Part (E) as follows:

> [Text 4:] ... the verbal suffix in the case of [the sentence] *ratho gacchati* ("The chariot goes") possesses indicative function (*lakṣaṇā*) with regard to operation. Therefore, it is understood that the chariot is only the possessor of operation conducive to going.[18]

Gaṅgeśa does not refute this view later, which implies that he accepts it.

It may be necessary here to mention similarities between the Nyāya and the Bhāṭṭa Mīmāṃsā views on the meaning of the suffix of a finite verb. The general standpoints of both schools are obtained in manual texts such as the *NSM*, the *MK*, and the *Mīmāṃsānyāya-prakāśa* (ca. 17th c.).[19] The Nyāya school holds that the suffix used in the active voice denotes effort. The Mīmāṃsā school, on the other hand, holds that whether the suffix is used in the active or passive voice, it denotes operation (*vyāpāra*). Operation is divided into internal and external operations, and the former is nothing but productive operation (*bhāvanā*).[20] This is further regarded as effort

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17 According to Nyāya, a verbal understanding has such an entity for the qualificand (*viśeṣya*), and the sentence *caitreṇa taṇḍulaḥ pacyate* ("Rice is cooked by Caitra") will generate the following verbal understanding: Rice is the locus of effect produced by action which is produced by effort occurring in Caitra. (*TC*, Vol. 4/2, p. 838,1-2: ... *caitravṛttiyatnajanyavyāpārajanya-phalāśrayas taṇḍulaḥ pratīyate* ...)

18 *TC*, Vol. 4/2, pp. 832,13-834,1: ... *ratho gacchatīty atrākhyāte vyāpāralakṣaṇā tena gatyanukūlavyāpāravattvamātraṃ rathasya pratīyate*. On the context in which this sentence appears, see Wada [2012: 542].

19 On the view given in the *Mīmāṃsānyāyaprakāśa*, see Wada [2012: 530 fn. 11].

20 This view is represented by Gaṅgeśa in Part (B) of the "Verbal Suffixes Section". On this view, see Wada [2007: 424-425]. Kumārila's view is somewhat different from this. On this, see

by Naiyāyikas, e.g., Udayana and Gaṅgeśa.[21] Thus, both Naiyāyikas and Mīmāṃsakas do not hold, unlike the grammarians, that the suffix denotes the agent or object; instead they maintain that it denotes their respective specific meaning, i.e., effort or operation, and the number of the agent or object.[22] Furthermore, Gaṅgeśa claims, unlike the Mīmāṃsakas, that the suffix can denote objectness in the passive voice.

The issue whether the verbal suffix denotes the agent or object, or effort or objectness leads us to the concept of coreferentiality (sāmānādhikaraṇya). This is because the Naiyāyikas and the grammarians accept the rule that the word associated with the first case-ending has coreferentiality with the verbal suffix. In order to reconcile their views on the meaning of the suffix with this rule, Gaṅgeśa newly formulates the concept of coreferentiality.

3. Coreferentiality (sāmānādhikaraṇya)

Coreferentiality is a basic concept which the grammarians make use of to underpin the view that the verbal suffixes denote the agent in the case of the active voice, and the object in the case of the passive voice. According to their tradition, this term means that words or meaningful linguistic units have one and the same referent.[23]

Gaṅgeśa, on the other hand, holds that coreferentiality means that words denote one and the same number. He designates this as verbal coreferentaility (śabdasāmānādhikaraṇya).[24] To take an example, when we read or hear the sentence nīlaḥ paṭaḥ ("The cloth is blue"), we observe the fact that the two words, nīla and paṭa, end with the first singular case-ending −s or −ḥ. Then, we determine that both

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fns. 3 and 18.

[21] Udayana says this in his Nyāyakusumāñjali (Wada [2007a: 417]). Gaṅgeśa's free use of the terms of effort and resolution is seen, for example, in Part (H1).

[22] On this view, see fn. 3. Part (G) argues that the verbal suffix denotes the number of the agent in the active voice or that of the object in the passive voice, and not the agent or object as the grammarians claim.

[23] On this, see Abhyankar and Shukla [1977: 386].

[24] TC, Vol. 4/2, pp. 841,8-842,3: na, nīlaḥ paṭaś caitraḥ pacati pacyate taṇḍula ityādau nāmnor nāmākhyātayor vā ekasaṃkhyāvācakatvam eva hi śabdasāmānādhikaraṇyaṃ na tu bhinna-pravṛttinimittasyaikatrārthe vṛttir gauravāt odanakāmaḥ pacetyādau vybhicārāc ca. 'Verbal coreferentiality' sounds strange. 'Coreferntiality' connotes the function of words or expressions, so 'verbal' is apparently superfluous. On the other hand, the Sanskrit term 'sāmānādhikaraṇyam' has two meanings: the coreferntiality of words and the coexistence of entities. To differentiate the former from the latter, the Gaṅgeśa calls the former 'śabdasāmānādhikaraṇyam' (i.e., verval sāmānādhikaraṇyam). The above strangeness is unavoidable unless we provide a common rendering of 'sāmānādhikaraṇyam' in the two cases.

words denote one and the same object or referent. In this process the agreement of the numbers denoted by the two words is the ground for judging that the words refer to one and the same object. We can assume that Gaṅgeśa or Navya-naiyāyikas analyze a sentence's meaning from the viewpoint of readers or hearers.

For the grammarians, the situation is the opposite. When we hear the sentence *nīlah paṭah* ("The cloth is blue"), we know that these two words, i.e., *nīla* and *paṭa*, denote one and the same object, i.e., the blue cloth. As a result, we judge that the first singular case-endings are introduced to both words. For the grammarians, referring to one and the same object is more fundamental than the agreement of the numbers denoted by the two words. We can assume the grammarians analyze a sentence's meaning from the viewpoint of speakers or sentence-makers.

With regard to Gaṅgeśa's concept of coreferentiality, one may ask how he explains the verbal suffix used in a passive impersonal sentence, where no word associated with the first case-ending is available, and where thus we cannot confirm coreferentiality between the suffix and such a word. For example, in the case of *caitreṇa supyate* ("Caitra sleeps") we cannot obtain a word associated with the first case-ending. On this problem, Gaṅgeśa presents the view of some Navya-naiyāyikas (*navīnāh*) in Part (H2) just prior to his final statement as follows:

> [Text 5:] The meaning of a word ending in the first [case-ending] is either the agent or object. That is why in the case of *caitreṇa supyate* ("Caitra sleeps") the number [denoted by the verbal suffix –*te*] is not related [with any other meaning], since there is no word ending in the first [case-ending]. Furthermore, the number [denoted by the suffix] is not related with the meaning of the root [*svap*]. Since dual and plural numbers are impossible even in the case of two or three times of sleeping being possible, only the expression *supyate* is available. It follows from this that only sleeping is understood [from the expression *supyate*], and hence that when the effort and the number, i.e., the meanings of the verbal suffix, are not related [with any other meaning], [to use] the verbal suffix is grammatically correct only for the sake of expression. This is because [to use] a mere root without a verbal suffix is not grammatically correct.[25]

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[25] *TC* Vol. 4/2, p. 845,3-9: *prathamāntapadārthaḥ kartā karma vā. ata eva caitreṇa supyate ity atra prathamāntapadābhāvān na saṃkhyānvayaḥ. na ca dhātvarthe saṃkhyānvayaḥ, svāpasya dvitvabahutve 'pi dvivacanabahuvacanayor abhāvāt supyata ity eva prayogaḥ syāt. ata eva svāpamātrāvagamāt ākhyātārthayatnasaṃkhyayor ananvaye ākhyātaṃ prayogamātre sādhv iti tiṅaṃ vinā dhātoḥ kevalasyāsādhutvāt.*

Gaṅgeśa does not negate this view in the following Part (H3), which implies that he accepts it. The gist of text 5 consists of the assertions that the meaning of the suffix used in a passive impersonal sentence cannot be related with any other meaning, and that the use of the suffix –*te* of *supyate* is meant for grammatical correctness. The former assertion is not new, and elsewhere in his "Verbal Suffixes Section" (Part B) Gaṅgeśa has a Naiyāyika articulate that when two meaningful linguistic units denote one and the same meaning, either unit remains unrelated.[26]

Here we should note why Gaṅgeśa needs to formulate this new concept of coreferentiality. He does not consider, as the grammarians do, that we understand the agent by hearing the verbal suffix such as –*ti* of *pacati* ("[He] cooks"), and the object by hearing the suffix such as –*te* of *pacyate* ("[x] is cooked"). Instead, he holds that we understand effort in the former case, and objectness in the latter. Hence, he dismisses the concept of the conferentiality that says that both such a verbal suffix and the word associated with the first case-ending denote one and the same object, i.e., the agent or object. He employs a new concept of conferentiality that says that both the suffix and such a word denote one and the same number existing in the agent or object.[27] To keep coherence between the Nyāya view of the meaning of the verbal suffix and the concept of coreferentiality, Gaṅgeśa discards even the general concept of coreferentiality and coins a new concept of verbal coreferentiality.

4. *Tenses of verbs*

Gaṅgeśa presents a discussion of the three tenses in Parts (F) and (G). Part (F) contains the objection to the Nyāya view that the verbal suffixes denote effort. We cannot tell from the discussion in Parts (F) and (G) whose objection it is. Bhatta [2005: 895] believes that it is of the grammarians. Part (G) contains the Nyāya response to the objection, and it is apparent that this part has the grammarians for the opponent, so that Bhatta seems to hold that the objection in Part (F) is also made by the grammarians. For the time being, I will follow his identification of the opponent in Part (F).

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[26]   *TC* Vol. 4/2, p. 823,5-7: *nanu prakṛtes tadarthatve 'pi pratyayasya tadarthatvaṃ na doṣāya, eko dvau bahava iṣiṣiṣatīty atra ca vyabhicārāt.* On the context in which this sentence appears, see Wada [2007: 422-423 B4.1-4.3].

[27]   This issue is discussed in Part (G).

Facing the grammarians' objections, one Naiyāyika presents three alternatives of the denotation of a verbal suffix: (1) a particular resolution (*ekakṛti*), (2) a collection of resolutions which are conducive to an action (*kṛtipracaya, sakalakṛti*),[28] and (3) a resolution inseparable from the result (*phalāyogavyavacchinnā kṛtiḥ*). According to the first alternative, we would say, for example, *apākṣīt* ("[He] cooked"), even when a particular resolution has gone but cooking is still going on. We would also say, for example, *pakṣyati* ("[He] will cook"), even when a particular resolution has not yet gone and cooking is still going on. These two examples contradict the correct usage of *apākṣīt* and *pakṣyati*. Regarding the second alternative, a collection of instances of resolution cannot occur at once, so it is impossible to utter *pacati* ("[He] cooks") to describe the present action of cooking. As a result, even when a person is cooking, we cannot say *pacati* ("[He] cooks"). The third alternative is that as long as a resolution inseparable from the result continues, we can say *pacati* ("[He] cooks"). However, we will encounter an undesirable outcome as follows. When the last resolution inseparable from the result has not yet occurred and cooking still continues, we could say *pakṣyati* ("[He] will cook"). This is because the last resolution occurs in the future. However, that is a wrong usage of the future tense.

Here we need to explain why one action needs plural instances of resolution. It is generally held that one action consists of many actions. The *Mahabhāṣya* says that even if an action regarded as common to all partial actions is one, its parts are many. For example, the action of cooking consists of actions such as putting the cooking pot on the fire (*adhiśrayana*), pouring water into the pot (*udakāsecana*), putting rice in the pot (*taṇḍulāvapana*) and stoking fuel on the fire (*edhopakarṣaṇa*).[29] To bring about each partial action, resolution is required for its requisite. As a result, to evoke and complete the action of cooking, one needs to have many instances of resolution. The grammarians claim in Part (F) that such instances of resolution do not take place at one time called 'now' or 'at this moment'.

Gaṅgeśa has one Naiyāyika answer to the above three alternatives one at a time in the beginning of Part (G). This Naiyāyika maintains

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28   This objection is not explicitly claimed by the Naiyāyika, but is expressed through the mouth of the grammarian: *TC*, Vol. 4/2, p. 833,3-5: *na ca dhruvapadavat kṛtipracayasya śakyatvāt pracayasya dhvaṃse prāgabhāve vā apākṣīt pakṣayatīti prayoga iti vācyam.*

29   *Mahābhāṣya*, Vol. 2, p. 28,15-16: *yadi apy ekā sāmānyakriyā. avayavakriyās tu bahavaḥ. adhiśrayaṇodakāsecanatanduĺāvapanaidhopakarṣaṇakriyāḥ.* This Sanskrit text is given by Ogawa [1994: 47, 57 n.118].

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the original meaning of the verbal suffix and takes into account the ground for the usage of the present tense (*vyavahāranimitta*) as follows.

> [Text 6:] [On the above point the Naiyāyika[30]] states: When each [instance of effort] is the ground for the usage of the present tense in the case that a collection [of the instances] is denoted by the verbal suffix, [we have] the usage [of the past or future tense] on the basis of the destruction or prior absence of all those [instances of effort]. And something [else] is not the ground for the usage of the present tense, for [that something] does not exist.[31]

Here the proponent, i.e., a Naiyāyika, does not withdraw his view that the verbal suffix denotes a collection of efforts or resolutions, but takes recourse to the ground for the usage of the suffix –*ti* to explain the usage of the suffixes in the three tenses. He holds that effort conducive to each partial action is the ground. Gaṅgeśa does not negate this view, nor does he discuss the issue of the tenses elsewhere in his "Verbal Suffixes Section". Even if one partial action has ended and the following partial actions come into being one after another, the instances of resolution for those actions also occur one after another; and thus, we can utter *pacati* up until the time all the partial actions have ended.

5. Conclusion

From Gaṅgeśa's concluding statement we can understand his own view of the meaning of the verbal suffixes to some extent. The gist of his statement is this: the suffix denotes effort (*yatna*), or resolution (*kṛti*) when it is used for the sentient agent in the case of a sentence in the active voice. In the passive voice, on the other hand, the suffix denotes objectness (*karmatva*). In the case of a passive impersonal, such as *caitreṇa supyate* ("Caitra sleeps"), Gaṅgeśa considers that the suffix –*te* is used only for grammatical correctness. His final

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[30] Bhatta [2005: 898] identifies this Naiyāyika as Gaṅgeśa; but he gives no reason for his identification. It is not Bhatta's rule to consider that whenever the views of the Naiyāyikas' opponents are refuted, Gaṅgeśa himself refutes them. There must be some reasons for his identification. On this I have the following rule: since the view presented in the text is not refuted by the Naiyāyikas who Gaṅgeśa has appear in his text, we can conjecture that Gaṅgeśa approves the view.

[31] *TC* Vol. 4/2, p. 834,4-7: *ucyate. yatrākhyātavācye pracaye ekaikasya vartamānavyavahāra-nimittatvaṃ tatra tāvatāṃ dhvaṃsaiḥ prāgabhāvaiś ca bhūtabhaviṣyadvyavahāraḥ, na tu varta-mānavyavahāranimittaṃ kiñcidabhāvāt.*

statement does not deal with the suffix used for an insentient agent in the active voice, but we can conjecture that he holds that the suffixes indicate operation (*vyāpāra*).

He seems to hold that the ground for the usage of the suffix *–ti* of such verbs as *pacati* ("[He] cooks") is an instance of effort which generates a partial action of one whole action. As a result, we can say *pacati* as long as the agent of the action of cooking continues its partial actions.

To determine the meaning of the suffixes, the concept of coreferentiality (*sāmānādhikaraṇya*) plays an important role in the Gaṅgeśa's view. This concept differs from the grammarians' or general concept. The grammarians hold that coreferentiality occurs when two or more words (or meaningful linguistic units) denote one and the same object/referent. Gaṅgeśa, on the other hand, maintains that coreferentiality is the agreement of the numbers denoted by words, and not the denotation of one and the same object/referent. He offers this new concept of coreferntiality to preserve coherence with the Nyāya meaning of the verbal suffix, and calls it verbal coreferentiality (*śābdasāmānādhikaraṇya*).

It is quite natural that later manual texts such as the *NSM* and the *MK* do not necessarily cover all the above points. The former text introduces the discussion of the suffixes used for sentient or insentient agents in the case of the active voice, but it does not discuss the case of the passive voice.[32] We can say that the *NSM* partially represents Gaṅgeśa's discussion. The *MK*, on the other hand, gives only effort as the meaning of the verbal suffix and connects this meaning to the use of the suffixes in both active and passive voices,[33] but does not state a separate meaning for the suffixes used in the passive voice.[34] Since Gaṅgeśa does not assign a single meaning to the suffixes used in both voices, the *MK*, whose title appears to faithfully represent Gaṅgeśa's view, does not in this case reveal his conclusions precisely.[35]

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[32]　For the relevant portion of the *NSM*, see fn 2.
[33]　This view is similar to Kumārila's. On his view, see fn. 3.
[34]　For the relevant portion of the *MK*, see fn. 2.
[35]　The *Tarkāmṛta* (pp. 84,5, 86, 3), a manual text written by Jagadīśa, explains the meaning of verbal suffixes in the active and passive voices separately.

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