

7 Vyāsatīrtha and Navya-Nyāya philosophy

The previous two chapters focused on the debate between Vyāsatīrtha and his Advaitin opponents about the nature of existence, nonexistence, and indeterminacy. Advaitin philosophers grounded their theory of indeterminacy in familiar cases of perceptual illusion, but Vyāsatīrtha argued that perceptual illusions are not “indeterminate”, as the Advaitins claim. Illusions such as the mother-of-pearl/silver illusion present no mystery to philosophy; we can explain them simply by assuming that the object they seem to present to us does not exist as part of reality. In fact, perception itself tells us that its objects exist, and the truth of this insight is detected by the witness, the very essence of the conscious self. Moreover, indeterminacy is an inherently contradictory concept. Existence and nonexistence are by their very nature jointly-exhaustive properties, and asserting that one and the same thing lacks both is nothing more than a contradiction.

Vyāsatīrtha presses a number of other charges against indeterminacy in the *Prathamamithyātvabhāṅga*. He clearly models his critique of indeterminacy on Mādhva’s arguments. In his *Mithyātvānumānakhaṇḍana*, Mādhva used a stock of formal inferential fallacies accepted by Nyāya philosophers to show that indeterminacy is by its very nature not a property that can be inferred from the world. Mādhva’s arguments were developed considerably by Jayatīrtha in his *Nyāyasudhā* and *Vādāvalī*. Neither Mādhva nor Jayatīrtha was influenced by Gaṅgeśa and the Navya-Naiyāyikas, however. One of Vyāsatīrtha’s most important contributions to the Mādhva/Advaitin debate was to show that Mādhva and Jayatīrtha’s case against Ānandabodha could be vindicated in the light of Gaṅgeśa’s new arguments.

In this chapter, I will focus on Vyāsatīrtha’s encounter with Gaṅgeśa in the *Nyāyāmṛta* and the *Tarkatāṇḍava*. I will begin by giving a historical overview of the engagement of Mādhva thinkers with Navya-Nyāya philosophy, which began with Vyāsatīrtha’s own study of Gaṅgeśa in the sixteenth century. I then explore how Gaṅgeśa’s ideas shaped Vyāsatīrtha’s work, contrasting the ways in which Vyāsatīrtha uses Gaṅgeśa’s ideas in the *Nyāyāmṛta* and the *Tarkatāṇḍava*. The remainder of this chapter is concerned with Vyāsatīrtha’s critique of Gaṅgeśa’s theory of a particular type of reasoning known as “universal-negative” inference (*kevalavyatirek-yanumāna*). Gaṅgeśa himself gave a detailed analysis of this type of inference in the *Tattvacintāmaṇi*. In the *Prathamamithyātvabhāṅga* chapter of the *Nyāyāmṛta*, Vyāsatīrtha, in turn, made extensive use of Gaṅgeśa’s analysis to critique Ānandabodha’s formal inferences.

7.1 The role of Gaṅgeśa in Vyāsātīrtha's thought

Gaṅgeśa and his followers exerted a complex influence over Vyāsātīrtha, and we see him adopt different stances towards Navya-Nyāya philosophy in his works. In the *Nyāyāmṛta*, Vyāsātīrtha's main objective is to refute the philosophy of the Advaita school of Vedānta. In that text, he is therefore more concerned with using Navya-Nyāya theories and terminology to help evaluate the arguments of his Advaitin opponents. It is clear that Vyāsātīrtha often tacitly assumes various Navya-Nyāya epistemological theories in the *Nyāyāmṛta*, even if they directly conflict with his own Mādhva ideas about epistemology. In the *Tarkatāṇḍava*, by contrast, Gaṅgeśa and the Mithila Navya-Naiyāyikas are Vyāsātīrtha's central opponents, and Vyāsātīrtha's main objective is to show that Mādhva theories about knowledge and ontology can be vindicated in the light of their arguments. Consequently, in the *Tarkatāṇḍava*, Vyāsātīrtha rejects the Navya-Nyāya theory of knowledge and sometimes ends up arguing directly against Navya-Nyāya theories he had assumed in the course of debating with the Advaitins in the *Nyāyāmṛta*.

The *Prathamamithyātvabhāṅga* and other opening sections of the *Nyāyāmṛta* provide clear evidence of Vyāsātīrtha's approach toward Gaṅgeśa in that text. In the *Prathamamithyātvabhāṅga*, Vyāsātīrtha repeatedly refers to the “universal-negative” (*kevalavyatirekin*) mode of inference accepted by the Navya-Naiyāyikas. As a Mādhva, Vyāsātīrtha ultimately denies that this really constitutes a separate type of inference, and, as I will discuss in this chapter, he devotes a lengthy section of the *Tarkatāṇḍava* to refuting it. Yet, in the *Prathamamithyātvabhāṅga*, Vyāsātīrtha clearly accepts particular aspects of Gaṅgeśa's justification of this type of inference, whereas he directly refutes these very same arguments in the *Tarkatāṇḍava*.

A particularly clear example of the differing roles of Gaṅgeśa's philosophy in the *Nyāyāmṛta* and *Tarkatāṇḍava* is found in Vyāsātīrtha's attitude towards the problem of inferences where the probandum is an unestablished/unexampled (*aprasiddha*) term like “sky-flower” or “son of a barren woman”. The Naiyāyikas argued that inferences involving unestablished properties are intrinsically faulty; we simply cannot make inferences to the prove that “There is a hare's horn on this patch of earth”, for instance. They applied the flaw of *aprasiddhaviśeṣaṇatā* (“[the subject's] having an unestablished qualifier/probandum”) to such “inferences”. In the *Nyāyāmṛta*, Vyāsātīrtha argues that the flaw of *aprasiddhaviśeṣaṇatā* does apply to Ānandabodha's inferences to establish that the world is indeterminate. He argues that indeterminacy itself (here defined as “the absence of nonexistence coupled with the absence of existence”) is an unestablished entity, because percep-

tual illusions are not indeterminate.¹ Vyāsātīrtha's explanation in this passage of the *Nyāyāmṛta* of why we are unable to admit unestablished entities into our inferences follows the explanation of the Navya-Naiyāyikas. If we could make inferences that involve such unestablished terms, he argues, then we might as well infer that a patch of earth has been scratched by a hare's horn because the components of the probandum (horns, hares, and scratch marks) are separately established before the inference is made.

Yet, in the *Tarkatāṇḍava*, Vyāsātīrtha clearly says that *aprasiddhaviśeṣaṇatā* is *not* a flaw. This is entirely consistent with his Mādhva epistemology. Unlike the Naiyāyikas, the Mādhvas do not dismiss inferences as invalid purely because they contain empty terms. Vyāsātīrtha argues elsewhere in the *Tarkatāṇḍava* that we can make inferences such as “The son of a barren woman is mute, because it is insentient”. This position is closely connected with the Mādhvas' refutation of the Advaitins' doctrine of indeterminacy, and it led the Mādhvas to the position that there are “location-free” properties (*asadāśrayadharmas*): properties such as nonexistence, insentience, and so on that can somehow feature in reality without being contained in an existent thing.

In fact, in this section of the *Tarkatāṇḍava*, Vyāsātīrtha cites what is essentially a simplified version of Ānandabodha's inference, and argues that *aprasiddhaviśeṣaṇatā* does *not* apply to it, because *aprasiddhaviśeṣaṇatā* is not a flaw at all. (Obviously, he still believes that the inference is fatally flawed because it suffers from other defects such as proving a contradictory property, and so on.) In this he is directly contradicting his words in the *Nyāyāmṛta*, where he accepts that *aprasiddhaviśeṣaṇatā* is a flaw and applies it to Ānandabodha's inferences. So on this point, Vyāsātīrtha, in his two works, clearly shows different attitudes towards Gaṅgeśa's theory of inference.

We get a further clue as to Vyāsātīrtha's attitude towards Gaṅgeśa very early on in the *Nyāyāmṛta*, when Vyāsātīrtha gives a “statement of the disagreement” (*vipratipatti-vākya*). Vyāsātīrtha here attempts to give a precise formulation of the philosophical dispute between Mādhva and Advaitin philosophers. The form in which he gives the *vipratipattivākya* is the same as is found, for instance, in the *Prāmāṇyavāda* of Gaṅgeśa's *Tattvacintāmaṇi*. However, having just given the statement in this way, Vyāsātīrtha immediately goes on to argue that it is quite pointless and unnecessary to begin a debate:

The disagreement is elucidated here only in accordance with the practice of the Naiyāyikas, and not because it is the correct method. For, even according to the Naiyāyikas, the only result of stating the disagreement in this way is the apprehension of the subject of the inference.

¹ See Chapter 9, pp. 296–298, for a translation and discussion of this passage.

Now, that could be accomplished by (1) a statement on the part of one of the debaters, either in Sanskrit or in a vernacular (e.g., “I will prove that the world has illusoriness”), according to everyday practice outside of debate, by virtue of which it would not be liable to censure. Or, it could be accomplished by [the participants’] accepting a topic prescribed by an arbitrator (e.g., “You must prove that the world has illusoriness”). And hence, it follows that a statement of the disagreement, separate from the statement of the thesis, which is liable to the aforementioned faults, is purposeless. ...

Nor can it be argued that [the elucidation of the *vipratipatti*] has the purpose of bringing about the doubt which is the cause of subjectness. For, since both the debater and his opponent, along with the arbitrators, are certain about the matter at hand, that would serve no purpose. ... Moreover, subjectness in the form of the absence of conviction of proof as accompanied by the absence of the desire to prove [that the probandum is present in the subject]² is possible even in the absence of [such] doubt.³

Vyāsātīrtha here seems to indicate that he is adopting a particular part of Gaṅgeśa’s philosophical methodology even though it conflicts with his own point of view. At this early point in the *Nyāyāmṛta*, he gives a precise statement of the disagreement between the Mādhvas and the Advaitins in an identical format to the one used by Gaṅgeśa in the *Tattvacintāmaṇi*; however, Vyāsātīrtha subsequently argues that the statement is really unnecessary, since the same effect could also be achieved by other means.⁴

From these passages it is clear that although in the *Nyāyāmṛta* Vyāsātīrtha is content to use arguments and techniques from Gaṅgeśa’s works, he does not really agree with them. He articulates his true position in the *Tarkatāṇḍava*, where he clearly refutes Gaṅgeśa’s arguments. It is certain that Vyāsātīrtha wrote the *Tarkatāṇḍava* after the *Nyāyāmṛta*,⁵ but the shift in Vyāsātīrtha’s focus was clearly not due to development in his thought. Vyāsātīrtha was always a committed Mādhva who would have always accepted the epistemology he defends in the *Tarkatāṇḍava*.

2 This is Gaṅgeśa’s definition of subjecthood. Gaṅgeśa writes: *ucyate siśādhayiśāvirahasahakṛta-sādhakapramāṇābhāvo yatrāsti, sa pakṣaḥ. tena siśādhayiśāvirahasahakṛtaṃ sādhakapramāṇaṃ yatrāsti sa na pakṣaḥ, yatra sādhakapramāṇe saty asati vā siśādhayiśā tatra cobhayābhāvas tatra viśiṣṭābhāvāt pakṣatvam.* (ACN: 431–432.)

3 *idaṃ ca vipratipattipradarśanaṃ tārkarītyaiva na tu vastutaḥ. tatpakṣe ’pi vipratipattivākyasya pakṣaparigrahaikaphalakatvāt. tasya kathābāhyena nigrāhānarheṇa laukikarītyanusārīnā saṃskṛtarūpeṇa vā bhāṣārūpeṇa vā mayā prapañcamithyātvaṃ sādhyata iti vādivākyena vā, tvayā prapañcamithyātvaṃ sādhyam iti madhyasthaparikalpita viśayasvīkāreṇa vā siddhau, pratijñavyatiriktasyoktakusṛṣṭiyuktasya vipratipattivākyasya vaiyārthyāt. ... na ca pakṣatvaprayojakasamāśayārthaṃ tat, vādirativādinoḥ prāśnikānāṃ ca niścayavattvena tadayogāt. ... saṃśayaṃ vināpi siśādhayiśāvirahasahakṛtasādhakamānābhāvarūpasya pakṣatvasya sambhavāc ca.* (NAB, 1:8.)

4 See Williams (2014: 138–141) for a more detailed discussion of how Vyāsātīrtha’s commentators treat this passage.

5 See below, fn. 11, for a passage where Vyāsātīrtha refers to the *Nyāyāmṛta* in the *Tarkatāṇḍava*.

It is rather due to the identity of Vyāsātīrtha's opponent in the *Nyāyāmṛta*. There, Vyāsātīrtha's provisional acceptance of Gaṅgeśa's philosophical arguments is for the sake of debating with the Advaitins. The Advaitins would obviously have never accepted the tenets of Mādhva epistemology, and Advaitin thinkers like Madhusūdana and Brahmānanda were deeply trained in Navya-Nyāya ideas. So, when critiquing the Advaitins, Gaṅgeśa's epistemology could act as a sort of "middle ground", supplying a point of reference that allowed the traditions to debate with one another.

This use of the *Tattvacintāmaṇi* as a text to help mediate disputes between competing intellectual traditions is also reflected in Somanātha Kavi's *Vyāsayogicarita*. In this work, Somanātha seems to indicate that by the early sixteenth century Gaṅgeśa's text had become an authority on matters of inferential theory among philosophers in South India.⁶ Indeed, Vyāsātīrtha's use of Gaṅgeśa's text is legalistic. He employs particular judgments made by Gaṅgeśa in the *Tattvacintāmaṇi* as a precedent to decide the controversial philosophical points being addressed in the *Nyāyāmṛta*.

7.2 The Nyāya-Vaśeṣika theory of inference

Despite Vyāsātīrtha's differing approaches towards Gaṅgeśa in the *Nyāyāmṛta* and the *Tarkatāṇḍava*, the influence of the *Tattvacintāmaṇi* runs deep in both texts. The *Tattvacintāmaṇi* was divided into four separate books, each focussing on one of the means of knowledge (*pramāṇas*) accepted by the Navya-Naiyāyikas. In the early portions of the *Nyāyāmṛta*, Vyāsātīrtha focuses mainly on the second book of the *Tattvacintāmaṇi*, which deals with inference (*anumāna*). The theory of inference was always the centrepiece of Navya-Nyāya epistemological analysis, and it was primarily in discussing the various aspects of inferential knowledge that the Navya-Naiyāyikas refined their logical techniques and technical language.

In the *Prathamamithyātvabhāṅga*, Vyāsātīrtha refers frequently to the section of the *Tattvacintāmaṇi* where Gaṅgeśa deals specifically with the "universal-negative" (*kevalavyatirekīn*) mode of inference (the *Kevalavyatirekivāda*). One cannot, therefore, understand the *Prathamamithyātvabhāṅga* and its commentaries without understanding this part of Gaṅgeśa's text. Stephen Phillips (2016) has translated Gaṅgeśa's *Kevalavyatirekivāda* into English with a commentary. In the remainder of this chapter, I will discuss Gaṅgeśa's solutions in the *Tattvacintāmaṇi* to the problem of universal-negative inference by translating Vyāsātīrtha's response

6 See Williams (2014: 146, fn. 25) for a discussion of this passage.

in the *Tarkatāṇḍava* to Gaṅgeśa's arguments. This will supply a backdrop for the translation of the *Prathamamithyātvaḥhaṅga* in the next chapter, and give insight into some of the debates between Mādhva and Nyāya thinkers on the subject of inference.

According to Navya-Nyāya philosophers, "knowledge" (*pramā*) is a special type of cognition. They regard "cognitions"/"awarenesses" (*jñāna*, *buddhi*, *pratyaya*, etc.) as tropes that occur, under specific conditions, in individual souls (*ātman*). According to the Naiyāyikas, there are four types of valid knowledge: perceptual knowledge (*pratyakṣa*), inferential knowledge (*anumiti*), identificational knowledge (*upamiti*),⁷ and verbal knowledge (*śābdabodha*). One of Gaṅgeśa's central concerns in the *Tattvacintāmaṇi* is to identify the particular factors that cause these cognitive episodes to occur. Each of the types of knowledge recognised by the Naiyāyikas is produced by a distinct means of knowledge (*pramāṇa*). Nyāya philosophers generally accepted that there are four instruments that produce knowledge: perception (*pratyakṣa*), inference (*anumāna*), comparison (*upamāna*), and verbal testimony (*śabda*).

The term that I translate as "inference" (*anumāna*) refers specifically to the means that produce episodes of inferential knowledge. According to the Nyāya model, an inference seeks to establish that some property (the "thing-to-be-established" or "probandum" [*sādhya*]) is somehow located in a particular location (the inferential subject, or *pakṣa*), because the inferential subject possesses a further property, the reason (*hetu*, *sādhana*). A standard example of an inference is: "The mountain has fire, because [it has] smoke; just like the oven". According to Gaṅgeśa, inferential knowledge arises from "the cognition that [the reason] is a property of a subject combined with pervasion" (*vyāptiviśiṣṭapakṣadharmatājñāna*). In other words, we attain an inferential knowledge once we know both (1) that the reason is present in the inferential subject, and (2) that the probandum is invariably concomitant with the reason (that the probandum "pervades" the reason). Put simply, to say that the probandum "pervades" the reason is to say that it is present in every location where the reason is present.⁸

7 See Ingalls (1951: 29) for a discussion of this translation of the term *upamiti*.

8 The entire passage of the *Tattvacintāmaṇi* reads: *pratyakṣopajīvakatvāt pratyakṣānantaram, bahuvādisammatatvād upamānāt prāg anumānam nirūpyate. tatra vyāptiviśiṣṭapakṣadharmatājñānanyam jñānam anumitih; tatkarāṇam anumānam. tac ca liṅgaparāmarśaḥ, na tu parāmṛśyamāṇaṇ liṅgam iti vakṣyate.* (ACN: 1–2.) "Inference is characterised after perception, because [it] depends upon perception; it is characterised before comparison, because[, unlike comparison, inference] is agreed by many philosophers [to be a separate source of knowledge]. Of those [different types of knowledge], inferential knowledge (*anumiti*) is a cognition that is produced by a cognition of the [reason's] being a property of the subject, which property is coupled with pervasion; its instru-

The *Nyāyasiddhāntamuktāvalī*, a seventeenth century manual of Nyāya-Vaiśeṣika epistemology and metaphysics, gives an explanation of how inferential knowledge comes about using the standard example of inferring fire from smoke:

A certain person apprehends the pervasion of smoke by fire in, for instance, an oven. Later, the very same person sees a plume of smoke directly originating from a mountain, for instance. Thereafter, [the same person] recalls the pervasion in the form “smoke is pervaded by fire”. After that, [the person] has the cognition “this [mountain] has smoke, which is pervaded by fire”. It is this that is called “reflection” (*parāmarśa*). After that has occurred, the inferential knowledge “the mountain has fire” arises.⁹

This is an account of “private inference” or “inference-for-one’s-self” (*svārthānumāna*), which consists in a series of cognitive events (perceiving, recollecting) taking place in a single conscious subject over an indefinite period of time. A “public inference” or an “inference-for-another” (*parārthānumāna*) consists in a set of speech acts that induce inferential knowledge in a beneficiary. Gaṅgeśa recognised that there are three main subtypes of inference, and he devoted a large section of the *Tattvacintāmaṇi* to discussing them. His typology of inference is based on the distinction between two types of property: “universal-positive” (*kevalānvayin*) properties and (so-called) “universal-negative” (*kevalavyatirekin*) properties.

The Navya-Naiyāyikas accept that universal-positive properties are present in every possible location. For instance, Gaṅgeśa accepts that the properties “knowability” (*jñeyatva*) and “nameability” (*abhidheyatva*) are universal-positive properties, because everything can be an object of knowledge and can be referred to in language.¹⁰ Gaṅgeśa defines a universal-positive property as a property “that is *not* the counterpositive of a constant absence that occurs [somewhere]” (*vyṭtimadatyantā-*

mental cause is inference (*anumāna*); and this is consideration (*parāmarśa*) of the reason, and not the reason being considered, as will be explained [later in this text].” See Ingalls (1951: 30–33) and Goekoop (1967: 55–56) for more details about Gaṅgeśa’s theory and terminology.

9 *yena puruṣeṇa mahānasādaḥ dhūme vahnivyāptir gṛhītā, paścāt sa eva puruṣaḥ kva cit parvatādāv avicchinnaṃ mūlāṃ dhūmarekhāṃ paśyati, tadanantaram dhūmo vahnivyāpya ity evaṃ rūpaṃ vyāptismaraṇaṃ tasya bhavati, paścāc ca vahnivyāpyadhūmavān ayam iti jñānam, sa eva parāmarśa ity ucyate. tadanantaram, parvato vahnimān ity anumitir jāyate.* (NSM: 210–211.)

10 This is based on the recognition of the Naiyāyikas, first appearing in the works of Praśastapāda, that certain properties must occur in everything. According to Praśastapāda, all the Vaiśeṣika categories have “being” (*astitva*), nameability, and knowability”. See Perrett (1999) for a discussion of the concept of universal-positive properties. The claim that “everything is knowable” is sometimes taken to be a corollary of the Nyāya position that god is omniscient. However, Perrett argues that Nyāya-Vaiśeṣika philosophers are, in fact, committed to the claim that everything is in principle knowable by human beings.

bhāvāpratiyogitvam).¹¹ One might expect, therefore, that “universal-negative” properties are properties that fail to occur in any location whatsoever. However, this is not the case. According to Gaṅgeśa, universal-negative qualities *can*, in fact, occur as part of reality. They are referred to as “universal-negative” qualities because they are not (yet) known to occur anywhere from the point of view of some observer. (It is thus slightly misleading to think of them as being the “opposite” or “counter-correlate” of universal-positive properties.)

In the *Tattvacintāmaṇi*, Gaṅgeśa argues that inference can be subdivided into three types corresponding to the distinction between these types of property: there is universal-positive inference, universal-negative inference, and both-negative-and-positive inference. A universal-positive inference is an inference where the probandum is a universal-positive property. Gaṅgeśa (ACN: 552) accordingly defines it as an inference “where there is no heterologue (*vīpakṣa*)”, that is, an inference where there is no location known to have the absence of the probandum. By contrast, universal-negative inferences are ones where the probandum

¹¹ See ACN: 572. Gaṅgeśa explains that the term “possessing occurrence” (*vṛttimat-*) in the compound is inserted to include the constant absence of the ether under the scope of universal-positive properties. The ether is, according to Nyāya-Vaiśeṣika philosophers, a non-occurring substance, so its *absence* should occur in every possible location. The point is that even though it is present everywhere, the constant absence of the ether is the counterpositive of a constant absence. Since a presence and the corresponding absence are each identical with the absence of the other, the constant absence of the ether is the counterpositive of a constant absence in the form of the *ether itself*. The word *vṛttimat-* thus serves to *include* the constant absence of the ether. For, even though the constant absence of the ether is the counterpositive of a constant absence, it is *not* the counterpositive of a constant absence that has something that occurs in something else for its counterpositive, because the ether itself does not occur in anything. Vyāsātīrtha critiques this argument as follows in the *Tarkatāṇḍava*: *yac ca maṇau vyāptir dvedhā, anvayavyatirekabhedāt. tataś cānumānam api kevalānvayikevalavyatirekyanvayavyatirekibhedāt trividham. tatra vṛttimadatyantābhāvāpratiyogitvam kevalānvayitvam. gaganātyantābhāvasya kevalānvayitvārthaṃ vṛttimatpadam iti, tan na; gaganasya kevalānvayatyantābhāvāpratiyogitve tucchatvāpātāt. na hi śaśāṅgāder apīto 'nyad asattvam asti; viśṛtaṃ caitan nyāyāmṛte*. (TT, 4:173–174.) “[Gaṅgeśa] says in the [*Tattvacintā*]maṇi as follows—‘Pervasion is of two sorts, because of the difference between positive and negative pervasion. And so inference itself is of three sorts, because of the difference between universal-positive, universal-negative, and both-positive-and-negative-pervasion. In those [different sorts of pervasion], being a universal-positive [property] is “not being the counterpositive of a constant absence that occurs [in something else]”. The word *vṛttimat-* (“occurring [in something else]”) has the purpose of ensuring that the constant absence of the ether is a universal-positive property’. That[, say I, Vyāsātīrtha,] is wrong! For, if the ether is the counterpositive of a constant absence that occurs in all locations, then it must be a mere void! For a hare’s horn and so on has no other ‘nonexistence’ than [‘being the counterpositive of an absence that occurs in all locations’]; and [I] have elaborated this in [the *Dvīṭīyamithyātvaḥaṅga* and *Sattvanirukti* chapters of my] *Nyāyāmṛta*.” This passage makes it clear that Vyāsātīrtha had already written the *Nyāyāmṛta* when he was writing the *Tarkatāṇḍava*.

is a universal-negative property, that is, the person making/hearing the inference has not encountered the probandum in a location other than the subject prior to the inference. Gaṅgeśa defines these as inferences where there is no homologue (*sapakṣa*), that is, no location that is known to *possess* the probandum.¹²

7.3 Gaṅgeśa's analytic account of universal-negative inference

The fact that Gaṅgeśa accepted these different types of inference presented serious challenges to his theory of pervasion/invariable concomitance (*vyāpti*). Pervasion was the most extensively discussed concept in Navya-Nyāya, and the quest to give a perfect definition of it helped stimulate the Naiyāyikas to develop powerful analytic techniques. A pervasion consists of a universal relationship between the reason and the probandum in an inference. For instance, in the inference “there is fire on the mountain, because there is smoke on the mountain”, we are able to infer the presence of fire on the mountain on the basis of smoke because we know that “wherever there is smoke, there is fire”. A rough definition of pervasion is thus: “the co-occurrence (*sāmānādhikaraṇya*) of one thing (B) with another thing (A), when A is never absent from any location where B is present”.¹³ In this relationship, A is the “pervader” (*vyāpaka*) and B is the “thing-pervaded” (*vyāpya*). In modern formal logic, the relationship “A pervades B” could thus be expressed with the formula:

$$(\forall x) (Bx \rightarrow Ax)$$

So in the case of the inference where we infer fire from smoke, for instance, we infer as follows:

¹² *tac cānumānaṃ trividham—kevalānvayikevalavyatirekyaṇvayavyatirekibhedāt. tatrāsadvipakṣaṃ kevalānvayi. ... kevalavyatirekī tv asatsapakṣaḥ, yatra vyatirekasahacāreṇa vyāptigrahaḥ.* (ACN: 552–582.) “And inference is of three sorts, because of the difference between universal-positive-, universal-negative-, and both-positive-and-negative inferences. Of those [three sorts of inference], universal-positive inference is that which has no heterologue (*vipakṣa*). ... Universal-negative inference, on the other hand, is that which lacks a homologue (*sapakṣa*), where the pervasion is apprehended through the negative concomitance [of the reason and the probandum].”

¹³ See Ganeri (2001: 192). Gaṅgeśa's conclusive definition of pervasion (*vyāptisiddhāntalakṣaṇa*) in the *Tattvacintāmaṇi* reads: “A (= *sādhya*) pervades B (= *hetu*) if B shares a common locus with A, and A is not qualified by the determiner of counterpositiveness to a constant absence that (1) shares a common locus with B, and (2) does not share a common locus with [its own] counterpositive” (*pratītyogyaśamānādhikaraṇāyatsamānādhikaraṇātyantābhāvapratītyogitāvachchedakāvacchinnaṃ yaṇ na bhavati, tena samaṃ tasya sāmānādhikaraṇyaṃ vyāptiḥ*). See Goekoop (1967: 109–116) for a translation and discussion of Gaṅgeśa's definition.

1. *Ha*

2. $(\forall x)(Hx \rightarrow Sx)$

$\therefore Sa$

(where “H” and “S” refer to the reason and the probandum respectively).

The fact that Gaṅgeśa admits inferences containing universal-positive properties such as “knowability” and “nameability” complicates the task of defining pervasion considerably for him. A universal-positive property is one that is always present in every location; consequently, its *absence* must be an empty/unestablished (*aprasiddha*) term that is found nowhere in reality. The “absence of knowability” (*jñeyatvābhāva*), for instance, is simply an empty term, like “hare’s horn”. The Naiyāyikas refused on principle to perform logical operations on empty terms. This includes referring to them in definitions. The problem is that many of the traditional definitions of pervasion that Gaṅgeśa considers in the *Tattvacintāmaṇi* end up inadvertently referring to unestablished terms when they are applied to universal-positive inference. For instance, suppose we define pervasion as “[the reason’s] not occurring in something that possesses the absence of the probandum” (*sādhyābhāvavadavṛttitvam*).¹⁴ Even if this definition could apply to cases of inferences such as “There is fire on the mountain, because there is smoke on the mountain”, it would fail in the case of universal-positive inferences (e.g., “This is nameable because it is knowable”), where the absence of the probandum (the “absence of nameability”) is necessarily an unestablished term.

Besides the universal-positive inferences, Gaṅgeśa also accepts another mode of inference, which he calls “universal-negative inference” (*kevalavyatirekya-numāna*). This type of inference is extremely important for the Naiyāyikas because it explains how we can give definitions of terms. According to the Navya-Naiyāyikas, a defining characteristic/property (*lakṣaṇa*) is a property that occurs in all cases of the thing that is being defined, and no more. It is, in other words, an exclusive property, one which distinguishes the thing being defined from all other things. One way to think about the process of giving a definition is as an inference where we infer that the defined term is different from all other things because it possesses the defining property. As Ingalls (1951: 89) points out, the following inference will thus always be true for valid definitions:

¹⁴ For discussions of this definition, see Ingalls (1951: 90–93) and Goekoop (1967: 60–64).

The thing-to-be-defined is different from everything else, because [it has] a defining characteristic of that sort (*lakṣya itarabhedavān, tādṛśalakṣaṇāt*).

The most frequent example of this type of inference found in the Navya-Nyāya literature is based on the definition of the substance earth. In Vaiśeṣika ontology, earth is one of the five atomic substances. It is, according to the Vaiśeṣikas, the only substance that smells, because it is the only substance that possesses smell-tropes. As such, one could give a definition of earth as follows: “The defining property (*lakṣaṇa*) of earth is the state of possessing smell” (*gandhavattvaṃ pṛthivyāḥ lakṣaṇam*).¹⁵ The process of defining earth using this property could be analysed as the following inference:

Earth is different from everything else, because [it] possesses smell (*pṛthivītarebhyo bhidyate, gandhavattvāt*).

Here the defined term (“earth”) is the subject, the defining property (the “quality of possessing-smell”) is the reason, and the probandum is “the state of being differentiated from all other things”.

Gaṅgeśa argued that to explain such reasoning we need to accept universal-negative inference as a separate type of inference. The point is that the probandum in this inference to define earth is present only in the subject of the inference—earth—and nothing else. Of course, it could be said of everything that it has the property of being “different from everything else” (*itarabhinnatva*), but this is not a *recurrent* property. Nothing else has the particular combination of differences possessed by earth that collectively render it different from everything besides itself. So, given that the probandum is an exclusive property that is present only in the subject, the inferer cannot have experienced it anywhere else before the inference is made. The probandum must, therefore, be an unestablished term until the inference is made.¹⁶ This creates a serious bind for Gaṅgeśa. It is fundamental to his Nyāya philosophy that such unestablished terms cannot appear in inferences,

¹⁵ Gaṅgeśa and Vyāsātīrtha usually refer to an alternative formulation of the inference to define earth, where the reason is the universal earthness (*pṛthivītva*) rather than the property of possessing-smell (*gandhavattva*): “Earth is different from the other [substances and categories], because [it possesses] earthness” (*pṛthivītarebhyo bhidyate, pṛthivītāt*). However, in this chapter I have used the inference in which *gandhavattva* is the reason, since it perhaps makes the function of the inference clearer. Among Navya-Naiyāyikas, both of these inferences are considered paradigms of the universal-negative mode of inference.

¹⁶ According to Rāghavendra, a *kevalavyatirekin* property is a property only the absence of which is well established (*prasiddha*). He accordingly explains universal-negative inference as an inference where the *probandum* is such a quality: *yasya dharmasya kevalaṃ vyatirekaḥ—abhāva eva—prasiddhaḥ, na tu bhāvaḥ, sa dharmah kevalavyatirekīti. tādṛśadharmasādhyaḥ anumānam api*

yet the universal-negative type of inference seems by definition to preclude the possibility that the probandum is established somewhere else before the inference is made. The acceptance of universal-negative inference seems to entail that we can make inferences involving even unestablished terms, something that Gaṅgeśa, as a Naiyāyika, cannot accept.

Gaṅgeśa analyses universal-negative inference in detail in the *Tattvacintāmaṇi*. In the inference to define earth, we end up proving that earth is “different from everything else” on the basis that it possesses smell tropes. But what exactly does the quality of “being different from everything else” (*itarabhinnatva*) consist in, in this case? As Gaṅgeśa points out, from the point of view of Vaiśeṣika metaphysics, the property entails that earth is different from all the individuals that belong to the eight other types of substance, as well as from all the individuals belonging to the categories apart from substance. He therefore analyses the probandum as consisting of thirteen separate mutual absences or differences. To say that “Earth is different from all other things” is to say that earth is different from the eight other substances (water, fire, wind, the ether, time, space, the self, and the internal faculty) and the remaining five categories apart from substance (trope, motion, universal, ultimate particulariser, and inherence). Curiously, Gaṅgeśa does not include absence in this list, even though he clearly accepts it as a separate category. Vyāsātīrtha follows him in this respect in the *Nyāyāmṛta*.¹⁷

Thus the probandum (*itarabhinnatva*) in the earth inference is actually a compound property that consists of mutual absences from the following things: (1) water, (2) fire, (3) wind, (4) ether, (5) time, (6) space, (7) self, (8) the internal faculty, (9) trope, (10) motion, (11) universal, (12) ultimate particulariser, and (13) inherence.

The full form of the inference to define earth is as follows:

- *Thesis*: Earth is different from the other substances and categories;
- *Reason*: Because it possesses smell;
- *Example*: That which is *not* differentiated from the other substances and categories does *not* possess smell, as in the case of water;
- *Application*: And earth does *not* have the quality of possessing smell;
- *Conclusion*: Therefore, it is *not* differentiated from the other substances and categories.

kevalavyatirekyaṇumānam ity arthaḥ. (Nyāyadīpa, TT, 4:175.) “A property is called a ‘universal-negative property’ when only its *absence* (*vyatireka/abhāva*) is established, and not its *presence*. And universal-negative inference (*kevalavyatirekyaṇumāna*) is an inference in which the probandum is a property of that sort; this is what [Vyāsātīrtha] means [in this passage of the *Tarkatāṇḍava*].”

¹⁷ Vyāsātīrtha’s commentator, Śrinivāsātīrtha, acknowledges this when commenting on the *Prathamamithyātvabhāṅga*, but he offers no explanation of why Gaṅgeśa and Vyāsātīrtha do not include absence in the list of categories. See my translation of the *Nyāyāmṛtaprakāśa*, Chapter 9, pp. 270–271.

The “example” (*udāharaṇa*) component of this inference expresses a pervasion relationship between the reason and the probandum. However, this pervasion relationship is of a different sort to the one that holds between, say, smoke and fire in the standard example of inference. In the case of the inference “There is fire on the mountain, because there is smoke on the mountain”, we are able to make the inference from smoke to fire because we know that fire pervades smoke; that is, fire is never absent from a location that has smoke. According to Gaṅgeśa, however, there are two types of pervasion: (1) positive (*anvaya*) and negative (*vyatireka*). As noted above, “positive pervasion” can be written in PPL as:

$$(\forall x)(Hx \rightarrow Sx).$$

Negative-pervasion is the contraposition of this:

$$(\forall x)(\neg Sx \rightarrow \neg Hx).$$

Gaṅgeśa himself expresses this relationship elegantly by means of the compound *sādhyaḥbhāvavyāpakābhāvapratiyogitvam*: “[the reason’s] being the counterpositive of an absence that pervades the absence of the probandum”.¹⁸

In the inference to define earth, we know that the absence of the reason (that is, the absence of the quality of possessing smell [*gandhavattvābhāva*]) pervades the *absence* of the particular combination of thirteen mutual absences that distinguish earth from all the other substances and categories. For, everything that we know of that lacks the particular combination of thirteen absences in question (water, fire, etc.), also lacks smell. We also know that earth has the quality of possessing smell. Hence we can conclude that earth has the quality of being different from the remaining substances and categories. In PPL:

$$(\forall x)(\neg Sx \rightarrow \neg Hx)$$

$$Ha$$

$$\therefore Sa$$

18 See for instance ACN: 588.

7.4 Vyāsātīrtha's use of Gaṅgeśa's theory of universal-negative inference in the *Nyāyāmṛta*

Universal-negative inference presented many different problems to Gaṅgeśa, and he endorsed several solutions in the *Tattvacintāmaṇi*. In his *Tarkatāṇḍava*, Vyāsātīrtha argues that Gaṅgeśa's defence of universal-negative inference in the *Tattvacintāmaṇi* is untenable. In the passages of the *Nyāyāmṛta* translated in the next chapter of this book, by contrast, he actually makes use of many of Gaṅgeśa's key arguments, and applies Gaṅgeśa's positions to Ānandabodha's inferences to prove that the world is indeterminate. I will here outline how Vyāsātīrtha uses Gaṅgeśa's arguments about universal-negative inference in the *Nyāyāmṛta*.

The main objections that Vyāsātīrtha levels against Ānandabodha in the *Prathamamithyātvabhāṅga* go back to the works of Madhva himself. In the first of the inferences Vyāsātīrtha ascribes to Ānandabodha in the *Nyāyāmṛta*, Ānandabodha attempts to infer that the empirical world is "illusory" because it is "perceptible". Early on in his *Mithyātvānumānakhaṇḍana*, Madhva argued that the flaws of "proving something that is already established" (*siddhasādhana*) and "[the subject's] having an unestablished qualifier/probandum" (*aprasiddhaviśeṣaṇatā*) both apply to this inference. The Mādhvas are realists who accept that the world is existent by its very essence. Consequently, while they do not accept that the world lacks the property of existence, the Mādhvas do accept that it lacks the property of *nonexistence*. So Ānandabodha's inference to prove that the world is "neither existent nor non-existent" fails because it proves, at least in part, something that the Mādhvas already accept.

The flaw of *aprasiddhaviśeṣaṇatā* also applies to Ānandabodha's attempts to prove the indeterminacy of the world because, from the Mādhvas' point of view, indeterminacy is an unestablished property. According to the Advaitins, indeterminacy is established in perceptual illusions like the mother-of-pearl/silver illusion before the inference takes place. However, Mādhva philosophers believe that perceptual illusions can be explained in a determinate/bivalent ontology. As such, from their point of view "indeterminacy" is simply a dubious unexamined property, like a hare's horn or a rose that grows in the sky.¹⁹

19 *vimataṃ mithyā, dṛśyatvāt; yad ittham, tat tathā, yathā śūktirajataṃ. jagato 'bhāvād āśrayāsid-dhaḥ. pakṣo 'nirvacanīyasyāsiddher aprasiddhaviśeṣaṇaḥ. asadvailakṣaṇye mithyātvasya siddhasā-dhanatā.* (*Mithyātvānumānakhaṇḍana*, SMGs, 58.) "[Ānandabodha has argued as follows—] 'The object of dispute [= the world] is illusory, because [it is] perceptible; that which is so (= perceptible) is as such (= illusory), just like the silver [superimposed on] mother-of-pearl'. [However, this inference is untenable. For,] since the [subject of the inference,] the world, [in the view of the Advaitin] does

Like the probandum in the inference to define earth (“being different from the other substances and categories”), the Advaitin's property of “indeterminacy” is a property that is made up of component parts that can be observed separately in different locations. In the *Nyāyāmṛta*, Vyāsātīrtha accepts that indeterminacy is “being the locus of neither existence nor nonexistence” (*sadasattvānadhikaraṇatva*). In the *Prathamamithyātvabhaṅga*, he analyses this definition further. Indeterminacy could be said to be:

- D¹ a *pair of qualities*: (a) the constant absence of existence and (b) the constant absence of nonexistence;
- D² a *compound entity*, namely, the state of having the constant absence of nonexistence qualified by the state of having the constant absence of existence.

In other words, we can think about “indeterminacy” either synthetically or analytically. We can think of it as consisting of two separate properties (the “constant absence of existence” and the “constant absence of nonexistence”) which happen to be ascribed to the same substrate, or we can think about it as the *compound/conjunction* of those two things—“the constant absence of existence combined with the constant absence of nonexistence”. This distinction may sound trivial, but for Vyāsātīrtha it makes an important difference about how we evaluate Ānandabodha's inferences.

In the *Prathamamithyātvabhaṅga*, Vyāsātīrtha tries to stay true to Madhva's arguments. He tries to catch the Advaitin in a bind by citing the same charges of *siddhasādhana* and *aprasiddhaviśeṣaṇatā* pressed by Madhva. According to Vyāsātīrtha, in the act of choosing to define “indeterminacy” as either D¹ or D², the Advaitin impales himself on one horn of a dilemma, but he absolves himself of another charge. If he selects D¹, opting to make indeterminacy a pair of separate qualities, the Advaitin's inference proves to the Mādhva something that the Mādhva already accepts (the flaw of *siddhasādhana*).²⁰ This is because the Mādhva already accepts that the world is existent and, in doing so, accepts that it has the constant absence of nonexistence. On the other hand, Vyāsātīrtha, following Gaṅgeśa, concedes that adopting D¹ as the definition of indeterminacy absolves the inference of the flaw of *aprasiddhaviśeṣaṇatā*. As in the inference to define earth, the two properties—

not exist (*abhāva*), the [reason in the inference, ‘perceptibility’] is not established in its substrate. [Moreover, the inference is untenable because], since what is indeterminate is unestablished, the subject has an unestablished qualifier. [Moreover, the inference is untenable because establishing that the world has] ‘illusoriness’[, understood as indeterminacy,] proves something that is already established in respect of the state of being different from what is nonexistent[, which I, the realist, already accept is true of the world].”

²⁰ See below, Chapter 9, pp. 254–256.

the constant absence of existence and the constant absence of nonexistence—could be said to be established separately before the inference takes place: we perceive the constant absence of nonexistence in what exists and, vice versa, the constant absence of existence in what does not exist. The inference simply establishes that these two separate properties are present in the same subject.

According to Vyāsātīrtha, if the Advaitin opts for D^2 and treats indeterminacy as a compound entity, then the inference does not suffer from the flaw of *siddha-sādhana*. The Mādhva clearly does not accept that the world has the absence of existence *compounded with* the absence of nonexistence, so the Advaitin is proving something that the Mādhvas genuinely do not accept. Nevertheless, D^2 , Vyāsātīrtha argues, suffers from *aprasiddhaviśeṣaṇatā*: the probandum—indeterminacy—is under this analysis something that is unestablished. This is because, as a Mādhva, Vyāsātīrtha believes that indeterminacy is not established in cases of perceptual illusion. The obvious retort is that we are still aware of the components of the compound thing separately before the inference takes place; why cannot the inference simply unite them in a single thing? Vyāsātīrtha answers this as a Naiyāyika would: were we to accept that a qualified/compound probandum is well-established just because its parts are established separately, then we would have to accept the validity of the absurd inference “The floor is scratched by the hare’s horn”, simply because we are aware of hares and horns separately before the “inference” takes place.

7.5 Gaṅgeśa’s first solution to the problem of universal-negative inference

This is roughly the structure of Vyāsātīrtha’s arguments in the *Prathamamithyātvabhāṅga*. For the remainder of this chapter, I will sketch how Gaṅgeśa himself proposed to solve these problems with universal-negative inference, and show how Vyāsātīrtha refutes Gaṅgeśa’s arguments in the *Tarkatāṇḍava*. From Gaṅgeśa’s point of view, the problem with universal-negative inferences such as the earth inference is that they seem by their very essence to conflict with the requirement that all the terms involved in an inference are established (*prasiddha*) before the inference takes place. In the inference to define earth, for instance, we infer that earth has a property—“being different from everything else” (*itarabhinnatva*)—that nothing else in reality possesses. If this is a unique, distinguishing property, present only in earth, then how could we have experienced it before making the inference? The property is not epistemically available anywhere other than the subject, and so it must be unestablished before the inference occurs. From this point of view, the property seems to belong to the same class of “unestablished” things that

the Mādhvas claim the property of “indeterminacy” does. As a Naiyāyika, Gaṅgeśa cannot accept that we can make inferences involving such entities, yet he is also committed to the validity of universal-negative inference.

In the *Tarkatāṇḍava*, Vyāsatīrtha states the problem with universal-negative inference as follows:

Moreover, universal-negative inference is not tenable. For, in your view [as a Naiyāyika] the probandum [in an inference] must be established in order that: (1) there can be the apprehension of the pervasion [of the reason by the probandum], (2) the [unacceptable contingency that] the statement of the thesis [in public inference] does not communicate [anything] can be averted, and (3) [your] rule that the cognition of the qualified thing (*viśiṣṭa*) is invariably preceded by the cognition of the qualifier (*viśeṣaṇa*) can be maintained. However, [the probandum] is *not* [established] in universal-negative inference.

In [universal-negative inference], the probandum cannot be established in the inferential subject, since [in that case] universal-negative inference would be pointless [because we would already know that the probandum is present in the subject, which is exactly what the inference should prove to us]. Nor can [the probandum] be established in a location *other* [than the subject]. For, if the reason is *present* in that location, it would follow that it has a *positive* correlation [with the probandum]; if, on the other hand, the reason is *absent* from that location, it follows that it is a pseudo-reason of the “uncommon” variety [because it is absent from all locations where the probandum is known to be present].²¹

In this passage, Vyāsatīrtha gives an explanation of why, from the point of view of the Navya-Naiyāyikas, inferences cannot contain unestablished entities. According to the Naiyāyikas, an inferential knowledge (*anumiti*) is the product of a series of causally related cognitive events that occur over time in a single individual. The individual in question needs to have a stock of cognitions in order to have an inferential knowledge. She needs to know, for instance, that the probandum is present wherever the reason is present (that the reason pervades the probandum), but how could she know this if she has never experienced the probandum in the first place?

²¹ *kevalavyatirekyanumānaṃ ca na yuktam. tvaṇmate vyāptigrahārtham, pratijñānvākyasyābodhakatva¹parihārārtham¹, viśiṣṭajñānaṃ viśeṣaṇajñānapūrvakam iti nīyamārthaṃ²ca² sādhyaprasiddher āvaśyakatvāt; kevalavyatirekiṇi ca tasyābhāvāt. tatra sādhyaprasiddhir na tāvat pakṣe, kevalavyatirekivaiarthat; nāpy anyatra, tatra hetor vṛttāv anvyaitvasyāvṛttāv asādhāranyasya cāpātāt.* (TT, 4:175–176.) Variant readings found in editions: (1.) This reading is reported to have been found in the exemplars labelled “ṭa” and “rā” by the editors of the Mysuru edition of the *Tarkatāṇḍava*. The Mysuru edition itself reads *parihārārthaṃ ca*. (2.) This reading is also found in the exemplars “ṭa” and “rā” of the Mysuru edition. The Mysuru edition itself omits the word *ca*. See the Bengaluru edition of the *Tarkatāṇḍava*, 3:103, for these readings. See Phillips (2016: 461–463) for a translation and commentary on the passage of the *Kevalavyatirekivāda* of the *Tattvacintāmaṇi* that Vyāsatīrtha is paraphrasing here.

Moreover, in the case of public inference, if the beneficiary of the inference has never encountered the probandum before the inference, then how can the thesis-statement, “The earth is different from everything else”, communicate anything to them? If someone has never experienced the particular property of “being different from the remaining substances/categories” involved in the inference, then how can a speech-act that involves this term generate a definite cognition in their minds? For all these reasons, universal-negative inference by its very nature seems to be incompatible with the Naiyāyikas’ strict requirement that the probandum in any inference not be an unestablished term.

This problem can be analysed as follows. A universal-negative inference has the requirement (1) that there are no known instances in which the probandum is present and the reason is absent. However, it also has the requirement (2) that the person making the inference is aware of no *positive* concomitance between the probandum and the reason. There is also the further requirement (3), applicable to all types of inference, that the probandum must be an established (*prasiddha*) property. Requirement (3) entails that the person making the inference must be aware that the probandum is present in some location before the inference takes place, yet where can they have encountered the probandum?

The inferer cannot already be aware that the probandum is present in the subject of the inference, since then the inference itself would prove something that they already know. Nor can they have encountered the probandum in a location other than the subject. The location in question would in that case qualify as a homologue (*sapakṣa*), a location that is known to possess the probandum. Since a location must either be subject to the presence of any property or its absence, either the reason is present in this homologue or it is absent from it. If it is absent, then there is a deviation (*vyabhicāra*) and the inferential cognition cannot arise because it is now known that the probandum no longer pervades the reason. On the other hand, if the reason is present in the location where the probandum is known to be present, then it follows that the reason is not of the universal-negative sort, but of the *anvayavyatirekin* variety; that is, it is known to have both a positive *and* negative concomitance with the probandum.²²

So Gaṅgeśa is in a bind. He must accept that we have encountered the probandum somehow before the inference takes place, yet universal-negative inference, by definition, entails that the probandum has *not* been encountered before the inference. It seems that Gaṅgeśa must either abandon his requirement that the terms involved in inferences are always well-established, or else abandon his commitment

²² See Williams (2013) for a discussion of this problem in Jayātīrtha’s *Tattvodyotaṭīkā*.

to the universal-negative form of inference. And, as a Naiyāyika, neither of these alternatives are acceptable to him.

7.6 Gaṅgeśa's first explanation of universal-negative inference

In the *Kevalavyatirekivāda* of the *Tattvacintāmaṇi*, Gaṅgeśa anticipates that there are at least two ways out of the conundrum just outlined. According to Gaṅgeśa's first solution, the probandum in the inference to define earth is, in fact, perceptually available in the subject prior to the inference, but only in *one part* of it. The subject of the inference—earth itself—comprises all the things in reality that are earth atoms or are composed of them. A particular earthen pot is composed of earth atoms, and is thus part of a subject. According to Gaṅgeśa's first solution, the person making the inference could have perceived that the pot in question is different from the thirteen remaining substances and categories besides earth before the inference takes place. We can perceive that the earthen pot is different from the substances other than earth, and also from the individuals belonging to categories other than substance. We could already have perceived that the pot is “different from water”, “different from fire”, “different from wind”, and so on.²³ We could thus have had a perception of the probandum (“being different from the other substances and categories” [*itarabhinnatva*]) before making the inference to define earth.

The obvious problem with this solution is that it seems to render the inference partially pointless, because the inference is now proving, in part, something that we already know (*aṃśataḥ siddhasādhana*). If we already know that “A pot is different from the other substances and categories”, why would we include the pot in the inference at all? In response to this objection, Gaṅgeśa pointed out that the inference could still be said to have the purpose of generalising the specific observation we made about the pot to the entire class of things that make up the substance earth.²⁴ In the inference to define earth, earth is a partite thing, comprising the vast multitude of things that possess the universal earthness. The goal of the earth inference is to move from the particular observation that a pot is “different from all the other substances and categories” to the generalisation that *everything* that has earthness also has this particular combination of differences.

In the *Tarkatāṇḍava*, Vyāsātīrtha presents Gaṅgeśa's argument as follows, before dismissing it for several reasons:

²³ See Phillips (2016: 468) for a translation and explanation of the relevant passage of the *Kevalavyatirekivāda*.

²⁴ See Phillips (2016: 468–478) for a translation of the passages of the *Kevalavyatirekivāda* where Gaṅgeśa outlines this solution.

Objection (Gaṅgeśa): [The probandum in the inference to define earth is established] in one spot of the subject, hence [the reason is not a pseudo-reason] of the “uncommon” variety, since [the probandum] is not established in a location other than the subject. Nor is universal-negative inference [in that case] pointless, because it has the purpose of [giving rise to] the judgment that the probandum is present in the *whole* subject [and not just one part of it].

Reply (Vyāsātīrtha): [You] cannot argue as such! For, even though there is “one spot” in the case of the subject [= earth] in the inference “Earth is different from the remaining [substances and categories]”, there is [no “one spot” to speak of] in the case of the [subject (= the ether) in the inference] “The ether is different from the remaining [substances and categories]”. For, unlike the earth, the ether is, in your view, a singular, and not a partite, thing].

Moreover, [if you accept the solution that the probandum is established in one part of the subject before the inference to define “earth” takes place,] then [the inference] is proving, in one part [of the subject], something that is already established [because the part of the subject in question is already known to have the probandum].

Moreover, [if you accept the solution that the probandum is established in one part of the subject before the inference to define earth takes place,] then [that inference] loses its status as a universal-negative inference. For, it is possible that the “one spot” of the probandum actually serves as an example (*dṛṣṭānta*), since it has been ascertained to have the probandum, just like the inference [that proves that one thing is] non-different [from another].²⁵

Vyāsātīrtha’s first argument against Gaṅgeśa in this passage is that this solution is inconsistent with other Nyāya-Vaiśeṣika metaphysical positions. “Earth” is certainly a partite subject since it comprises a multitude of distinct individuals that are made up of earth atoms. However, Nyāya-Vaiśeṣika philosophers accept the existence of other substances that are not partite in this way. They accept that the sound-conducting ether, for instance, is a singular, eternal substance that only appears to be divided into smaller fragments by external “conditioning adjuncts” (*upādhis*). Likewise, they accept that space and time are singular substances that are only apparently divided into discrete parts through their proximity to other conditioning factors. So, we cannot really speak of “one part” of the ether in the same way that we speak about “one part” of the earth, for instance. Consequently, if we would like to make an inference to define *the ether* (e.g., “The ether is different from the remaining substances and categories, because it possesses sound-tropes”), then there is no “one spot” in the subject where the particular combination of differences that render the ether “distinct from everything else” could be established before the

²⁵ *nāpi pakṣaikadeśe; tena nāsādhānyam, pakṣād anyatra tadaprasiddheḥ. nāpi kevalavyatireka-vaiyarthyaṃ, tasya kṛtsne pakṣe sādhyaprattiyarthatvād iti vācyam, pṛthivitarabhinnety ādau pakṣasyaikadeśasattve 'pi gaganam itarabhinnam ity ādau tadabhāvāt. amṣe siddhasāadhanāc ca. abhedānumāna iva pakṣaikadeśasya niścitasādhakatayānvayadṛṣṭāntatvasambhavana kevalavyatirekitvabhaṅgāc ca.* (TT, 4:176.)

inference takes place. So even if Gaṅgeśa's solution works for the case of substances like earth, it fails in inferences to define singular substances like the ether, space, and time.

Vyāsātīrtha's second argument here is that if we assume that the probandum is established in one part of the subject before the inference takes place, then the inference must still be proving in part something that is already known. If the inference to define earth proves that the probandum is present throughout the class of things that collectively constitute "earth", then surely in doing so it must also prove that the probandum is present in the very pot that it has already been perceived in? The inference may prove many new things to us, but it still proves something that we already know to be the case, and so it is partly redundant.

A final problem with Gaṅgeśa's solution is that universal-negative inferences in that case do not seem to be universal-negative inferences at all. If we know that the probandum is present in the pot prior to the inference, would not the pot in question function as an example (*dṛṣṭānta*) where we can perceive a positive concomitance between the reason and the probandum? The pot, after all, has both the reason and the probandum—it has earthness, and it is "different from the other substances and categories". So why should we not apprehend that the probandum pervades the reason there?

Vyāsātīrtha continues his critique of Gaṅgeśa's first solution to the problem of universal-negative inference by considering an argument made by Gaṅgeśa to avoid the charge of partial-*siddhasādhana*. Vyāsātīrtha refers to this very argument in the *Prathamamithyātvabhāṅga*.²⁶

Objection (Gaṅgeśa): It is only [in an inference] where multiple properties determine subjecthood (e.g., in the inference "Speech and mind are non-eternal"), that there can be the flaw of proving, in one part [of the probandum], something that is already established; in the case at hand [(i.e. the inference to define earth)], by contrast, there is only *one* determiner of [subjecthood, i.e. earthness (*pṛthivīva*)].

Gaṅgeśa argues that whether the flaw of partially proving something which is already established applies to an attempted inference depends on the quantity of the properties determining subjecthood in that inference. In the inference to define earth, there is only one determiner of subjecthood—the universal earthness. The inference, as such, establishes that the class of things that are united by this universal are unique/distinguished from all other things. By contrast, we can imagine inferences where there is more than one determiner of subjecthood. If, for in-

²⁶ See below, Chapter 9, pp. 284–286, for the relevant passage of the *Nyāyāmṛta*. See Phillips (2016: 473) for a translation and commentary on the relevant part of the *Tattvacintāmaṇi*.

stance, we wish to prove that “Speech and mind are not eternal, because they are effects”, then subjecthood here is determined by two different properties: speechness (*vāktva*) and mindness (*manastva*). In this inference, if we are persuaded that the probandum is present in one of the two classes of things referred to in the subject (e.g., if we are already certain that “Speech is noneternal”), then there is clearly the flaw of proving, in part, something that is already established. The goal of the inference is at least in part to prove that the property of noneternality is present in the whole class of things we refer to as “speech”. Since one part of the inference is already established to the beneficiary of the inference, proving it again is quite redundant.

In the case of the inference to define earth, by contrast, only one property determines subjecthood—earthness. The person making the inference may have already proven that a part of earth (the pot) has the property of “being different from the other substances and categories”, but they are not yet certain that this property is present in earth as a class of things. Consequently, Gaṅgeśa argues, the thing that the inference seeks to prove is not yet established.²⁷

In the *Prathamamithyātvabhāṅga*, Vyāsātīrtha actually accepts this argument of Gaṅgeśa’s when weighing Ānandabodha’s inferences to prove that the world is indeterminate.²⁸ If we interpret indeterminacy to consist of just one property—“the absence of nonexistence combined with the absence of existence”—then there is only a single determiner of probandumhood. Consequently, by analogy, Vyāsātīrtha accepts that the flaw of *siddhasādhana* does not necessarily apply to the inference in this case, although he argues that indeterminacy is now an unestablished property.

In this passage of the *Tarkatāṇḍava*, by contrast, Vyāsātīrtha rules out this line of reasoning altogether. What really matters from the point of view of applying *siddhasādhana* to an inference, he argues, is whether the mental judgment the inference seeks to produce has already come about in the beneficiary of that inference. The question of whether probandumhood is determined by multiple properties is merely an “auxiliary rule” (*paribhāṣā*):

Reply (Vyāsātīrtha): [You] cannot argue as such! For, since the deciding factor (*tantra*) that determines whether *siddhasādhana* applies or does not apply [to an inference] is whether or not the thing that [that inference] seeks to give rise to has, or has not, already been established, [the consideration of whether there are multiple or single determiners of subjecthood] is merely an auxiliary rule (*paribhāṣā*).²⁹

27 See Phillips (2016: 473–474) for a translation of the relevant passage of Gaṅgeśa.

28 See below, Chapter 9, pp. 296–298.

29 *na cāyatrāṇītye vānmanasīy ādau pakṣatāvaccchedakanānātvaṃ, tattraivāṃśe siddhasāadhanam; iha tu tadavaccchedakam prthivītvam ekam eveti vācyam. uddeśyapratīṭhisiddhyasiddhyor eva sid-*

Gaṅgeśa can obviously reply at this point that the judgment which the inference seeks to generate (“Earth *in general* is different from the other substances and categories”) is not established before the inference takes place. The person making the inference to define earth might know that the individual pot is “different from everything else” *insofar as it is a pot*, but they are not aware that it has this property insofar as it is an instance of the substance “earth”. So, argues Gaṅgeśa, the inference does indeed tell us something that we do not already know about the pot, because it tells us that the probandum is present in the pot under a different mode. Consequently, there is no real ground for citing the flaw of partial *siddhasādhana*.

Vyāsātīrtha considers this argument in the *Tarkatāṇḍava* and dismisses it on several grounds:

Objection (Gaṅgeśa): In that case, [the inference to define earth] is *not* proving, in part, something that is already established. For, the objective of the inference—[to produce] a cognition of difference from the other [substance and categories] determined by earthness—is not present in the part [of the subject in question, i.e., the pot].

Reply: (Vyāsātīrtha) [You] cannot argue as such! For, since it is ascertained to have the probandum, the “one part” [of the subject in which the probandum is already established, here, the pot] can be subject neither to doubt, nor a desire to prove [that the probandum] is present there; hence, under your, view [the pot] cannot have subjecthood.

Objection (Gaṅgeśa): Even if [one] is certain that the pot is different from the other [substances and members of the remaining categories] *insofar as [it is] a pot (ghaṭatvena)*, nevertheless [one] can still doubt whether [it is different from the other substances and members of the remaining categories] *insofar as it is earth (pṛthivītvena)*.

Reply: (Vyāsātīrtha) [You] cannot argue as such! For, when there is certainty that [something] is different from [all] other things from the point of view of the particular, the doubt that it is as such from the point of view of the class [to which the particular belongs] must have for its object some particular that is other than [the aforementioned] particular. Otherwise, even though [one] is certain that [a particular mountain] possesses fire by virtue of being “this [particular] mountain” (*etat-parvatatvena*), it would follow that [the same person could] doubt about [whether fire is or is not] on the mountain by virtue of its being a mountain [*in general*] (*parvatatvena*). As such, the person who seeks fire would not display resolute activity in respect of that mountain[]; however, we know that they would].³⁰

dhasāadhanatadabhāvau prati tantratayāsyā paribhāṣāmātravāt. (TT, 4: 177.) *Paribhāṣās* are auxiliary hypotheses which seek to improve or explain the procedures of Pāṇini's grammar. The term *paribhāṣā* could also be translated as “meta-rule”, “principle”, or “theorem”. See Wujastyk (1993: xi) for a discussion of their function.

30 *na ca tarhy uddeśyāyāḥ pṛthivītvāvaccadenetarabhedabuddher aṁśe 'py abhāvān nāmśe sid-dhasāadhanam iti vācyam. niścitasādhakatvena sandehasādhayaṣayor abhāvenaikadeśasya tva-nmate pakṣatvāyogāt. na ca ghaṭasya ghaṭatvenetarabhedaniścaye 'pi pṛthivītvena tatsandehādī-kam iti vācyam; viśeṣākāreṇetarabhedaniścaye sati sāmānyākāreṇa tatsandehasya tadviśeṣetara-*

In this passage, Vyāsātīrtha argues that if we know the probandum is already present in the pot, then it cannot really become part of the inferential subject. As Gaṅgeśa defines subjecthood (*pakṣatā*) in the *Tattvacintāmaṇi*, something can only become the subject of an inference if we are in a sufficient state of doubt about it to motivate us to prove that the probandum is present there. If we are already certain that the probandum is present in the pot, why would we want to make an inference about it at all? What would motivate us to go to the mental effort of proving that the probandum is present in the pot, if we are already certain that it is present there?

As Vyāsātīrtha presents it in this passage, Gaṅgeśa's solution to this problem is to argue that while we might be certain that the pot possesses the property of being differentiated from all other things *insofar as it is a pot*, we can still be in a state of doubt as to whether it possesses this property insofar as it is an earthen substance. We can still be unsure about whether the pot possesses the probandum (*itarabhinnatva*) insofar as it possesses the more general quality of earthness, even

viśeṣaviśayatvanīyamāt. anyathaitatparvatatvena vahnimattayā niścaye 'pi parvate parvatatvena tatsandehāpattiyā tatra vahnnyarthino niṣkampappravṛttir na syāt. (TT, 4:177–178.) Rāghavendra comments: *tatraiveti. pakṣatāvachedakasāmānādhikaranyena sādhyasiddhir hy anumānaphalam. nānātvasthale caikāvacchedena sādhyasiddhāv apy anumānaphalasya jātātāt punar anyāvacchedenāpy anumityutpādanārtham anumānāpravṛtter iti bhāvaḥ. ekam iti. tathā ca ghaṭādyamśe ghaṭatvādyavachedena sādhyasiddhāv api pṛthivītarūpapakṣatāvachedakasāmānādhikaranyeneta-rabhedarūpasādhyasiddhyā tatrānumityudayārtham anumānapravṛttisambhavan na tatra doṣa iti bhāvaḥ.* (Nyāyadīpa, TT, 4:177–178.) “‘There alone’ (*tatraiva*). For, the result of an inference is the establishing of the probandum as sharing a common locus with the determiner of subjecthood. And in case there are multiple [determiners of subjecthood], even if the probandum has been established to the full extent of one [of the determiners of subjecthood], then the result of the inference has already arisen; the inference does not proceed to further give rise to the inferential knowledge that [the probandum is present] to the full extent of the other [determiner(s) of subjecthood]. This is the idea [behind Gaṅgeśa's argument here]. ‘One alone’ (*ekam*). And so, even though the probandum is established to the extent of potness and so on in the part of [of the probandum] that consists in the pot, etc., since the probandum—being different from the other [substances and categories]—is not established as sharing a common locus with the determiner of subjecthood (= earthness), the inference can proceed to give rise to an inferential knowledge [that the probandum shares a common locus with the determiner of subjecthood]; hence there is not the fault [of proving what is already established in the case of the inference to define earth].” Rāghavendra also indicates that the final part of this passage reflects a comment made by Gaṅgeśa's commentator Yajñapati on the relevant part of the *Tattvacintāmaṇi*. This seems to be accurate, for in the relevant part of his *Tattvacintāmaṇiprabhā*, Yajñapati says: *sarvā pṛthivītarabhinnā, na veti. yady api yatra viśeṣato yanniścayaḥ, tatra sāmānyato 'pi na tatsaṃśayaḥ; tathāivānubhavāt. anyathā purovartini parvata idamparvatatvena vahniniścaye 'pi parvato vahnimān, na veti sāmānyākārasaṃśayasya tadviśayatvasambhavana tatra vahnnyartham niṣkampappravṛttiprasaṅgac ca; tathāpi ghaṭe sādhyaniścaye 'py anumitsāvaśāt pakṣatvam ity evātrābhisaṃhitam.* (TCP: 115.) See Phillips (2016: 474) for a translation of the passage on which Yajñapati is commenting here.

though we are certain that it possesses the probandum from the more specific point of view of its being a pot.

Vyāsātīrtha responds to this argument by citing an objection that was raised by Gaṅgeśa's commentator Yajñapati Upādhyāya (*fl.* 1460). Following Yajñapati, Vyāsātīrtha argues that if we are already certain that something (x) possesses a certain quality (p) insofar as it possesses another quality (q), then we cannot simultaneously doubt that x possesses p from the point of view of its possessing some quality that is more general in scope than q . So if we are already certain that a pot is "different from the other substances and categories" *insofar as it is a pot*, then we cannot simultaneously doubt that it lacks that quality *insofar as it is an earthen substance*.

Vyāsātīrtha argues that refusing to accept this principle would make it impossible to explain how valid inference in general can lead us to certainty. For instance, let us assume that someone has inferred that a particular mountain they are looking at has fire because it has smoke. Let us also assume that, for some reason, the person making the inference is only certain that the mountain possesses fire insofar as it is "*this (particular) mountain*" (*etat-parvatatvena*). If we adopt Gaṅgeśa's line of argument, it is possible that the person in question could still be in a state of doubt about whether the mountain has fire insofar as it is a mountain *in general* (that is, insofar as it has the more general universal mountainhood [*parvatatvena*]). If this were the case, the doubtful awareness would block resolute action, but we must assume that the person in question would act in any case. They are, after all, still certain that the probandum (the fire) is present on the mountain. Vyāsātīrtha's point is that the *mode* they cognise the fire to be present under is entirely irrelevant to whether or not they feel certain that it is present on the mountain. In the end, all that matters is that the inference has persuaded them that fire is present on the mountain before them.

Similarly, if we know that the pot has the property of "being different from everything else" insofar as it is a pot, then we cannot somehow be in a state of doubt about whether it has that property from the point of view of its being an earthen substance. Whether we cognise the quality of "being different from everything else" under the mode of potness or earthness, we still are certain that it is present in the subject. Hence the pot cannot become subject to the kind of doubt that would lead us to try to infer that it possesses the probandum. Thus Vyāsātīrtha's objection stands.

7.7 Gaṅgeśa's analytical solution to universal-negative inference

Gaṅgeśa's first solution to the problem of universal-negative inference was to argue that the probandum is perceptually available before the inference takes place, but only in one part of the subject—some particular pot, for instance. So far as Vyāsātīrtha is concerned in the *Tarkatāṇḍava*, Gaṅgeśa's first solution is a complete failure. However, Gaṅgeśa offers several other solutions in the *Kevalavyatirekivāda*. The first of these argues that the probandum can in fact be established outside of earth before the inference takes place.

As I outlined above, the probandum in the inference “Earth is different from the other [substances and categories], because [it] possesses smell” could be interpreted as a complex/partite quality made up of the thirteen mutual absences that collectively differentiate earth from the remaining Vaiśeṣika substances and categories. The Naiyāyikas, with their *anyathākhyāti* theory of illusion, tended to explain perceptual errors as cases where different parts of reality become fused together in our mental judgments. For example, my erroneous judgment that a length of rope is a snake can be explained by my misattributing a universal (“snakeness”) to a length of rope that does not really possess that quality. The road is open to Gaṅgeśa to take a similar analytical approach to the probandum in the earth inference. He could argue that even though the *entire collection* of absences constituting the probandum is not established before the inference takes place, the individual components of that probandum are established *separately* in different locations at that point. The inference simply draws these individual things together to assert that a single, complex quality is present in the subject.

The thirteen mutual absences that make up the probandum clearly cannot be established in a single location, because nothing else can be different from exactly the same collection of things that earth is different from. The second of the Vaiśeṣika substances, water, for instance, will have *twelve* of the mutual absences (from: fire, wind, the ether, time, space, the self, the internal faculty, trope, motion, universal, ultimate particulariser, and inherence), but it obviously cannot be different *from itself*. So while we can perceive twelve of the requisite mutual absences in water, we cannot perceive the difference from water itself.

Gaṅgeśa therefore accepts that we can perceive all the requisite mutual absences separately, in the various different components of the Vaiśeṣika universe; the inference simply serves to bring them together by establishing that they are all present in one and the same location—earth. In the *Prathamamithyātvaḥaṅga*,³¹

³¹ See below, Chapter 9, pp. 254–256.

Vyāsātīrtha himself seems to accept (at least for the sake of argument) this explanation of Gaṅgeśa's when building his case against Ānandabodha's attempts to infer the indeterminacy of the world. Like the probandum in the earth inference (*itarabhinnatva*), indeterminacy can be interpreted as a partite quality. If "indeterminacy" is interpreted as being two separate properties ("the constant absence of existence" and "the constant absence of nonexistence"), then one could say that the constant absences in question are established separately, in different locations, before the inference takes place; the inference simply attributes them to the inferential subject, i.e., the world.

In the *Tarkatāṇḍava*, by contrast, Vyāsātīrtha completely rejects this line of reasoning. He responds to Gaṅgeśa's arguments as follows:

Objection (Gaṅgeśa): In that case, the thirteen differences [from the remaining substances and categories that constitute the probandum] are well-established—that is, ascertained [to be present]—*separately* in the thirteen [remaining substances and categories themselves], which are indeed "somewhere other than the subject"; hence the flaw of "[the inferential subject's] having-an-unestablished-qualifier" (*aprasiddhaviśeṣaṇatva*), the reason's being a pseudo-reason of the "uncommon" variety], and so on, do *not* apply [to the inference].

Reply (Vyāsātīrtha): You cannot argue as such! For the stated solution does not work in [universal-negative inferences that you yourself accept to be valid,] such as "The aggregate of living bodies has a self[, because the bodies that make it up have breath and so on]", where the probandum is *not* a partite thing.

Moreover, [your argument fails] because if the probandum is well-established in the thirteen [remaining substances and categories, one] cannot apprehend the negative-pervasion [i.e. that the *absence* of the reason pervades the *absence* of the probandum] in those thirteen [substances and categories], since the *absence* of the probandum is not present there.³²

Vyāsātīrtha's first point here is that even if Gaṅgeśa's analytical solution did work for cases like the inference to define earth where multiple components make up the probandum, it does not work in other widely accepted cases of universal-negative inference where the probandum is a non-composite, singular thing. Vyāsātīrtha gives the example of an inference that might be voiced by a Naiyāyika to prove the existence of the self to a Buddhist who doubts its existence as a distinct substance:

The multitude of living bodies has a self, because [all living bodies] possess breath (*jīvaccharājātam sātmaṁ, prāṇamattvāt*).

³² *na ca tarhi pakṣād anyatraiva trayodaśasu trayodaśabhedānāṃ viśakalitānāṃ niścayarūpā prasiddhir astīti nāprasiddhaviśeṣaṇatvādīti vācyam. jīvaccharājātam sātmaṁ ity ādāv akhaṇḍasādhyaka uktaprakāśasambhavāt; trayodaśasu sādhyaprasiddhau tatra sādhyābhāvasyāsattvena vyatirekavyāptigrahāsambhavāc ca.* (TT, 4:180–181.)

This is a widely accepted example of a universal-negative inference. As in the inference to define earth, the subject of the inference comprises an entire class of things, the aggregate of living bodies. The probandum (“having-a-self”) only occurs in the aggregate of living bodies; as such, it cannot be established elsewhere before the inference takes place. However, unlike in the earth-inference, the probandum here—“having-a-self”—is not made up of different properties that can exist separately, so Vyāsātīrtha argues that Gaṅgeśa’s analytical solution cannot be applied to this inference.

The second problem that Vyāsātīrtha cites here has to do with how we can perceive the pervasion relationship that lies at the heart of the inference if we accept this explanation of universal-negative inference. According to Gaṅgeśa, universal-negative inferences are cases where we ultimately infer that something has the probandum because we know that “the absence of the reason pervades the absence of the probandum”. In the case of the inference to define earth, we know that the reason (“possessing smell”) is absent wherever the probandum (“being different from the remaining substances and categories”) is absent; so, given that earth has the reason, we can conclude that it also has the probandum.

Vyāsātīrtha argues that if we accept Gaṅgeśa’s analytical solution to the problem, then we cannot apprehend the negative pervasion “the absence of the reason pervades the absence of the probandum”. Just where could we apprehend this negative concomitance? In order to apprehend the pervasion, we must surely be aware of at least one case where both the probandum and the reason are jointly absent. The only possible location seems to be the thirteen substances and categories other than earth. However, in order to ensure that the probandum is perceptually available before the inference, Gaṅgeśa has just argued that the probandum is in some sense established in the thirteen substances and categories other than earth. So how can we apprehend the aforementioned negative pervasion there? Gaṅgeśa cannot have it both ways: the probandum is either present in the remaining substances and categories, or it is absent from them.

Vyāsātīrtha anticipates another problem with pervasion in this inference. If the probandum is made up of thirteen distinct mutual absences, then how can we become aware of the pervasion relationship between them and the probandum before the inference takes place? Vyāsātīrtha argues that Gaṅgeśa’s theory implies that each of the differences is *individually* a probandum in the inferences:

Moreover, even though the thirteen differences [of earth from the remaining substances and categories] are established once by just a single reason, [that is, the quality of possessing smell (*gandhavattva*),] they must in fact be established by thirteen [different] pervasions described (*nirūpita*) by each [of the thirteen differences] individually, and not by a single pervasion described by the *collection* [of the thirteen differences, i.e., “Where there is the absence of the

thirteen mutual absences, there is the absence of earthness”].³³ For, given that the collection [of thirteen mutual absences] is unestablished, there is no cognition of [a single pervasion described by the collection of the thirteen mutual absences]. And so, probandumhood is exhausted (*viśrānta*) in each [difference/mutual absence individually]. Hence, since water and [the remaining substances and categories], which each possess the probandum in the form of an individual difference, are homologues (*sapakṣas*), the reason [(earthness)], which is absent from [those locations], is a pseudo-reason of the “uncommon” variety [because it is known to be absent from all locations where the probandum is known to be present].³⁴

Vyāsātīrtha's point in this passage is that by Gaṅgeśa's own admission we cannot have a knowledge of the thirteen mutual absences that comprise the probandum collected together before the inference takes place, because otherwise the inference would cease to be a universal-negative one. So, the thirteen mutual absences must be proved on the basis of *thirteen different* pervasions that each establish that whatever lacks the mutual absence in question also lacks the reason (possessing-smell). This being so, Vyāsātīrtha argues that it follows that each one of the differences is *individually* the probandum; or, as Vyāsātīrtha expresses it, that probandumhood (*sādhya*) is “exhausted”/“completely present” (*viśrānta*) in each one of the differences. Consequently, each of the locations other than earth can be said to be a “homologue” (*sapakṣa*), that is, a location that is known to possess the probandum. Since the reason is absent from all of these locations, there could be said to be a deviation (*vyabhicāra*) between the reason and the probandum. More specifically, the reason is an “uncommon” (*asādhāraṇa*) one because it is known to be absent from *every* homologue. Hence there are several locations that have the reason but not the probandum, and there is a known deviation, so the inference cannot take place.

In the *Tarkatāṇḍava*, Vyāsātīrtha thus concludes that Gaṅgeśa's second, analytical, solution to the problem of universal-negative inference is a failure. It fails because it does not apply to cases of universal-negative inference where the subject is a singular/non-composite thing, and because it does not account for how we can apprehend the negative-pervasion relationship that lies at the heart of this sort of inference. So, while he accepts Gaṅgeśa's arguments for debating with the Advaitins in the *Nyāyāmṛta*, in the *Tarkatāṇḍava* Vyāsātīrtha concludes that neither of

³³ This form of the pervasion is given by Rāghavendra: *yatra trayodaśanyonyābhāvānām a-bhāvaḥ, tatra pṛthivītvābhāva ity evaṃrūpeṇa militapratīyogikābhāvanirūpitaikavyāptyety arthaḥ*. (*Nyāyadīpa*, TT, 4:181.)

³⁴ *kiṃ caikenaiva liṅgenaikaḥ sādhyaṃnā api trayodaśabhedāḥ pratyekanirūpitatrayodaśavyāptibhir eva sādhanīyāḥ, na tu militanirūpitaikavyāptyā; militāprasiddhau tadajñānāt. tathā ca pratyekam eva sādhyaṭ viśrāntety ekaikabhedarūpasādhyaṃ jalāder eva sapakṣatvena tato vyāṅgītatvena hetor asādhāraṇyatādāvasthyam*. (TT, 4:181–182.)

Gaṅgeśa's solutions to the problem of universal-negative inference work. If Gaṅgeśa tries to explain how we can be acquainted with the probandum before the inference takes place by arguing that the probandum is established in the subject itself, then he is proving, at least in part, something that is already well-known. On the other hand, if he tries to argue that the probandum is established elsewhere than the subject, then the reason deviates from the probandum, and becomes a pseudo-reason. In either case, the inference fails.

7.8 The Mādhva theory of universal-negative inference and empty terms

These complex discussions about universal-negative inference form the backdrop to much of Vyāsātīrtha's critique of indeterminacy in the *Nyāyāmṛta*. Gaṅgeśa's intricate discussion about how to apply the flaws of *siddhasādhana* and *aprasiddha-viśeṣaṇatā* to inferences that try to establish complex/partite properties in their subjects proved a very useful resource to weigh anew Ānandabodha's attempts to prove that the world is indeterminate. For the remainder of this chapter, I will turn to the Mādhva theory of inference itself. In particular, I will focus on their treatment of universal-negative inference and their approach to empty terms in inference. This will bring us to Vyāsātīrtha's theory of "location-free" properties, and thus round up nicely this volume's discussion of the Mādhva theory of nonexistence and empty terms.

In the *Tarkatāṇḍava*, Vyāsātīrtha clearly rejects the idea that there is a special type of universal-negative inference. This does not mean, however, that he rejects the underlying logical principles of universal-negative inference altogether. While Jayātīrtha and Vyāsātīrtha rejected the Naiyāyikas' claim that there is a special universal-negative mode of inference, they neither rejected the validity of the stock examples of universal-negative inference, or claimed that a "negative-pervasion" could play no role in successful inferences. What they doubted, rather, was whether it played a *direct* role in bringing about an episode of inferential knowledge, or whether it was an ancillary component in the inferential process. Jayātīrtha, for instance, accepted that a negative pervasion can, in certain cases, be useful *indirectly* because it can be used to establish a positive pervasion, which in turn serves as the basis for inference. In the *Pramāṇapaddhati*, after giving an explanation of universal-negative inference, he argued that universal-negative pervasion *can* play a role in valid inferences:

So why is it that *śāstra* refers to universal-negative [inference]? For this reason: [In the inference "All living bodies have a soul, since they have breath and so on",] the pervasion is of the

form: “Whatever has breath and so on has a soul”. However, since the only place where the pervasion might be apprehended is the subject of the disagreement, the pervasion cannot be perceived. So, a negative pervasion is used in an inference to establish [the positive pervasion]. When it is inferred that “[The living body has a soul,] because it has breath and so on”, one wishes to know how it is that [the reason] is pervaded [by the probandum. Then, it is inferred that] the quality of possessing breath and so on is pervaded by the quality of having a soul. For, [the state of possessing breath and so on] is the counterpositive of an absence that pervades the absence of [the quality of having a soul]. Whatever is the counterpositive of an absence that pervades something is pervaded by that thing, just as the state of possessing smoke [is pervaded] by the quality of possessing fire.³⁵

Only a positive pervasion is *directly* operative in producing an inferential knowledge. However, in certain cases, this pervasion itself needs to be established via a further inference. In this passage, Jayatīrtha refers to the same inference that Vyāsatīrtha discussed in the *Tarkatāṇḍava*: “The whole class of living bodies has a self, because [they] possess breath” (*jīvaccharīrajātam sātmaṁ, prāṇamattvāt*). In this inference, we infer that all living bodies must be connected with a soul/self, because they have vital breaths. Here, because we are proving that a whole class of things (the “aggregate of living bodies”) possesses a certain characteristic, the subject of the inference exhausts all possible locations where we could perceive a *positive* pervasion relationship between the probandum and the reason. However, we can still *infer* this positive pervasion from a negative one. Jayatīrtha is aware, in other words, that we can infer a positive pervasion (A pervades B) from its contraposition ($\neg B$ pervades $\neg A$). In PPL, he is aware that we can infer

$$(\forall x)(Bx \rightarrow Ax)$$

from

$$(\forall x)(\neg Ax \rightarrow \neg Bx).$$

Consequently, while negative pervasion might not play a *direct* role in the inferential process, it can certainly support it *indirectly*, by helping us to establish the positive pervasion which forms the basis of certain inferences. There is no need for a special sub-type of “universal-negative” inferences as the Naiyāyikas claim, yet this does not mean that negative-pervasion has no role to play in inference.

³⁵ *katham tarhi kevalavyatirekiṇaḥ śāstre saṁvyavahāraḥ? ittham—tatrāpi yat prāṇādimat, tat sātmaṁ ity eva vyāptiḥ. kiṁ tu vyāptigrahaṇasthānasyaiva vipratipattiviśayatvaprāptyā sā darśayitum aśakyābhūt. tato ’numānena tāṁ sādhayitum vyatirekavyāptir upanyasyate. prāṇādimattvād iti prayukte katham asya vyāptir ity ākāṅkṣayāṁ prāṇādimattvaṁ sātmaṁkatvena vyāptam, tadbhāvavyāpakābhāvapratiyogitvāt; yad yad abhāvavyāpakābhāvapratiyogi tat tena vyāptam, yathā dhūmavattvam agnimattvena.* (PP: 276.)

In any case, from the Mādhva perspective, many of the problems that Gaṅgeśa discusses about universal-negative inference in the *Tattvacintāmaṇi* are moot. When defending universal-negative inference, Gaṅgeśa is concerned to demonstrate that the probandum is an unestablished term by showing that it is somehow perceptually available before the inference takes place. The Mādhvas have no such qualms about inference. As we saw above in Chapters 3 and 6, the Mādhvas and the Naiyāyikas have fundamentally different attitudes toward empty terms such as “hare’s horn” and the “son of a barren woman”. Unlike the Naiyāyikas, the Mādhvas accept that we can have perception-like cognitions that are, in some sense, of nonexistent things. From their point of view, the fact that an inference contains empty terms need not in itself render the inference invalid.

According to Vyāsātīrtha, at least certain inferences involving empty terms can be valid. This leads him on to a discussion of how we can make statements about nonexistent things in language. How is it possible for statements that ascribe properties to nonexistent things to be true? How can negative-existential statements about empty terms (“The son of a barren woman does not exist”) be true, for instance? In the *Tarkatāṇḍava*, Vyāsātīrtha goes on to elaborate a theory that was already sketched by Jayatīrtha in his *Tattvodyotaṭikā* and *Nyāyasudhā*. According to Jayatīrtha and Vyāsātīrtha, certain statements that ascribe properties to nonexistent things are true because certain properties can be part of reality without being instantiated in an existent thing. Vyāsātīrtha calls these “location-free” properties (*asad-āśraya-dharmas*).

In the *Tarkatāṇḍava*, Vyāsātīrtha explains his position on this point most clearly when critiquing Gaṅgeśa’s definition of the inferential fallacy known as “[the reason’s] having an unestablished substrate” (*āśrayāsiddhi*). This fallacy is taken to apply when the *subject* of an inference (the putative substrate of the reason) is an unestablished term. An example of such an inference given by Vyāsātīrtha is “The son of a barren woman cannot speak, because [it is] insentient” (*vandhyāsutaḥ na vaktā, acetanatvāt*). According to Gaṅgeśa and the Navya-Naiyāyikas, this is not a valid inference because its subject—the “son of a barren woman”—is an unestablished entity. Vyāsātīrtha argues against Gaṅgeśa and the Naiyāyikas that this *is*, in fact, a valid inference. Why should we regard this inference as invalid? One reason is that we need to have a cognition of something before we make an inference about it—how can we ascribe or deny properties to something we have never experienced? However, as a Mādhva, Vyāsātīrtha believes that we *can* have cognitions of nonexistent things and so, from his point of view, the “son of a barren woman” can be cognised somehow before the inference takes place.

Another reason that a Navya-Naiyāyika might give to prove that we cannot make inferences about unestablished entities is that such nonexistent things cannot have properties (*dharma*) in the same way that existent things can. In an inference,

we want to prove that some subject has a property because it has another property. If nonexistent things cannot have properties at all, then how can we make inferences about them? In the *Tarkatāṇḍava*, Vyāsātīrtha responds to this second objection. He argues that it is actually contradictory to attempt to prove that something “has no properties”. For, in attempting to prove this, the Naiyāyikas themselves seem to be making an inference that ascribes properties to nonexistent things. They are effectively inferring that “What is nonexistent can be the locus of neither the probandum or the reason, since it lacks properties”; however, in doing this they are themselves ascribing properties to what does not exist. The very act of denying that we can make inferences about nonexistent things itself seems to be an argument that ascribes properties to nonexistent things!³⁶

36 The relevant passage from the *Tarkatāṇḍava* where Vyāsātīrtha discusses this reads: ... *kiṃ tu vandhyāsuto na vaktā, acetanatvād ity ādāv ivāsadāśrayatvam. tasya tu doṣatvaṃ kim—asato nir-dharmakatvena sādhyadharmānāśrayatvena bādhāt, sādhanābhāvenāsiddher vā? pratītyaviśaya-tena vidhiniṣedharūpasakalavyavahārābhājanatvād vā? aprāmāṇikatvena pramāṇānaṅgatvād vā? tasyādoṣatve 'tiprasaṅgād vā? niradhikaraṇayor dharmayor nīyatāsāmānādhikaraṇyarūpavyāptya- bhāvād vā? nādyau. asati tvaduktayor sādhyasādhanadharmānāśrayatvarūpayor sādhyayor nir-dharmakatvarūpasya sādhanasya cāsambhavana tavāpi bādhādi-prasaṅgāt. tvaduktadharmāṇām abhāvarūpatvāt tatra sambhave ca tata eva maduktāvaktṛtvācetanatvāder api sambhavāt. bhāva- rūpāṇām tu mayāpy anaṅgīkārāt. yadi ca sādhyadharmādyabhāvādyāśrayatvābhāve 'pi sādhyadha- rmādyanāśrayatvasya sattvāt tava na bādhādiḥ, tarhi vakṛtvābhāvāśrayatvābhāve 'pi vakṛtvānāśra- yatvasya sattvān mamāpi na bādhādiḥ. (TT, 4:240–242.)* [Even though all the definitions of *āśrayāsiddhi* mentioned thus far in this chapter are obviously flawed, *āśrayāsiddhi* could be ‘having a nonexistent substrate’ (*asadāśrayatva*), as in the inference, ‘The son of a barren woman cannot speak, because [it is] insentient’. But [I, Vyāsātīrtha, ask,] is that a flaw because: (1) since what is nonexistent cannot have qualities, (a) [it] cannot be the substrate of the quality that is to be proved by the inference and hence there would be [the inferential flaw of] ‘contradiction’ (*bādhā*) [and] (b) since there would be the absence of the reason [in the subject], there would be [the inferential flaw of] ‘non-establishment’ (*asiddhi*); or, (2) since [a nonexistent entity] cannot be the object of [any] judgment, it cannot be involved in any linguistic act, be it an ascription or a denial; or, (3) since [what is nonexistent is not] amenable to the valid means of knowledge, it cannot be an object of those means of knowledge; or, (4) because, if it were not a flaw, then it would follow that other things [that clearly cannot be valid inferences would have to be regarded as such]; or, (5) because two qualities that lack any locus cannot be related by pervasion, that is, the relationship of invariant collocation. The first two [grounds for *āśrayāsiddhi*’s being a flaw] are untenable. For, since the probanda you have mentioned—‘not being the substrate of the probandum’ and ‘not being the substrate of the reason’—as well as [your] reason—the state of lacking [all] qualities—cannot be present in what is nonexistent, you *yourself* are guilty of contradiction and [making an inference where the reason is unestablished]. And because if the qualities you have specified *can* be present there [= in what is nonexistent], because they are negative in form, then for the very same reason can the qualities I accept—non-speakerness, insentience and so on—also [be present in what is nonexistent]. For I too do not accept that *positive* [qualities can be present in things that do not exist]. And if you are

So Vyāsātīrtha believes that we can make statements/inferences that ascribe properties to nonexistent things. Following Jayātīrtha, he also claims that we can make inferences in which the property we want to prove (the probandum) is a nonexistent thing. At the beginning of the relevant chapter of the *Tarkatāṇḍava*, Vyāsātīrtha challenges the Naiyāyikas to explain why exactly it is that the fact that the probandum in an inference is unestablished constitutes a fatal flaw. He anticipates five separate reasons that the Naiyāyika might give:

[Just as the fact that the substrate/subject of an inference is not established does not constitute a flaw in an inference], so too does the fact that [its] *probandum* is unestablished not make [an inference] faulty. To explain—[Do you regard it] as a flaw because[, (1) if it were *not* accepted as a flaw, then] even [invalid inferences, such as “This patch of earth has a hare’s horn, because it is this patch of earth”,] could be considered as valid inferences?

Or [must it be a flaw] because, (2) if the probandum is unestablished, there cannot be doubt [about whether it is present in the subject or not], and as such there can be no *pakṣadharmatā*,³⁷ which includes [that doubt]?

Or is it because (3) it undermines the pervasion[, since if the probandum is unestablished, one cannot grasp the pervasion in which it is a term]?³⁸

Or is it because (4) it leads to the untenable consequence that the statement of the thesis [in an inference-for-another] could not communicate anything, since it includes an entity that has not previously been known?

Or is it because (5) in the absence of [its] cause—i.e. the cognition of the qualifier [(= the probandum)]—the effect—the cognition of the [subject] as qualified [by the probandum]—cannot arise?³⁹

not guilty of contradiction and [non-establishment of reason] because the quality of not being the substrate of the quality to be established and [the reason] can exist even in the absence of the quality of being the locus of the absence of the quality to be established and [the reason], then I too am not guilty of contradiction [and having an unestablished reason], since the quality of not being the locus of speakerness can exist even in the absence of the quality of being the locus of the absence of speakerness.”

37 Rāghavendra explains: *sandigdhasādhyadharmakadharmirūpapakṣaṇiṣṭhatvarūpatvāt pakṣadharmatāyā iti bhāvaḥ*. (*Nyāyadīpa*, TT, 4:251.) “For, being an attribute of the inferential subject (*pakṣadharmatā*) consists in being located in the inferential subject, [the inferential subject itself being] a property-bearer (*dharmin*) that is subject to the doubt of whether or not it possesses the property that is to be established [by the inference].”

38 Rāghavendra explains: *sādhyāprasiddhau tannirūpitavyāptigrahāsambhavana vyāptivighaṭanād ity arthaḥ*. (*Nyāyadīpa*, TT, 4:251.) “If the probandum is unestablished, then since [one] cannot grasp the pervasion in which [the probandum] is a term, the pervasion is destroyed.”

39 *evaṃ sādhyāprasiddhir na doṣaḥ. tathā hi—tasyā doṣatvaṃ kim atiprasaṅgāt? sādhyakoṭer aprasiddhyā sandehābhāvena tadghaṭitapakṣadharmatāvighaṭanād vā? vyāptivighaṭanād vā? prati-*

Vyāsātīrtha goes on to respond to each of these lines of explanation, but I will here focus on his response to the first explanation of why inferences can only involve established terms:

... (1) is not tenable because there it is not the case that [if *aprasiddhaviśeṣaṇatā* were not accepted as a flaw, then] even [invalid inferences, such as “This patch of earth has a hare’s horn, because it is this patch of earth”] could be considered as valid inferences. For, inferences that [we, the Mādhvas and the Naiyāyikas,] agree are invalid are flawed by another defect. The [Advaitins’] inference “The disputed entity is different both from what exists and what does not exist, because [it is] sublatable” is flawed by contradiction[, proving what is already established, and so on,] which is accepted [by the both of us to apply to them].

Similarly, if the inference “This patch of earth possesses a hare’s horn, because [it is] this patch of earth” is meant to prove [that the patch of earth in question has] a [hare’s] horn that is fit to be perceived, then it is flawed by the defects of failure to perceive what is fit to be perceived. Or, if it is meant to prove that [the patch of earth in question has] a [hare’s] horn, which is not fit to be perceived, then it is flawed by the defects of proving what is already established (*siddhasādhana*) and so on.⁴⁰

By contrast, inferences that [we both, the Mādhvas and the Naiyāyikas,] agree are *valid*, e.g., “All living bodies have souls, because they possess breath and so on”, are valid by virtue of being devoid of any flaw other [than *aprasiddhaviśeṣaṇatā*].⁴¹

In this passage, Vyāsātīrtha considers the argument that if we do not accept the position that *aprasiddhaviśeṣaṇatā* is a flaw, then a host of inferences agreed upon as invalid by the Mādhvas and Naiyāyikas could no longer be ruled as being invalid. These inferences include one that is very similar to the inferences made by Ānandabodha to prove that the world is indeterminate: “The subject of dispute [i.e. the world] is different from both what exists and what does not exist, because it is sublatable.” In the *Prathamamithyātvabhaṅga*,⁴² Vyāsātīrtha argued that this inference is undermined by the fact that its probandum (“being different both from what exists and what does not exist”) is (so far as he is concerned) an unestablished property.

jñānvākyaśyāviditapadārthakatvenābodhakatvaprasaṅgād vā? kāraṇasya viśeṣaṇajñānasyābhāve kāryasya viśiṣṭajñānasyāyogād vā? (TT, 4:251–252.)

40 Rāghavendra comments: *śṛṅgavatīty atra śṛṅgaśabdena mahattvasamānādhikaraṇodbhūtārūpavān śīrahsamyukto 'vayavaviśeṣo bhipreyate, atha kaś cid atīndriyaḥ. ādya āha—yogyeti. vyāptyabhāvādīr ādipadārthaḥ. dvitīya āha—ayogyeti. śṛṅgeti nāmamātram, na hy atīndriyaṃ nāma śṛṅgam asti.* (Nyāyadīpa, TT, 3:154.)

41 *nādyah; asādhutvena sammatasya vimataṃ sadasadvilakṣaṇam, bādhyatvād ity ādeḥ kṛptena vyāghātādīnā doṣāntareṇaiva; iyaṃ bhūḥ śaśaśṛṅgavati, etadbhūtād ity āder yogyaśṛṅgasādhakatve yogyānupalabdhibādhitādīnā doṣāntareṇaiva, ayogyasādhakatve 'tīndriyaiḥ śṛṅgādibhiḥ siddhasādhanaādīnā ca doṣāntareṇaiva duṣṭatvāt; doṣāntarahitatvena sammatasya tu jīvaccharīrajātaṃ sātmaṃ, prāṇādimattvād ity ādeḥ sādhyatvād atiprasaṅgābhāvāt.* (TT, 4:252–253.)

42 See below, Chapter 9, pp. 296–298.

Here, by contrast, he clearly rejects this position, arguing that the inference does not suffer from the flaw of *aprasiddhaviśeṣaṇatā*. Obviously, he does not accept that the inference is valid; he argues that this inference can be shown to be invalidated by some other defect. Similarly, the inference “This patch of earth has a hare’s horn on it, because it is this patch of earth” is flawed because the probandum is ruled out because we fail to perceive something that we would expect to perceive, or because it proves something that is already established to us.

So Vyāsātīrtha’s answer to the Naiyāyika is that we do not need the flaw of *aprasiddhaviśeṣaṇatā* to rule out these invalid inferences, because they are ruled out by alternative flaws in each case. Accepting that we are able to make inferences where the probandum is an unestablished term does not, in itself, lead us to the untenable position that these are valid inferences, because they can always be shown to be invalidated by a number of other flaws. Vyāsātīrtha goes on to give a lengthy critique of Gaṅgeśa’s arguments in favour of the Nyāya-Vaiśeṣika theory of empty terms in order to defend his Mādhva philosophy. It should be noted that here, Vyāsātīrtha directly contradicts what he said in the *Nyāyāmṛta*. In the *Nyāyāmṛta*, he argued that *aprasiddhaviśeṣaṇatā* is in fact a flaw. Here, by contrast, he argues that it is not a flaw and that it does not apply to the sorts of inferences formulated by Ānandabodha to prove that the world is indeterminate. This is, of course, Vyāsātīrtha’s true position as a Mādhva.

7.9 Location-free properties

Philosophically, Vyāsātīrtha’s arguments against Gaṅgeśa in these chapters of the *Tarkatāṇḍava* still leave us with two questions: How can we make meaningful true/false statements about nonexistent things like sky-flowers, and how can we make inferences that involve them? Vyāsātīrtha argues in essence that it is demonstrable that we can make true/false statements ascribing certain properties to nonexistent things, and that the best way to explain this is to assume that there are “location-free” properties which somehow exist as part of reality without being located in an existent thing. We can make inferences like “The son of a barren woman cannot speak, because [it is] insentient”, because “the son of a barren woman” can have *negative* properties even though it does not exist as part of reality. Vyāsātīrtha explains this theory as follows in the *Tarkatāṇḍava*:

For, there are different sorts of quality. Some are located in a substrate, such as colour tropes and so on. Yet others are located in one thing, while they affect something else, such as cognition and so on[, which are located in the self or *manas* but affect] pots and so on. Some are substrate-free, like non-existence and so on, because [we have] the uncontradicted judgment

“The horn of a hare is nonexistent”. For, otherwise, the nonexistence of such entities could not be established.⁴³

According to the theory outlined by Vyāsātīrtha here, some properties, like colour tropes, velocity, sentience, etc., can only be present in positive substrates; nonexistent things clearly cannot have colours or be sentient, for instance. Nevertheless, nonexistent things can have other sorts of properties. For instance, we can truly say of the “son of a barren woman” that it “*cannot speak*” or that it is “*insentient*”, so we can ascribe negative properties to it. Moreover, (so far as the Mādhvas are concerned,) we do speak of nonexistent things as being absent from locations (“There is never a hare’s horn on this table”), so a hare’s horn must be the counterpositive (*pratiyogin*) of an absence. Consequently counterpositiveness itself (*pratiyogitā*) must be a “location-free” property. We can also make true negative-existential statements about nonexistent things (“The sky-flower does not exist”) and so the list of “location-free” properties must also include nonexistence (*asattva*) itself. All of these properties are a part of reality, and they serve to make statements about nonexistent entities either true or false.

7.10 Conclusion

Vyāsātīrtha’s engagement with Gaṅgeśa’s ideas was pivotal to the development of his work and the work of all subsequent Mādhva philosophers. The *Tarkatāṇḍava* contains one of the most detailed critiques of the Navya-Nyāya system ever written by an outsider to the tradition in the history of Indian philosophy. The *Nyāyāmṛta* literature in turn provides a leading case where Navya-Nyāya theories and language were applied to the philosophical literature of another school. Vyāsātīrtha’s work on Navya-Nyāya influenced all the leading philosophers of the Mādhva tradition in the sixteenth to the eighteenth centuries, even though the Mādhvas’ arguments do not seem to have garnered a response from the Navya-Naiyāyikas.

The *Prathamamithyātvabhaṅga* chapter of the *Nyāyāmṛta* shows the importance of Gaṅgeśa’s work for Vyāsātīrtha. Madhva and Jayātīrtha had argued that “indeterminacy” is either an unestablished property which should not, perhaps, be allowed to enter into formal inferences, or that Ānandabodha’s inferences to prove that the world is indeterminate are partly redundant from their point of view. In the *Nyāyāmṛta*, Vyāsātīrtha largely uses Gaṅgeśa’s arguments on universal-

⁴³ vicitrā hi dharmāḥ. ke cid āśritāḥ, yathā rūpādayaḥ. ke cid anyāśritā anyoparañjakāḥ, yathā jñānādayo ghaṭādīnām. ke cid anāśritāḥ, yathāsattvādayaḥ, śaśaśṛṅgam asad ity abādhitapratīteḥ. anyathā tasyāsattvasiddheḥ. (TT, 4:244.)

negative inference to give new substance to these old arguments. He carefully applies Gaṅgeśa's judgments about the epistemological problems surrounding universal-negative inference in particular to show that, however the concept is interpreted, Ānandabodha's inferences cannot prove to us that the world is "indeterminate". In the *Nyāyāmṛta* he follows this reasoning for the sake of debating with the Advaitins, although he refutes the very same line of argument in the *Tarkatāṇḍava*.