

INTRODUCTION

Gaṅgeśa and Nyāya Philosophy

1. An Epistemology of *pramāṇa*, “Knowledge Sources”

Gaṅgeśa Upādhyāya (c. 1325) solidified the “New” (*navya*) phase of the long-running classical Indian school of epistemology and metaphysics known as Nyāya. Or, it is really two schools, Nyāya and Vaiśeṣika, that comprise Gaṅgeśa’s inheritance. These names are sometimes translated “Logic” and “Atomism,” though more than logic informs Nyāya and more than an atomic theory Vaiśeṣika. Each is a complex tradition of philosophy, with distinct literatures until Udayana (c. 1000) who in effect combines them as Nyāya.

Gaṅgeśa lived in Mithilā, in northern India, where he was a prominent teacher. He had two wives and two sons and a daughter. One of his sons, Vardhamāna, was a famous philosopher in his own right. Gaṅgeśa has left us a single composition, the *Tattva-cintā-maṇi* (*TCM*), “Jewel of Reflection on the Truth (about Epistemology).”

The *TCM* is Navya Nyāya’s—“New Logic’s”—root text. It contains reflection distilled from generations of earlier philosophy both within Nyāya and Vaiśeṣika and outside. Gaṅgeśa’s originality is in fact less than one might expect given the acclaim his book achieved in later centuries. He himself recognizes Udayana as the innovator of several positions characteristic of the New Logic movement. Nevertheless, Gaṅgeśa refines and polishes Nyāya theories, developing new lines of argument. His views are taken to define the New Logic school, or to form the problem space for later Nyāya philosophers (called Naiyāyikas).

Gaṅgeśa defends a realist view of everyday objects and a causal view of the ways we know them. “Knowledge sources,” *pramāṇa*, the most important of which are perception, inference, and testimony, reveal objects with which we interact. There are also *pramāṇa* subvarieties whose operations involve specific rules, as well as a fourth “source,” analogy, restricted to acquisition of new vocabulary (i.e., learning a word through someone’s drawing analogies). But all “knowledge generators” are viewed as natural processes, as part of the causal web of the universe. The veridical

cognitions generated and their indications are, to be sure, identified from the inside, from a first-person perspective, and it is possible to know cognitive origin by a kind of introspection (“I see that I am *inferring* that *a* is F”). Nevertheless, the *pramāṇa* are worldly processes, common among all perceivers, inferers, and so on, and are externally described.

“Veridical cognitions,” *pramā*, are the results of *pramāṇa*, but they are defined independently of their origins. Veridicality is a relation from cognition to object, and some cognitions are accidentally true, for example, a true deduction from a false premise. Gaṅgeśa embraces what we may call a *correspondence* theory of truth, though the label is problematic. As Gaṅgeśa points out, there is no *similarity* between a pot and a cognition of a pot. The relation between cognitions and their objects is called *having-an-object* (from the side of cognition) and *objecthood* (from the side of the cognized), and we shall come back to and focus on these crucial terms in the next subsection.

Nyāya’s “knowledge sources,” *pramāṇa*, like their results, have a truth logic. No non-veridical cognition is counted as *source*-generated. Deviant functioning of a cognitive process or “method” that is reliable in that it would normally result in a veridical cognition is not a veritable *pramāṇa*. Thus the English word “perception” used to pick out Nyāya’s *pramāṇa* of perception is to be understood as an infallible process: *perception in optimal circumstances* is what is meant. Similarly, the result, a genuinely *perceptual* awareness, is by definition veridical, being distinguished from an *apparent* perception that is in fact non-veridical though a subject takes it to be veridical when it occurs. An apparent perception is not *pramāṇa*-generated. Mistaking a rope for a snake is not, properly speaking, perceptual but only pseudo-perceptual.

Perception as a knowledge source is the broad rubric under which Naiyāyikas group a wide range of cognitive processes all involving current sensory connection. There are different types of connection depending on the nature of the object perceived, but in all cases, we should stress, a process (or “method,” as identified subjectively) has to be working normally, with no defects, to deserve *pramāṇa* status. Defects are multifarious, including environmental features (poor lighting) and sensory functioning (defective sight). Perception as a causal process includes, importantly, the object cognized as standing appropriately in the causal chain or complex of causal factors that results in its being cognized veridically.

Now normally it is simply assumed that sight, for example, is a knowledge source in certain circumstances. But if one has reason to question a cognition and its origin, success in action can be appealed to to determine the veridicality of the cognition, says Nyāya, and the veridicality of a set of individual cognitions regarded as effects of regular processes would confer, or confirm, *pramāṇa* status. Thus since a pool of individually veridical effects can be

gathered, source individuation becomes an issue. What are the salient types of cognitive process? For example, are sight and hearing separate knowledge sources? What is the source of knowledge of psychological properties such as pleasure and pain? Is there a special source for knowledge of absences (e.g., “There is no pot on the floor,” where a floor is cognized as qualified by an absence of a pot)? Is presumption a different source of knowledge than inference? And do we have a *pramāṇa* and knowledge when we accept the true declarations of a deluded person who (unbeknownst to us) intends to deceive us? These and similar questions threaten to undermine the Nyāya project which depends on there being discernible source types. A fundamental concern of Gaṅgeśa’s throughout the *TCM* is defense of Nyāya’s cognitive divisions and subdivisions and, in particular, the thesis that veridical cognitions fall into groups as results of perception and other sources considered as types. Special requirements govern subtypes such as with awarenesses of absences and other cognitions according to what they are about, their objects or “objecthoods,” as will be explained.

Alignment of veridical cognitions with their sources has epistemic consequences. A *pramāṇa* recognized both by intrinsic features and in relation to a particular result would make that result “*pramāṇa*-certified.” That is, a cognition can be known as knowledge-source-generated and as so known would become “source-certified”—one of three ways a cognition can be known to be true, i.e., certified, according to Nyāya. As already mentioned, a cognition can also be certified with respect to its fruit, success of effort and action. Historically, only this method has claim to be the official Nyāya position on how certification proceeds. But Gaṅgeśa shows in several places and ways that he assumes *pramāṇa* identification is a second way we can know that a cognition is true. A third procedure is typing. Once a type of cognition as specified by its “having-an-object” or “objecthood” has been certified, a later cognition known to be a token of that type would also be certified.

Thus *justification* for Gaṅgeśa and Nyāya—or, more properly, *conscious justification*—amounts to certification, which can happen in these three ways, all of which involve inference. The operation of a knowledge source, in contrast, provides a non-inferential bottom level of implicit justification that does not itself have to be known, or, in the case of inference as a *pramāṇa*, a bottom level of justification that is inferential but also about the world, i.e., about something other than the veridicality of the cognition C generated by inference. The veridicality of C is inferred only on the meta-level of certification.

In other words, knowledge does not require certification according to Nyāya. Knowledge does not require conscious justification in the sense explained. It requires only the proper tie between cognition and fact, which amounts to its being *pramāṇa*-generated. Perception, inference, and testimony generate cognitions whose truth we take for granted as shown by our

speech and other acts, Naiyāyikas argue. The justification required for knowledge—i.e., “knowledge” as explained by Western epistemologists—is according to Nyāya a cognition’s being *pramāṇa*-generated in fact whether or not the subject knows that it is *pramāṇa*-generated. (Translating in reverse direction, I would render ‘knowledge’ as a *jñāna*, “cognition,” that is *pramāṇa-ja*, “source-generated,” i.e., as a “veridical cognition,” *pramā*, that is so in virtue of being *pramāṇa*-generated.) Gaṅgeśa and other Naiyāyikas argue against “internalists” on the classical Indian scene that young children and the mute cannot explain why they trust the information upon which they rely in action. And, he insists, usually everyone simply acts on the basis of a perceptual or inferential awareness without questioning its veridicality.

Nevertheless, justification is important for Nyāya. When a doubt, dispute, or desire to know arises, then turning to knowledge sources as best we can is our method of resolving or satisfying it. (The role of the knowledge sources in inquiry is stressed in the *Nyāya-sūtra*, the school’s oldest text, c. 200 CE.) Certification with reference to a recognized knowledge source elevates, moreover, a knower’s level of confidence, and presents a higher barrier to doubt and dispute than there would be otherwise. Bits of inferential knowledge—just as perceptual awarenesses and knowledge from testimony—become more secure through checking to make sure that they are true. But though knowledge can be coupled with degrees of certainty, a bottom level of, so to say, sense certainty (without being actually certified) accompanies naturally cognitions purporting to present the world. Otherwise, there would not be sustained what Western philosophers call belief, or, as Gaṅgeśa would say, trust in cognition as shown in action.

Nyāya’s externalist epistemology marches hand-in-hand with a metaphysical or ontological realism. This realism is the thesis that the objects about which we speak—on the basis of our perceptions, inferential awarenesses, et cetera—exist independently of our consciousnesses. The way something is shapes a mental occurrence—a cognition—that becomes a cause of speech and other acts where the cognition functions as guide. Perception is the chief or original *pramāṇa* according to Nyāya, figuring in the operation of inference and the other sources. Thus Nyāya’s realism depends heavily on its theory of perception. Perceptual awareness of something as F originates in an F-qualified object connected to a sense organ. We veridically perceive Bessie as a cow because she is a cow in fact, and the *pramāṇa* of perception connects us to that reality.

Nyāya’s commitment to entities that exist independently of consciousness and that cause its presentations leads Gaṅgeśa and other Naiyāyikas to embrace fallibilism about occurrent cognition of practically whatever variety and content. The knowledge-generators themselves are conceived of as infallible, but from a first-person perspective a subject may have a cognition that

seems to be genuinely perceptual, for example, whereas it is non-veridical in fact and thus only pseudo-perceptual. An object's existence to itself apart from the activities of the instruments of right cognition means that the possibility of error about it cannot be eliminated, except in some cases of apperception. An apperceptive object—for example, an immediately previous cognition—is internal and may be entirely accessible to the cognizer with no possibility of causal defect or irregularity (though Gaṅgeśa does not think that apperception is in every respect infallible, as will be discussed). But other types of object cognized exist independently of our consciousnesses; as causes of and objects of different individuals' truth-hitting mental events, they are external to anyone's individual awareness. Furthermore, objects have properties some of which on any given occasion typically go uncognized, and most processes of cognitive generation are not open to direct cognitive grasp. At least some factors in the generational process are not directly cognizable. Such transcendence, in sum, of objects to consciousness leads Naiyāyikas to embrace cognitive fallibilism. The whole range of cognition that is truth-directed has as its normal nature to be veridical in fact. But (non-apperceptive) cognitive processes sometimes get disrupted without our knowing or having any evidence of the disruption, and there is generated a cognition that we assume is veridical but is not, as we sometimes later find out.

We shall learn many details of Nyāya's perception theory, including much about subvarieties of perception. For the present, let us continue to take an overview, considering perception along with its kindred, inference and the rest, and Nyāya's overall theory of knowledge.

Nyāya epistemology, although principally externalist, comprises some considerations that are internalist. For example, despite all the talk of causal processes, there are special epistemic properties called *excellences* and *faults* whose identification, given doubt or desire to know, are signs of the operation of *pramāṇa* or of their absence, and are thus key to certification and the establishing of right positions in philosophy as in everyday life. Now these properties have to be cognized. They are labelled from an epistemic perspective; they are "excellences" and "deficiencies" from an epistemic point of view. For instance, one may make an immediate inference and act on its basis, but to certify that the conclusion drawn is the result of inference as a *pramāṇa* is to check the process to make sure that it is fault-free and that it is based on a *pervasion* of F-hood by G-hood, considering an inference from *Fa* to *Ga*. Such pervasion would be confirmed with reference to positive correlations—other things both F and G—and negative correlations—things not-G and not-F. Nevertheless, the epistemic excellences—awareness of pervasion and the like—are themselves externally described. Excellences are supposed to have causal relevance, even in inference. Thus they are both properties figuring prominently in causal laws and signs of knowledge sources. We do have to

keep in mind that epistemology does not begin for Nyāya with (Cartesian) doubt or the (Socratic) intellectualist requirement that a knower of p must be able to articulate a good reason for believing p . According to Nyāya, people do not normally distrust their cognitions, nor need they be able to say why they have knowledge when they have it. For, as has been explained, one has a veridical cognition and normally follows it in action if it is *pramāṇa*-generated whether or not the subject is aware of the fact. But disagreement is one of several conditions leading to real doubt, and real questions can arise. Then identification of knowledge sources and “excellences” as epistemic properties becomes relevant, answering questions, restoring confidence, removing doubt, and ending dispute.

Meta-epistemology is also enjoined by Gaṅgeśa throughout his treatise. He combats Buddhists and other theorists who have different views about *pramāṇa* and the world they reveal. According to Gaṅgeśa and Nyāya, all candidate sources for whatever type of veridical cognition either reduce to perception, inference, analogy, and/or testimony or are not genuine. The coherence of the causal stories told about each of these process types, including the overall economy of the theory, help to show that these are *pramāṇa* and that there are only these four. Gaṅgeśa is mainly concerned to unroll his Naiyāyika views from a Naiyāyika perspective, probably himself using his work as a textbook. But the classical Indian *interschool* controversy over *pramāṇa*—which is as historically central as any other issue or topic in the whole long course of philosophy written in Sanskrit—informs Gaṅgeśa’s discussion. He rehearses the positions and arguments of other schools as well as Nyāya’s answers. The *pramāṇa* debate, we may add, spilled over into and influenced jurisprudence, literary criticism, and other genre, and of course other areas of philosophy. For this reason, the *TCM* is arguably the most important work of the whole of late classical literature in that it is the most important work of epistemology.

A few more words about cognition and action and the importance of cognitive types. Cognitions that are accidentally truth-hitting do not, in long perspective, have epistemic clout, do not inspire confidence, and are not the basis for unwavering effort since similar cognitions too often mislead, frustrating effort and action. Our memories of what to trust are reinforced by unceasing streams of feedback in everyday life. We know, for example, not to trust a person known to lie or exaggerate, or to rely on vision when there is not enough light. Gaṅgeśa is interested in veridical cognitions that are by type veridical, by law veridical, such that the law may be invoked to resolve disputes and arrive at right views. An example that just happened the one time to be veridical—not true in its type—would not be *pramāṇa*-generated and while it itself might not be unreliable others of its type would be. Gaṅgeśa’s project is to specify the connections between the world and cognizers that

result nomologically in cognitions that are veridical.

Gaṅgeśa's *TCM* has four chapters, a chapter for each *pramāṇa*, three long ones for perception, inference, and testimony, and a short one on analogy. Along with a preamble to the book as a whole, the perception chapter is translated here. Within it, there are clearly delineated sections on various sub-topics, as well as remarks about cognition and veridicality in general.