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Chapter 1

Knowledge Sources

Epistemology, the theory of knowledge, is launched from the recognition that cognition is not always veridical or true. We sometimes have false beliefs or doubtful apprehensions. One of the most important concerns in epistemology is the search for factors that indicate that a belief is true, that what we take to be truth-revealing cognition is indeed knowledge. Minimally, we hope to understand what criteria ensure that a belief is held reasonably or properly. In the broadest sense, we are looking for factors that contribute to positive epistemic status. Having identified these factors, we can put ourselves in a better position to gain knowledge and avoid error.

The Sanskritic philosophical lexicon has a number of words that are commonly translated "knowledge," although often what is meant is not standing knowledge, such as knowledge of a phone number, but rather occurrent knowledge, such as coming to know something in one's immediate environment perceptually. Nyāya subscribes to the thesis that standing or non-occurrent knowledge, which is dispositional, depends upon occurrent knowledge, such as seeing and reading a phone number for the first time, making it possible to remember it later. Translators (including the two of us) have sometimes used the general English term "cognition" instead of "knowledge," because it is more amenable to a focus on occurrent awareness, and because sometimes the corresponding Sanskrit words (such as jñāna*) do not entail truth of belief. For the sake of readability, however, in this translation we shall normally use "knowledge," while occasionally employing "cognition" and phrases such as "a bit of knowledge" when context demands.*

We should also be aware that Nyāya epistemology is quite distinct from a significant, internalist strain in Western epistemology. Internalism is the view that the things that contribute centrally to knowledge or justified belief are accessible to the knower or believer. In short, what distinguishes knowledge or justified belief from error or fancy is that someone has good reasons for her belief, reasons that she could articulate if called upon. These are "internal" to her in that these things could be discovered by her own reflection. In Western epistemology, internalism is typically wed to the idea that epistemic responsibility and fulfillment of epistemic obligations (e.g., "Don't believe beyond the available evidence") are central to knowledge and justification. Modern views that make epistemic dutifulness central to belief and justification are sometimes collected under the banner of deontology. One reason for the primacy of internalism and deontology in modern Western epistemology is a recurring concern with cases of massive illusion or mistake. The most famous of these is Descartes' "evil demon." What if we were completely tricked by a powerful demon, and under illusion regarding almost everything in our lives? Similarly, some ask, "What if you were a just brain in a vat, made to have your experiences by scientists turning nobs?" Such thought experiments have led some modern philosophers to accept that one could still be a reasonable, thoughtful person despite such massive cognitive failure. Given internalist and deontological principles, a person may be epistemically praiseworthy despite the falsity of her beliefs about almost everything.

Nyāya takes a radically different approach. It denies that knowledge requires such inner access and responsibility. Nor does the school see knowledge as "justified" true belief, if we take justification to require a person consciously to entertain a good reason for what she believes. Rather, Nyāya focuses on the processes that consistently generate true belief or veridical cognition, processes called pramāṇa, "knowledge sources." Nyāya would sympathize with what is currently called reliabilism: knowledge takes place when cognition is formed in the right way, by the right sort of mechanism. Often this means that processes that are inaccessible to

the knower or believer, such as proper neuro-perceptual functioning, are more important to knowledge than fulfilling epistemic obligations. Knowledge depends on various sorts of processes operating properly, and a large part of epistemological refinement consists in understanding and availing ourselves of such processes.

Despite such thoroughgoing externalism, there are some internalist features of Nyāya's approach. Inference, for example, which is one of four knowledge sources recognized in Nyāya, often requires careful, self-conscious attention to good reasons and avoidance of sloppy thinking, at least in a philosophical context or in a debate. But even inference can also work automatically in a non-self-conscious way, our Nyāya philosophers contend. The other knowledge sources also work automatically, and often perception or reliable testimony serve just fine in the production of knowledge, without a need to "think through it" and consciously justify a belief.

As a rule, Nyāya has an "innocent until legitimate doubt" view toward cognition and belief. Self-conscious reasoning becomes central only when there is reason for doubt, which leads to cognitive review and resolution. When doubt arises, we must sift through the available information and weigh the evidence at hand to come up with a reasoned conclusion. Here again is the internalist strain in Nyāya epistemology. Nyāya has a two-tiered approach to knowledge and justification, since once a proposition has been brought into reasonable doubt, we step back from our default trust and justification becomes a matter of self-conscious investigation "by means of the knowledge sources and tarka (suppositional reasoning)." Since all the major claims of philosophy are considered to face challenges, inference and suppositional reasoning typically come to the forefront when articulating and defending philosophical views.

While it is not an official knowledge source, tarka captures much of what has developed as philosophic method in the West, in that it involves tracing out what are taken to be undesirable entailments of an opponent's view in order to refute it. Such is the standard form of tarka as classically conceived and employed by Nyāya philosophers as well as Buddhists and others on the classical scene. But there are various forms and practices within the "philosophical method"

or nyāya *in the word's technical sense, which, in sum, involves investigation by means of the recognized knowledge sources supplemented by* tarka. *We will take up* tarka *and cognitive review at length in Chapter 2, "Doubt and Philosophical Method." Now, our commentators introduce the sutras on knowledge sources.*

Introductory remarks preceding *Nyāya-sūtra* 1.1.1

Vātsyāyana [1.1–2.1]: When an object is comprehended through a knowledge source (*pramāṇa*), it becomes possible to engage in successful goal-directed activity. Thus, a knowledge source is useful (*arthavat*). Without a knowledge source, there would be no effective cognition of an object. Without such cognition, there would be no successful action. When someone grasps something by means of a knowledge source, the person may desire to obtain or to avoid it. *Goal-directed activity* is the effort of someone who acts because of such desire or aversion. For goal-directed activity, *success* is a relationship with its result: achieving or avoiding the *object*, which may be happiness or unhappiness respectively, or some means to achieve either. The purposes served by the knowledge sources are innumerable, since the living beings who employ knowledge sources are themselves innumerable.

When knowledge sources are connected to an object, so too are the knower, known, and knowledge. Why is this? Because in the absence of any of these, it would be impossible to have knowledge of an object. Of these, the person who acts possessed of desire or aversion is the *knower*. That by which something is known is the *knowledge source*. That which is known is the *object of knowledge*. And veridical cognition produced in the right way is *knowledge*. Truth is fully grasped when these four are in place.

What then is truth? It is the notion of existence applied to something that exists and that of non-existence with respect to something that doesn't exist. Grasping what is as what is, there is truth, the "as it is," the "uncontroverted." Likewise, grasping what is not as being what is not, there is truth, the "as it is," the "uncontroverted."

How could something non-existent be cognized through a knowledge source? At the time something existent is cognized, there is non-cognition of something non-existent. Just like the light of a lamp: when something visible is seen through the light of a lamp, something that is not seen in the light is understood to be absent. One thinks, "If it were there, it would have been seen. But it was not seen, so it is not there." Thus, when something existent is known through a knowledge source, something not grasped may be known to be non-existent.

Vātsyāyana inaugurates his commentary by noting a close tie between knowledge sources and successful action. He notes that in veridical cognition, four factors all come together: the knower, the thing known, the means of knowing, and the knowledge itself. For knowledge to occur, these four must be properly related to each other. Centrally important here is the notion of "usefulness" (arthavat). *The term* arthavat *has a semantic range that includes "effective," "accurate," "successful," "significant," and "fitting." To say that a knowledge source is useful means that it serves our purposes because it functions properly in revealing objects. Immediately below, Vācaspatimiśra takes* arthavat *to mean that a knowledge source is inerrant or factive, being tied to its object by definition.*

Vācaspatimiśra [4.18–21]: In Vātsyāyana's opening passage, the phrase "useful" (*arthavat*) employs the possessive affix (*vat*) indicating constant connection, and this means non-deviation. The import is that a knowledge source does not deviate from its object. A knowledge source's non-deviation amounts to the fact that there will never be disagreement anywhere, anytime, in any condition, between the nature of the object and what we are taught by the knowledge source.

The notion that knowledge sources are inerrant would seem to contradict our basic experience that we sometimes misperceive or make bad inferences. But the commentators frame such error as our mistaking "imitators" for real knowledge sources. The Sanskrit term for this is pramāṇa-ābhāsa, *"semblance of a knowledge source," or "knowledge-source*

imitator." Internal to the concept of knowledge sources is that they produce veridical cognition. Mistaken imitators are not, therefore, genuine pramāṇas. *The following remarks by Uddyotakara and Vācaspati make this point clear.*

Uddyotakara [2.21–3.4]: A *pramāṇa* provides definitive ascertainment of an object. There is also a counterfeit which, owing to similarity with the real thing, is spoken of figuratively as *pramāṇa*. What similarity is there between this imitator and a genuine knowledge source? It is ascertainment through universals. Both the real thing and the counterfeit present universals. But acting on the basis of a genuine source leads to success, while acting on the basis of the counterfeit leads to failure. A genuine source is thus defined by Vātsyāyana as useful, since it is through a genuine source that an object is ascertained.

Vācaspatimiśra [9.3–10]: It is wrong to think that a knowledge source may be either factive or errant. The idea of an errant knowledge source is a contradiction. Therefore, Uddyotakara explains, "a knowledge source is that which provides definitive ascertainment of an object." . . . Yet, the counterfeit is mistakenly taken to be the real thing. Without similarity to knowledge sources, there would be no such mistakes. Uddyotakara asks, "What is the similarity?" His answer is that they both present universals. . . . The erroneous cognition of a piece of silver provides a distinct presentation of something that possesses whitish color. The subsequent veridical cognition that it is a shell does too. The idea is that there are two kinds of cognition in relation to a single object. One cognition projects silver where it is lacking, while the other serves as a corrective, presenting the object as it is. They relate to each other as defeated and defeater. The impetus to act follows from both, but the true knowledge source alone leads to success in action, while the non-knowledge source does not, as it deviates from the object.

*Vācaspatimiśra's argument employs a stock example of perceptual illusion in Indian thought, seeing a shell and mistaking it for a piece of silver. Both shell and silver are grasped as possessing a certain reflective illumination, here "whitish color," and in the erroneous case the reflective illumination of the shell is taken to be the shine of silver. When Uddyotakara and Vācaspatimiśra say that both "present one with universals," this means that both erroneous, pseudo-*pramāṇas *and accurate, true* pramāṇas *present to awareness common properties thought of as universals. But only in the legitimate case is the universal presented as located where it actually is. The Nyāya view is that memory formed by previous experience of silver makes possible the false projection onto the shell, given common properties—universals—such as whiteness.*

The next section of sūtras are Nyāya-sūtra *1.1.3–8, which define each of the knowledge sources. Here commentators are concerned to explain how it is that each distinct knowledge source is a unique process that generates knowledge. Causation is central in this account. Knowledge is caused in the right sort of way, as opposed to error, which involves misfires or deviant causal chains. The commentators further reflect on the way that knowledge sources may intersect and converge on their objects. And they usually try to explain etymologically why Gautama uses the particular word he does for each source. The etymology given serves as a working definition that gets refined in later sūtras.*

1.1.3: The knowledge sources are perception, inference, analogy, and testimony.

Vātsyāyana [8.17–9.5]: To follow the etymology of the word, **perception** (*pratyakṣa*) is the functioning of each *sense faculty* (*akṣa*) upon its *own proper* (*praty*) object. . . .

To follow the etymology of the word, **inference** (*anumāna*) is the *source* (*māna*) that works *after* (*anu-*). Inference normally occurs after perception, giving knowledge about something that possesses an inferential mark by means of knowing the mark.

To follow the etymology of the word, **analogy** (*upamāna*) is the *source* (*māna*) that shows *proximity* (*upa-*), nearness, as in "A buffalo is like a cow." Proximity should be understood here as a connection with universals, shared properties.

To follow the etymology of the word, **testimony** (*śabda*) is that by which something is asserted, *is heard* (*śabdayate*)—so it is spoken of, that is, made known.

That the **knowledge sources, *pramāṇa***, are causes of veridical cognition can be understood from etymology: *pramīyate 'nena*, "It is known by means of this." For the word *pramāṇa* designates something that is an instrumental cause. The names of some of the particular instances—**inference**, for example—is explicated too just in this way, as an instrumental cause for inferential knowledge.

Although the dominant understanding of pramāṇa *in Nyāya is as a process or cause of knowledge—hence our translation "knowledge source"—Uddyotakara below explains why Indian thinkers sometimes use the term* pramāṇa *to mean the instance of knowledge itself. There is an analogous usage in English, where terms for causes of knowledge are also used as knowledge: "According to my perception, that is Ann in the distance." Here "perception" means the resulting cognition, while also, more commonly perhaps, "perception" is used to mean the process that terminates in perceptual knowledge.*

Uddyotakara [27.2–6]: For all the *pramāṇas*, when the term *pramāṇa* is spoken in reference to itself, it has the sense of *knowledge* (*pramiti*). When spoken in reference to other objects, it has the sense of *knowledge source* (*pramāṇa*): "that by which something is known." The results of a *pramāṇa* in this sense are the ensuing ideas that "I should avoid, pursue, or remain indifferent toward this object," which arise only after the object is known.

Vātsyāyana considers next the way in which knowledge sources converge upon their objects. Various Indian schools of thought debated whether each knowledge source has its own domain of objects, or whether they converge upon the same objects. Vātsyāyana argues that both situations are possible. Here he relies on Nyāya's sister school of Vaiśeṣika, whose literature shows many positions shared with Nyāya, although there are important differences. Sometimes it is said loosely that Vaiśeṣika tends to focus on metaphysics and ontology, while Nyāya focuses on epistemology. By around 1000 CE,

the Vaiśeṣika tradition becomes absorbed into Nyāya, with no separate literature to speak of. But its categories are explicitly endorsed and its treatises cited by the earliest Nyāya commentators, as we see with Vātsyāyana in the next passage.

Vātsyāyana [9.5–16]: Do the knowledge sources converge upon the same objects, or is each restricted to its own domain? We find it both ways. "There is a self (*ātman*)," is known from the teaching of a trustworthy authority, the testimony of the Upaniṣads. There is also inference: "**Inferential marks for the self are desire, aversion, effort, pleasure, pain, and knowledge**" (*Nyāya-sūtra* 1.1.10). Finally, there is a special kind of perception, born of deep meditation, which yogis possess: "Perception of the self arises from a distinct kind of connection between one's mental faculty of attention and one's individual self" (*Vaiśeṣika-sūtra* 9.13).

To take another example, fire is known from the statement of a trustworthy person: "There is fire over there." Then, getting closer, it is inferred when one sees smoke. Finally, the fire is perceptually apprehended when one is in range.

Regarding the restriction of a knowledge source to certain types of objects, we find scriptural testimony such as, "One who desires heaven should perform the Agnihotra sacrifice" (*Taittirīya Brāhmaṇa* 2.9). For ordinary people, there is neither perceptual experience nor an inferential mark by which they know of heaven. In another example, hearing the sound of thunder, one infers its cause; there is knowledge neither by perception nor by testimony. Likewise, when one is looking at one's hand, there is neither testimony nor inference for its existence.

Let us add that regarding knowledge, perception is preeminent. When someone learns something from the statement of a trustworthy testifier, he may still wish to understand it in another way (through inference, for example). Understanding the thing through inference, he may still wish to know it through direct experience. But upon seeing it directly, the desire to know ceases, as in the example of fire above.

Uddyotakara explains why perception is mentioned first in the list of pramāṇas.

Uddyotakara [28.4]: Perception is rightly listed first because all the *pramāṇas* are dependent upon perception.

Inference depends on perception because it is by perception that we discover the general connections that undergird inference, "Wherever there is smoke, there is fire," as well as the specific marks that trigger inference, "There is smoke over there." Testimony is dependent on perception, in that one must hear or read the testimonial statement that is the immediate vehicle or trigger for testimonial knowledge.

1.1.4: Perceptual knowledge arises from a connection of sense faculty and object, does not depend on language, is inerrant, and is definitive.

This "perception sūtra" lists four conditions that collectively must be met for a cognition to be genuine perceptual knowledge: (1) that it arise from a connection between sense faculty and object, (2) that it not depend on language, (3) that it be inerrant, and (4) that it be definitive. Commentators examine and elaborate upon each condition. Vātsyāyana and Uddyotakara explain that qualifications 1 and 2 provide the basic structure of perceptual knowledge, that is, that the knowledge is generated by sense faculties operating on objects and is not reducible to linguistic knowledge. And qualifications 3 and 4 serve to exclude error and doubtful cognition from the ranks of perceptual knowledge proper. Below, Uddyotakara discusses the first condition, that the knowledge be produced by a connection between sense faculty and object.

Uddyotakara [28.18–29.6]: Knowledge that arises from the connection between a sense faculty and an object is perceptual. The sense faculties will be discussed later,[1] as will the objects.[2] There are six kinds of connection between the two:

1. conjunction (connection between a sense faculty and a substance; for example, seeing a pot where the visual organ contacts the pot there where it is);

1 *Nyāya-sūtra* 1.1.12.

2 *Nyāya-sūtra* 1.1.14.

2. inherence in what is conjoined (connection between a sense faculty and a property that inheres in a perceived substance; for example, seeing the color of a pot, the color inhering in the pot that is in contact with the visual organ);
3. inherence in what inheres in what is conjoined (connection between a sense faculty and a universal that is instantiated in a property inhering in a substance; for example, the smell of sandalwood in general that inheres within a particular trope or instance of sandalwood smell inhering in a piece of sandalwood);
4. inherence (connection that makes auditory perception possible);
5. inherence in what inheres (connection between the auditory faculty and a universal that inheres in a sound; for example, the loudness of loud music);
6. qualifier-qualified relation (connection involved in perception of an absence).

Among these, consider the visual organ: when a colored object such as a pot is known, the connection has to be conjunction, since the organ and the pot are by nature substances. In contrast, with something that is not a substance, such as a color, the connection is inherence in what is conjoined, since colors and the like rest in substances that are in sensory connection when they are perceived. The mode of "resting in" is inherence. In this way, the connection is inherence in what inheres in the conjoined in the case of universals such as those that inhere in particular bits of color and the like (for example, redness in a particular red trope). Similarly, the connection is conjunction in the case of the organs of smell, touch, and taste: conjunction of the organ with things that have smell or another sensible property such as touch or taste. With regard to odors and other properties themselves that inhere in the things that have them, the sensory connection is inherence in the conjoined. And for universals of odor, etc., it is inherence in what inheres in that which is conjoined. Universals are nested in—they rest in—such individuals. And for sound, it is inherence.

Note that types 1 to 3 and 6 occur for any sense faculty except hearing, while 4 and 5 are for hearing alone. The distinctions between types are not meant to capture phenomenology as much as catalog the power of perception directly to apprehend various kinds of objects, properties, and structural features of reality: substances (1), individual properties or tropes (2, 4), universals (3, 5), and absences (6). The need for distinct kinds of connection for hearing are due to Nyāya's notion that hearing involves a portion of ether that is located within the ears. Sounds are properties that inhere in ether, ether being the medium through which sound travels. Sounds that are heard have traveled to the portion of ether in one's ears, and hence the "connection" in play is the inherence of sound in the ether in one's ears. We perceive absences by noting that an object in perceptual range (e.g., the floor of a classroom) is qualified by the absence of some object in question (e.g., an elephant). A person knows there's no elephant in the room because she has looked and would have seen one if it were present. In his opening comments above, Vātsyāyana anticipates this idea by arguing that knowledge of unreal things is based on cognition of real things, coupled with the background notion, "If something were there, I would have noticed it." Below, Vātsyāyana and Uddyotakara consider the second condition for perceptual knowledge, that it be independent of language.

Vātsyāyana [10.11–20]: Some people have argued in the following way:

> There are names for every object of awareness, and proper awareness of objects is wrapped up in names. This fact is the basis of conventional practices (*vyavahāra*). Knowledge produced by a connection between a sense faculty and object would be something like, "There is this color," or "There is this taste." The words "color" and "taste" thus provide names for the content of cognition (*viṣaya*, "sense data," the interior objects of perception). We refer to cognition in this way, according to the name of its content, and as such, perceptual cognition is verbal in nature—this is a fatal objection to your view.

To reject this argument, the sūtra-maker claims that perceptual knowledge "**does not depend on language.**" When one has perceptual knowledge of an object without knowing the name conventionally bestowed upon it, such cognition is not verbalized by a denotative term.

Uddyotakara [34.15–16]: When someone doesn't know the names of things he is seeing, perceptual knowledge still conforms to differences in the objects that are experienced. Even when someone does know the names of the objects being perceived, this is still the case. The name for the object is employed only after perceptual knowledge is produced.

Below, Vātsyāyana discusses the third condition, that perception is inerrant.

Vātsyāyana [11.3–6]: During the summer, the sun rays and the warmth radiating from the hot ground pulsate together and come into sensory connection with the visual organ of a person situated at a distance. In such a situation, the cognition "Water" arises for the observer owing to the connection between his sense organ and the object. So to exclude such false cognition from the definition of perception proper, the author of the sūtras includes the qualifier "**inerrant.**" Error is to cognize something as other than it is, a cognition *deviating* from what is true. Perception, which is inerrant, cognizes something as it truly is, *undeviating* from what is true.

As noted earlier, Nyāya uses terms for knowledge sources and their results factively. Considering sight, for example, a perceptual illusion such as a mirage does not count as a proper or genuine instance of perception. It is rather a perception-imitator, a pseudo-perception. Below, Vātsyāyana, Uddyotakara, and Vācaspatimiśra discuss the fourth condition, that perceptual cognition is definitive.

Vātsyāyana [11.7–9]: A person looking at something at a distance is unable to determine precisely what it is, whether it is smoke or a cloud of dust. So to exclude from the ranks of genuine perception such unclear cognition which does arise from a connection between a sense faculty and an object, the sūtra-maker uses the qualifier "**definitive.**"

Vācaspatimiśra interprets the word "definitive" in a different way than his predecessors and alters all subsequent Nyāya understanding of perception. He reads two criteria in the sūtra, "definitive" and "does not depend on words," as describing two separate kinds of perceptual experience, determinate and indeterminate, where the former is conceptually structured and the latter is not. By this, he allows indeterminate perception—long championed by Buddhist thinkers—a place within the Nyāya theory. By allowing some of the Nyāya theory of perception to accord with the Buddhist view, Vācaspati takes a big step towards Buddhist phenomenalism, which holds that conceptually rich experience is actually inferential, while real perception consists in raw, unconceptualized experience. These Buddhist thinkers hold that things such as the chairs and tables of our current experience are largely our own conceptual projections. But, crucially, Vācaspatimiśra is able to incorporate the notion of indeterminate perception into the Nyāya view without surrendering the commitment to realism, that such things do exist external to our perceptions. For Nyāya, external objects are causes of perception by entering into connections with sense faculties, and our object-directed concepts thereby originate in features of the external world. For the Buddhist, in contrast, we impose concepts on the world according to our desires. Thus, while Nyāya accepts and extols concept-laden perception, Buddhists hold that concept-laden cognition is not genuine perception, since it is we who make up and project concepts. The Buddhist view sees perception and conceptualized awareness as fundamentally incompatible and perception as only indeterminate. There is no determinate or "definitive" variety.

After laying out several Buddhist arguments in support of this view, Vācaspatimiśra answers with realist rebuttals and counterarguments. Note that he calls objects "efficacious" in order to express the idea that they are capable of acting as causes of perceptual knowledge by entering into relations with our sense faculties. They are also efficacious in the further sense that through our sensory experience they can satisfy our desires.

Vācaspatimiśra [111.9–21]: We have a reply to what was charged earlier, that there is incompatibility between (a) a genuine perception, produced directly from an efficacious object, and (b) a mental occurrence incapable of sensory relationship but which is expressed in words. Our answer is that there would be incompatibility if the object of perception were (as Buddhists propose) a *unique particular* (*svalakṣaṇa*). However, it is not that. For, as will be established, the object of perception that exists as ultimately real is endowed with universals or class properties, endures the passage of time, and is entirely capable of both producing sensory relationships and being expressed by words. Thus there is no incompatibility between (a) an instance of perceptual knowledge that is generated by an efficacious object, and (b) a mental occurrence that is itself admittedly incapable of a direct sensory relationship but which is expressed in words. And so our opponent's argument that relies on an alleged incompatibility (*prasaṅga*) proves to be dubious in its reverse form (since the object of perception produces both the immediate sensory relationship and the concept-laden perception).

Furthermore, it is wrong to hold that our thoughts are mere imaginations when we conceive of class characteristics and so on as distinct when they really are not distinct from what we call substances and so on; in other words, it is wrong to hold that such characteristics are not generated in conformity with real capacities of the object. For, as will be argued, there is a distinct difference between class characteristics and a substance (between Bessie the cow as a particular property-possessing substance and the properties or class characteristics such as cowhood that she possesses). And although there is this distinct difference, there are words for these distinct entities that all refer to the same individual (for example, "Bessie is a cow," where "Bessie," the proper noun, and "cow," the class term, both refer to the same individual), as will be shown later on.

And it is wrong to suppose that in the case of a distinct word such as "Ḍittha" used in a statement such as "That is Ḍittha" ("Ḍittha" being a common name for a person, like "John"), that the ideas we have about the thing are not generated by the object because the thing's unity is constructed

imaginatively. We have already pointed out in introductory comments on the expression "**does not depend on language**" in the definition, that as objects do not contain within themselves the words that designate them, the two things (object and word) cannot both be in immediate sensory relationship with respect to an instance of perceptual knowledge if it is produced by a single sensory connection. Rather, at first something which possesses certain universals is immediately perceived (without the subject's thinking of the appropriate word). An individual, remembering his own previous experience, recalls the word that was used also at that time. All theories must accept this. But remembering the word is of no use whatsoever when it comes to generating perceptual awareness. Otherwise, such creatures as children and the mute would not have sensory presentations since they have no memory of words.

"Unique particular" translates sva-lakṣaṇa, *"that which is its own mark," which, according to Buddhist phenomenalism, is the true object of perception. Such completely unique entities cannot be conceptualized or captured by words for common characteristics.*

The "reverse form" of a general rule in an argument is akin to what is called contraposition in propositional logic. To use a simple example, the correlation between smoke and fire (wherever there is smoke, there is fire) *has a "reverse form" in the correlation between the absence of fire and the absence of smoke* (wherever there is no fire, there is no smoke). *The reverse form of the Buddhist's rule is: "Whatever is in immediate sensory connection, that is a unique particular free from concepts." Vācaspatimiśra argues the rule is wrong because the objects of perceptual experience are describable, talked about in common language. Technically, they are typically substances bearing universals and other properties capable of being linguistically expressed.*

In sum, Vācaspatimiśra allows a place for indeterminate perception by introducing into Nyāya a two-stage theory of perception that owes much to the Mīmāṃsaka philosopher Kumārila (c. 700), a fellow realist. In the first stage, perception is non-concept-laden, an unverbalizable sensory presentation that becomes in the second stage verbalizable and concept-laden. The concept typically comes from prior experience, for example, of cows, and memory for the bit of perceptual knowledge, "That's a cow." But for, say, a child's first-time perception of a cow, the concept comes purely from the world and perception's first stage, although the child does not know the right word.

Vātsyāyana now discusses the status of apperception, which is an "inner" perception of one's own mental states.

Vātsyāyana [11.15–21]: Objection: The definition of perception should allow for the experience of objects such as one's self (*ātman*) and awareness of one's own pleasures, but it does not. For knowledge of one's self or of pleasure, etc., is not generated by sense-organ connection with the object.

Answer: The faculty here is the "mind" (*manas*), which is an inner sensory organ. We shall take it up later separately from other sense organs because of their differences in nature.[3] . . .

Furthermore, we learn that *manas* is the sense organ for internal perception from the views of another system (the Vaiśeṣika). Reasoning within other systems is to be accepted if we have no view that contradicts it.

Our commentators argue that the "mind" (manas, *sometimes translated "inner organ" or "mental organ") must be accepted as an inner sense.* Nyāya-sūtra *1.1.16 says that a* manas *must be accepted if we are to account for the nature of selective attention. As mentioned here, it is also accepted as the "sense faculty" involved in an individual's self-knowledge and awareness of her own mental states. Note that the self is always the perceiver, not the internal organ, which is responsible for delivering cognitive and non-cognitive content to the self.*

Having completed a preliminary discussion of perception, Vātsyāyana follows the sūtra-maker in turning next to inference as a distinct knowledge source.

3 Under *Nyāya-sūtra* 1.1.16 in particular.

1.1.5: Next is inference, which depends on previous perception and is threefold: from something prior, from something later, and through experience of a common characteristic.

Vātsyāyana [12.4–16]: The phrase "**depends on previous perception**" refers to (i) perception of the relationship between an inferential mark and what it marks, as well as (ii) perception of the mark itself. Perception of an inferential mark and what it marks as bound together secures recollection of the mark as inferential. By such recollection, coupled with fresh perception of the mark, an unperceived object is inferred.

*An "inferential mark" (*liṅga*) is a sign or indicator that reliably indicates some other thing (*liṅgin*, the "indicated"). For example, dark billowing smoke pouring out of the windows of a house indicates fire inside. Inference is the capacity to gain knowledge by noticing the tie between inferential marks and the things they indicate. To use the same example, one seeing smoke knows there is fire through inference. In the context of argument and proof, an inferential mark such as smoke is called a "prover" (*hetu, sādhana*) and is cited to provide inferential support for a disputed thesis involving a "property to be proved" (*sādhya*), in this case, fire.*

"Property to be proved" is a cumbersome phrase, but there is no common English word that captures sādhya *effectively, and it will therefore be our standard translation of* sādhya *in this volume. Please see Chapter 9, "Debate," for detailed discussion of the five-step Nyāya proof.*

Vātsyāyana will now chart some of the major ways that an inferential mark and property to be proved are tied together according to the sūtra.

"**From something prior**" means an effect is inferred from its cause. For example, from swollen clouds one infers that it will rain. "**From something later**" means a cause is inferred from its effect. For example, seeing a formerly calm river brimming with rushing water, one infers that it rained upstream. "**Through experience of a common characteristic**" occurs, for example, when one sees something that was formerly in one place but is now in another owing to its movement. So from change of location, one infers the movement of the sun though one does not watch it move.

Alternatively, "**from something prior**" means inference of something currently unseen when observing something with which it was formerly found to be connected. For example, inferring fire from smoke.

Alternatively, "**from something later**" means argument by elimination. When, among various competing options, one remains unrefuted while the others succumb to untoward consequences, that one is the right view. For example, there are inferences like the following about something that exists and is thus impermanent: given doubt regarding the ontological category into which sound should be placed, it is concluded (in the *Vaiśeṣika-sūtra*[4]) that sound, since it is real, is impermanent and cannot be a universal, a "distinguisher," or inherence (these being eternal and not strictly real or existent). It must therefore be a substance, a quality, or an action (the remaining basic ontological categories according to Vaiśeṣika). But which of the three? Sound is not a substance, as it inheres in a single substance. It is not an action, as it is caused by another sound. One infers that sound is a quality, since that is the only option remaining.

Alternatively, "**from common experience**" means that when the relationship between an inferential mark and what it marks is not perceived, one infers an unperceived object through a mark that has similarity with something else. For example, one infers the existence of the self from desire and the like.[5] Desire and the like are qualities, and qualities inhere in substances. That substance in which desire and the rest are situated is the self. . . .

Perception targets existing things, while inference targets both things that exist and things that do not exist. How so? It's because inference ranges over the three times, past, present, and future. For objects in all three times are grasped by inference—"It will be," "It is," "It was"—and indeed things past and future are non-existent.

Vātsyāyana's argument takes the form of elimination of candidates drawn from the Nyāya-Vaiśeṣika categories. See the

4 *Vaiśeṣika-sūtra* 2.2.27.

5 The inference is elaborated at *Nyāya-sūtra* 1.1.10.

chart provided in Chapter 5, "Substance and Causation," for a diagram of the Nyāya-Vaiśeṣika ontology. The substance in which sound is thought to inhere is called ether (ākāśa). Now, composite substances, such as a pot or a wagon, can inhere in things. A wagon inheres in its parts, and the parts in further parts down to non-composite substances, atoms. But all substances either inhere in nothing—such as atoms—or they inhere in two or more things—such as a dyad, which is something that inheres in two atoms. Sound inheres in ether, but ether is thought to be a non-atomic substance without parts. Ether, the medium of sound, is considered to be a single, all-pervading substance that inheres in nothing further. Sound thus inheres in a single substance and cannot be a substance. Sound cannot be an action either because actions have different causal powers than sound. "Quality" is the only remaining basic category on the Vaiśeṣika list. Thus sound must be a quality. Nyāya-Vaiśeṣika ontological positions often show a remarkable sensitivity to considerations of overall coherence, as is evident in the complexity here.

In order to bring out the varied ways that inference relates to other knowledge sources, Uddyotakara begins his commentary by providing different, yet consistent, readings of the qualifiers in the inference sūtra.

Uddyotakara [41.5–7]: We can read the definition as saying "**depends on *them***" and in that case what is meant by "them" *is* ***all the* pramāṇas**, such that what is being taught is that inference can depend on prior input of any knowledge source. One may still say that perception is the foundation of inference, as Vātsyāyana has, since in one way or another all knowledge depends on perception.

The sūtra reads "preceded by that," where "that" (tat) is a pronoun in a compound. As it is in a compound, the word is not explicitly declined, and its grammatical number must be unpacked according to context and its anaphoric referent. Here "that" is most straightforwardly read as referring to perception, the topic of the previous sūtra, and that is how Vātsyāyana understands the word. But the pronoun could in principle be understood differently. By reading it as plural in number, Uddyotakara takes the opportunity to make clear that the inferential marks that trigger inference need not be perceptually generated. They may be produced by any knowledge source. For example, we could infer fire upon seeing smoke over a hill, and then surmise that given such a fire it's likely that campers on the hill are cooking their midday meal. Below, Uddyotakara offers another way to read the "that" in the definition.

[41.7–12] Or, "depends on previous perception" may be read to say "depends on two perceptions." Which two perceptions? The first perception would be experience of the relationship between the inferential mark and what it marks (for example, previously seeing smoke flowing from fire); the second would be the current experience of the mark itself (for example, seeing smoke currently without seeing fire). Consider a subject who desires to know something. By seeing the inferential mark in the second sort of perception, recollection is triggered through the arousing of a mental disposition formed by her previous experiences of the mark and what it marks together. This is immediately followed by the second sort of perception of the mark in view, another viewing of, for instance, smoke. This final perception, assisted by the recollection and previous experiences, takes the form of "reflection on an inferential mark" (*liṅga-parāmarśa*), in other words, inference.

To paraphrase, in the Nyāya view, both current perception of an inferential mark and memory of the connection between the mark and what it marks are included within inference, being necessary for inferential knowledge. But concerning the relative importance of all contributing factors, it is reflection on the mark that is the most crucial. Why? Because inferential knowledge follows immediately after such reflection. Above, Uddyotakara explains why it is commonly said that inference amounts to a triple perception, where the third perception is perceiving an inferential mark in just the right way, namely, as informed by prior knowledge of its connection to the object of the inferential knowledge to come (e.g., of fire). So, to summarize by using our stock example: an individual perceives smoke, and that triggers a memory formed by previous

perception of smoke and fire together, which prompts her to finally see the smoke as indicating fire. *The third and final perception is "reflection on an inferential mark."*

Below, Uddyotakara interprets the declaration that "inference is of three kinds" to refer to three specific logical forms that remain important for much of Nyāya's later history. Let us review the inferential terminology. When discussing an argument or inference-for-another (see Chapter 9, "Debate," for exposition of the statement form), an inferential mark is called a "prover" (hetu, sādhana) *and the property that is marked is called the "property to be proved"* (sādhya).

Uddyotakara [43.7–12]: **"Inference is of three kinds,"** says the sūtra. These may be taken to be the "positive-negative" (*anvaya-vyatirekī*), the "positive" (*anvaya*), and the "negative" (*vyatirekī*).

Among these, the positive-negative inference has an inferential mark (for example, smoke) that is present in the subject targeted (yonder mountain) and possibly similar things (other mountains, etc., where there is fire) while being absent wherever the property to be proved (fire) is known not to exist (for example, a lake). For example,

> Sound is impermanent,
> because, while possessed of both universal and particular features, it is perceptible by external sense organs such as ours,
> like a pot, etc.

The positive inference has an inferential mark that is present in the subject targeted and similar things, while there is no example where the property to be proved is known to be absent. For instance, those who hold that all things are impermanent argue:

> Sound is impermanent,
> because it is produced.

For, to one who holds that all things are impermanent, there is no known example of a permanent entity.

The negative inference has an inferential mark that (a) is co-extensive with the subject of the inference, such that there are available no similar examples (no example in addition to the subject), and (b) is absent where the property to be proved is known not to occur. For instance,

> A living body is not devoid of a self,
> because that would entail the unacceptable consequence of its being devoid of life.

Here Uddyotakara introduces a classification of inference that in later Nyāya reflection supercedes other divisions. The most commonplace inferences are backed up by examples known to have both the prover, for example, smoke or smokiness, and the property to be proved, for example, fire or fieriness, present together, as well as by known absences of the property to be proved (no fire) correlating with known absences of the prover (no smoke). This type is called positive-negative.

The positive-only is backed up only by examples of positive correlations between prover and property to be proved. This type of inference occurs when there are no known instances of the absence of the property to be proved. For example, "Whatever is nameable is knowable," where there is no known example of something not knowable.

The negative-only is backed up only by examples of negative correlations between known absences of the property to be proved and known absences of the prover, there being no examples outside the inferential subject where the property to be proved is known to occur. In later in-house discussions as well as in controversies with Buddhists and others, it is the negative-only that is the most suspect. Only living bodies have selves, and having a self (or not being devoid of a self) correlates with being alive, but there is no example of something having a self (the property to be proved) and being alive (the prover) outside of the inferential subject taken to be all living bodies. But there are plenty of examples of negative correlations: wherever there is no self, for example, in a pot, there is no life.

Next is the sūtra on analogy. Vātsyāyana treats analogy as a knowledge source for learning word-meaning in certain circumstances. Analogy tends to have a secondary status for Nyāya. Often in his commentary, Vātsyāyana fails to mention it while listing the other sources: perception, inference, and testimony. Some Nyāya philosophers explicitly agree with Vaiśeṣika and others that it is not a separate pramāṇa. *However, mainstream Nyāya accepts it as an independent knowledge source along with the other three, arguing that the knowledge it produces could not be due to another kind of knowledge source.*

1.1.6: Analogy produces knowledge through similarity with something familiar.

Vātsyāyana [13.11–19]: The sūtra says that **analogy** produces knowledge of what is to be known through commonality with something already known. For example, it is said that a gayal (a rare kind of buffalo) is like a cow. What is being done by analogy here? If someone understands that the animal in question has properties that it shares with a cow, then upon seeing the creature he understands that *this* is the very animal. Thus the sūtra-maker says that the function of analogy is to learn the connection of something to its name. For example, if someone has learned from an analogical statement that a gayal is like a cow, then through perception of an animal that shares properties with the cow, she knows, "The word 'gayal' is the name of that animal." In this way, knowledge of the connection between the name to the named is produced.

To give another example, through analogical statements such as "The wild bean herb is like the mungo herb," or "The glycine bean is like the lentil bean," a person learning by analogy what is meant by such names may go on to gather the one or the other plant for the purpose of making a remedy. In this way, the province of analogy includes a good many other things in the world about which we want knowledge.

The fourth and last knowledge source on the Nyāya list is testimony. The nature and authority of testimony is hotly disputed among all the classical schools. Not only Buddhists but also followers of the Vaiśeṣika school and others would reduce testimony to a subspecies of inference, one based on a subject's knowledge that the testifier is trustworthy.

1.1.7: Testimony is instruction by a trustworthy authority.

Vātsyāyana [14.4–7]: A trustworthy authority (*āpta*) is someone who knows something directly, an instructor with the desire to communicate it faithfully as it is known. To be trustworthy (*āpti*) is to have direct knowledge of something. One who operates on this basis is a **trustworthy authority**. The criterion applies equally to sages, respected members of one's own community, and those outside the fold. And all people's practices of speech and action (*vyavahāra*) proceed on the basis of testimonial knowledge.

Uddyotakara [57.3–8]: (In order to reject testimony as a separate knowledge source, an opponent argues as follows.)

> Regarding the sūtra, "**Testimony is instruction by a trustworthy authority**," mustn't the veracity of such authorities be confirmed? Or rather would one independently have to confirm the truth of the claims about the object? If it is the former, that would come by inference. If the latter, that too would come otherwise than by testimony; it would come by perception.

We reject this line of argument, as it does not properly grasp the meaning of the sūtra. This is not the meaning of "**Testimony is instruction by a trustworthy authority**." Rather, the sūtra means that the point of testimony is to produce understanding through uttering words, regarding objects within the range of sensory connection and for those beyond it (such as heaven). Thus the dilemma put forth is irrelevant.

Uddyotakara insinuates here the Nyāya view of the Veda as testimony about matters beyond the range of the senses, like heaven or liberation. The idea is expanded under the next

sūtra. But first, as this sūtra is the final introduction of the concept of a knowledge source, Vātsyāyana says about the sources in general:

Vātsyāyana [14.6–7]: Practices and activities of gods, humans, and animals succeed through the operation of the knowledge sources as explained, and not otherwise.

1.1.8: Such testimony is of two kinds, because it has two kinds of object: that which is experienced (here in this world), and that which is not experienced (here in this world).

Vātsyāyana [14.10–14]: Something **experienced** is an **object** of which there is experience here in this world. Something **not experienced** is an **object** which is discerned elsewhere. Thus (a) statements made by sages (statements about heaven for instance) and (b) statements made by ordinary folk are distinct.

What is the point of mentioning this? It is that a person should not hold that the **instruction of a trustworthy authority** is a knowledge source only with respect to something **experienced**, thinking that in such a case alone is the object definitively known. No, with respect too to that which has *not* been experienced, testimony *is* a knowledge source, because there could be inference (for example) to such an (unexperienced) object.

*Just as one could in principle come to perceive directly something in this world that in fact one knows by testimony (e.g., "There is a crack in the Liberty Bell"), so sages and yogis can make authoritative statements about things not experienced by ordinary folk because they have extraordinary perceptual experience—"yogic perception" (*yaugika-pratyakṣa*), which is to include, by Nyāya's lights, special auditory experience of sages who have "heard" Vedic verses. Indeed, ordinary people can make inferences about things that they have not personally experienced insofar as the inferences would be based on what they have learned from such authorities. In other words, there can be inferential support for the existence of otherworldly objects (such as heaven), taking as*

premises what sages have said based upon their extraordinary perceptions. Similarly, in our own era there are scientific and historical claims we take to be true on the basis of expert testimony, but which we could never verify by our own direct experience. We may nevertheless make supporting inferences in such cases, appealing to the authoritativeness of the speakers who provide our premises.

Uddyotakara [57.10–14]: The point of saying **testimony is of two kinds** is to provide a fixed categorization. Authoritative traditions which are in many ways different are sorted into two basic categories according to their content as perceptual or inferential.

Alternatively, the sūtra says that there are two kinds of *speaker* since some talk about experienced objects while others talk about unexperienced objects. . . . The criterion for authority is the same, whether with regard to **sages, respected members of one's own community, or those outside the fold**. No separate rules have been expressed, because we see that everyone's activities and practices proceed according to traditions transmitted by testimony.

Suggestions for Further Reading

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Study Questions

1. Write out the definitions of the following, according to the text:

   pramāṇa
   perception
   inference
   analogy
   testimony
   inferential mark
   reflection on an inferential mark
   pervasion (sometimes translated as "correlation")

2. Explain the role of "success in action" in Vātsyāyana's discussion of the importance and nature of knowledge sources.

3. What does it mean to claim that a knowledge source is factive or inerrant? How, then, do Naiyāyikas explain false cognition or error?

4. What innovation does Vācaspatimiśra introduce into Nyāya theory of perception by his novel explanation of the phrase "does not depend on words"? How does he argue that perception can generate true, propositionally structured awareness, opposed to the view of his Buddhist adversaries?

5. In Uddyotakara's discussion of inference, why is "reflection on an inferential mark" sometimes called "the third perception"? What are the other two perceptions, and how do all three work together?

6. Explain the following inference patterns discussed by Uddyotakara: "positive-negative," "positive," and "negative."

7. What does it mean to say that testimony "is of two kinds"? Is this a defensible position?

8. What qualifications make a person a trustworthy authority according to Vātsyāyana? Does one have to know that the testifier is trustworthy, or must he simply be trustworthy? What is the Nyāya view, and is it correct in your estimation?

9. Give an example from your own life of things you know from each of the three *pramāṇas*: perception, inference, and testimony. Could you know it in another way? How about analogy? Is analogy the only way to learn what a word means?

10. What does it mean to say that Nyāya's *pramāṇa* theory is not robustly "internalist" and focuses instead on the role of causation in generating positive epistemic status?