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## BUDDHIST EPISTEMOLOGY

For Buddhist thinkers philosophy should aid one in eliminating suffering and obtaining happiness. They maintain that to achieve those ends, one must eliminate ignorance (*avidyā*), a fundamental mental flaw that is suffering's basic cause. Although variously construed ignorance inevitably involves the mistaken belief that a fixed, unchanging personal essence, or *ātman*, lies at the core of each person's identity. Hence, to eliminate ignorance one must eradicate that belief, and to do so Buddhist philosophers stress the importance of seeing things as they are (*yathābhūta-darśana*), a corrective cognitive state through which one knows that persons necessarily lack essence. The need to give an account of such a state leads to a concern with epistemology in Buddhist thought from its earliest period (500 BCE–100 CE) in South Asia.

Although early Buddhism evinces a nascent epistemology, precise and sophisticated accounts of knowledge do not begin until adequate tools are developed by South Asian philosophers, primarily non-Buddhists, starting no later than the first century CE. The Buddhist theorist Vasubandhu initially appropriates these tools, but Dignāga first employs them in a manner that reflects all the issues addressed by later Buddhist epistemologists. Finally, Dharmakīrti modifies and expands Dignāga's work in such a manner that all subsequent Buddhist epistemologists in India and Tibet cast their work as interpretations of Dharmakīrti's philosophy. Hence, for the purposes of this entry, *Buddhist epistemology* refers to the thought of Dharmakīrti and his subsequent interpreters in both India and Tibet, where epistemological works continue to be composed. In their voluminous writings Buddhist epistemologists express a variety of competing views developed in distinct historical contexts. Nevertheless, they largely agree on the following central theories and principles.

## MODEL OF KNOWING

Buddhist epistemologists examine knowledge in terms of a knowledge-event or act of knowing (*pramiti*). Their account rests on the claim that the mind consists of a series of causally related, instantaneous mental moments, each of which is ontologically irreducible. Thus, as a mental event the act of knowing is ontologically identical to a mental moment. The act of knowing occurs when the mind comes into a direct or indirect causal relation with an object such that, with other conditions in place, the next mental moment contains an image (*ākāra*) of the object. Due to the ontological unity of a mental moment, the notion that the mental moment contains an image of the object is metaphorical; in fact, the image is ontologically identical to that mental moment itself. Nevertheless, from a phenomenal standpoint the act of knowing presents itself with two images, the aforementioned object-image (*grāhyākāra*) and a subject-image (*grāhakākāra*). The latter accounts for the sense of subjectivity in the act of knowing, whereas the former accounts for the content of the cognition.

On the Buddhist theory of mind all cognitions must have an object, which is to say that all cognitions have an object-image. Not every cognition, however, is an act of knowing. Instead, only two types of cognitions—perception (*pratyakṣa*) and inference (*anumāna*)—can be acts of knowing because only they can satisfy two criteria: they are reliable (*avisamvāda*) and they are motivators of action (*pravartaka*). Reliability concerns the justification of knowledge. The fact of being a motivator of action is a psychological feature that reflects teleological and ontological concerns.

## RELIABILITY

For Buddhist epistemologists, an act of knowing—whether it be a perception or an inference—is reliable in that it directs one to an object with the desired telic efficacy (*arthakriyā*). On this criterion an act of knowledge is distinguished from an unreliable cognition in one of two ways: Either it directs one to an object that can fulfill a particular goal, or it presents itself as the fulfillment of that goal. Suppose, for example, that one is cold, and that one seeks to warm one's hands at a fire. Because the hearth contains a fire that is capable of fulfilling one's goal, the perception of a fire in the hearth is deemed reliable. When one reaches the hearth, the sensation of heat on one's hands is itself the fulfillment of one's goal. Thus, that cognition of heat is also reliable.

By grounding reliability in telic efficacy Buddhist thinkers seek to justify beliefs by interpreting them as

descriptions of their objects' causal characteristics. Hence, the ultimate arbiter of a cognition's reliability is the way in which it presents its objects in causal terms. If it presents the object's causal characteristics such that the object is capable of functioning in the expected fashion, then the cognition is reliable; otherwise, it is not. In some cases the evidence for the desired functionality is given with the cognition itself: for example, the sensation of warmth requires no other cognition to verify that one is feeling warm. Such cognitions are said to be intrinsically (*svataḥ*) reliable, and this applies to all inferences and some perceptions. In other instances of perception another cognition must verify the cognition's content. One may only glimpse the fire from a corner of the room, and one must appeal to inferential evidence (such as smoke) or a subsequent perception to verify that one was indeed seeing fire. A perception that requires such confirmation is said to be extrinsically (*parataḥ*) reliable.

### PURPOSE AND MOTIVATION

Arguments for a cognition's reliability generally serve to justify a belief. Thus, one's belief that "there is a fire in the hearth" is true inasmuch as the cognition that includes that belief reliably represents the causal characteristics of the object in question. For that cognition to be an act of knowing, however, that cognition must include other dispositions. Of prime importance is the desire to know (*jijñāsa*) without which the cognition could not arise: it may be true that "there is a fire in the hearth," but without some purpose one will not have a cognitive event in which that belief occurs. Thus, for Buddhists the account of knowledge as justified true belief is inadequate if that account ignores the role played by cognitive dispositions, especially those related to purpose.

In appealing to dispositions related to purpose Buddhist epistemologists hold that the reliability of a belief shifts according to the purpose to which it is tied. One might believe, for example, that the object on one's table is an unbreakable vase, although it is in fact fragile. Relative to the purpose of containing a bouquet, the cognition in which that belief occurs is reliable, since the vase can function so as to hold flowers. But relative to the aim of cracking a walnut's shell, a cognition in which that belief occurs would not be reliable, since the vase lacks the causal capacity to crack open a nut. By thus evaluating complex beliefs within various teleological contexts, Buddhist thinkers can accept some philosophical claims in one context, while rejecting them in another—a strategy that is central to Buddhist soteriology.

In relating reliability to purpose Buddhist epistemologists argue that an act of knowing must not only be reliable but must also be a motivator of purposeful action. Frequently, this assertion is formulated as a requirement for novelty, whereby an act of knowing reveals a previously unknown object (*ajñātārthaprakāśa*). On either version—motivation or novelty—this requirement points not only to the role of purpose but also to the notion that an act of knowing reduces doubt. That is, the cognition must pass a threshold whereby the person, usually idealized as judicious (*prekṣāvant*), is willing to act on a particular goal based on the content of that cognition. The early epistemologist Dignāga appears less concerned with the utter removal of doubt, but Dharmakīrti and most subsequent thinkers maintain that an act of knowing grants apodictic certainty, even if certainty must sometimes be supplied by a subsequent cognition.

Finally, the notion that an act of knowing must motivate action is also tied to ontological issues. The chief concern here is to eliminate the possibility that universals could be the objects of perception. As will be evident in the following text, the Buddhist strategy is to make perception the actual motivator of action, while relegating the determinate content of perception to a subsequent judgment, which is not strictly speaking the motivator.

### PERCEPTION AND ILLUSION

As one of the two types of cognitions that are both reliable and motivate action, a perception is an act of knowledge. The Buddhist model of perception is causal and eidetic: an object interacts with a sense-organ such that, with other factors in place, the next moment of mind occurs with an image or simulacrum (*sādṛśya* or *sārūpya*) of the object. Unlike inference, in perception the image is produced directly by the object, and the reliability of perception is based on this direct causal relation.

As a mental moment, a perception is causally conditioned by the previous mental moment, including all the dispositions and physiological conditions that contribute to its occurrence. In a perception, however, not only the previous mental moment but also the perceived object is contributing causally to the occurrence of the perception. Hence, the causal character of the mental moment that is a perception is restrained (*niyata*) by the causal characteristics of the object to which it is in relation through the sense organ. Thus, a perception is reliable—it accurately reflects the object's causal characteristics—because the causal constraints imposed by the object on the perception's contents are indicative of that object's causal characteristics. To put it another way, the perception of blue is

a reliable indicator of its object's causal characteristics because when that content—an image of blue—is the undistorted effect of an object, it can only be produced by an object with the causal capacity to produce a blue image.

This appeal to a causal relation between perceptual content and object compels Buddhist epistemologists to face the problem of illusion. A favorite Tibetan example is the “blue snow mountain”: When one looks at a snowy Himalayan peak on a clear day, the snowcap appears blue because it reflects the sky's color. Here, the cognition is a spurious perception (*pratyakṣābhāsa*) because it lacks reliability, in that snow is not blue. But since the perceptual content—the image—is distorted by causal factors not given with the object, the content itself does not provide any basis for recognizing that distortion. Instead, some other perception or inference would need to reveal that distortion. Still, as noted earlier, some perceptions are alleged to be intrinsically reliable, such that they do not require confirmation by a subsequent act of knowing. What then would distinguish those perceptions such that, unlike the sight of “blue snow,” they could never be spurious?

Buddhist epistemologists do not provide an easy answer to this question, but their theory of perceptual judgment provides a partial response. On their view perception itself is indeterminate in that it involves no conceptual or linguistic operation. A purely indeterminate cognitive event, however, cannot be either reliable or unreliable because it conveys no knowledge about the causal characteristics of its object in relation to one's goal. Hence, the reliability of a perception consists in that it leads to an immediately subsequent perceptual judgment (*tatprṣṭhalabdhaniscaya*) that does provide that knowledge. Strictly speaking, only the judgment is reliable or unreliable, in that it only describes the object in a determinate fashion. Nevertheless, since the form of that judgment is causally constrained by the image presented by indeterminate perception, the perception itself is considered reliable.

Returning, then, to the problem of illusion, the theory of perceptual judgment means that an uninterpreted perception could not itself be an act of knowing because, lacking any depiction of its object's causal characteristics, it could not be reliable. But when the subsequent judgment describes the object, it must do so in relation to a particular goal. One explicit outcome of this in theory is that a perception may only be partially reliable in that it can lead to correct judgments in regard to one goal, but not in regard to some other goal. For example, the per-

ceptual content interpreted as “blue snow” might be unreliable in regard to one's need to identify a blue object, and yet it may still be reliable in regard to the need to identify snow. Although the implications of this claim are left covert, it seems likely that for Buddhist epistemologists one factor in the intrinsic reliability of some perceptions is that the goals in question are such that the perceptual content could never be erroneously interpreted. In other words the teleological context constrains the perceptual judgment such that incorrect interpretations of the perceptual content cannot occur in those cases.

## PERCEPTUAL JUDGMENT AND ONTOLOGY

Besides its role in intrinsic reliability, the theory of perceptual judgment is also closely allied to Buddhist ontological concerns. For Buddhist epistemologists to exist is to be knowable (*jñeya*), and since knowledge is a causal process, an existent entity must therefore be causally efficient; likewise, any causally efficient entity must exist. The paradigmatic case of an entity's causal efficiency is its capacity to produce an image of itself in a perceiver's mind, and it is for this reason that Dharmakīrti remarks, “To exist is to be perceived” (*sattvam upalabdhir eva*). Moreover, since any object of perception must exist, Buddhists are careful to exclude the possibility of perceiving any metaphysically objectionable entity, such as a fixed personal essence. Largely because a personal essence is considered a special case of a universal, Buddhists likewise reject the existence—and hence the perception—of universals. Instead, only particulars (*svlakṣaṇa*) truly exist, and particulars alone are the objects of perception because only particulars are causally efficient.

Perception cannot include universals, and linguistic or conceptual cognitions must include universals. Hence, perception must be a sheer apprehension of an object that is not linguistic or conceptual in character. But as noted earlier, the criterion of reliability requires a determinate cognition, which is necessarily conceptual or linguistic in form. Hence, on the one hand, perception must be the immediate apprehension of a particular through a nonconceptual image in the mind and, on the other hand, to be reliable and to motivate action, that nonconceptual content must be interpreted by a determinate cognition. The solution is to relegate the determinate aspect of a perception to an immediately subsequent judgment, and in doing so Buddhists avoid the notion that linguistic or conceptual entities—that is, universals—are the objects of perception.

## INFERENCE AND THE PROBLEM OF REFERENCE

Besides perception, inference is considered an act of knowing. As with perception, inference is a cognitive event in which an image of the object appears. Unlike perception, however, the image in an inference is not directly produced by the object. Instead, it bears an indirect causal relation to the object in two ways, namely, by way of the relations on which an inference relies and by way of the process of constructing universals.

The Buddhist approach to universals is central to their theory of inference because inferences are conceptual or linguistic acts of knowing. Moreover, their theory arises in response to the way their non-Buddhist rivals address the problem of reference. In short, these rivals claim that, for words to successfully refer to their proper referents, they must always have a relation to those referents and only to those referents. The word *cow*, for example, should refer only to a cow, and not to something different, such as a horse. Each individual cow, however, is different from every other cow. Hence, if the word *cow* were to stand in a direct relation to one individual cow, it should always refer only to that individual. Such would be the case because the word *cow* should never refer to something that is different from its proper referent, and if the proper referent of the word *cow* were a particular cow, then by referring to some other cow, the word *cow* would be referring to something different from its proper referent. And if the word *cow* can refer both to its proper referent and something other than its proper referent, why should it not refer to a horse?

Most South Asian thinkers solve this familiar problem in the philosophy of language by positing the existence of real universals (technical terms for which include *sāmānya*, *jāti*, and *ākṛti*). On this model, the word *cow* does not have a direct relation to any particular cow. Instead, it is directly related to the universal “cowness.” Nevertheless, the word *cow* still refers successfully to each individual cow because the universal cowness is necessarily instantiated in each individual cow. A word such as *cow* thus refers to each particular cow by virtue of the universal cowness to which both the word and each particular are related. On this view one can thus say that all cows are the same not because each individual is identical, but because each individual instantiates that one universal cowness.

This model is problematic for Buddhists because it would justify the false belief in a personal essence. That is, just as cowness is present in each different cow in time and space, so, too, a personal essence would be present in

all the different spatiotemporal instances of what people consider to be one person. To avoid this outcome, Buddhist epistemologists therefore deny the ultimate reality of universals as things in the world. Thus, for them the universe is populated by spatiotemporally unique particulars, and nothing more. All cows are in fact unique; one only thinks that they are the same because one constructs a universal or sameness (*sāmānya*) for them. So too, each spatiotemporal instance of a person is actually unique. “John” at birth and “John” at forty-five are actually different. When one constructs a sameness that warrants one’s use of the label “John,” one falsely believes that the sameness is not constructed, but real.

## THE EXCLUSION THEORY

Although Buddhist epistemologists deny the ultimate existence of universals, they nevertheless adopt their rivals’ approach to reference. They are therefore obliged to formulate a theory that, while denying the ultimate reality of universals, accounts for the way that universals may be contingently constructed so that words may refer to their referents. Buddhists develop a model known as the exclusion theory (*apohavāda*), and to do so they once again resort to causality. In brief, the sameness required to construct the universal cowness is formulated by appealing to the causal characteristics of the individuals in question. More specifically, even though all individual cows are in fact utterly unique and distinct, one may ignore the differences among them and focus instead on the way they are different or excluded from all other entities. That difference or exclusion from other entities is a matter of causality: All cows are the same in that they are all equally different from those entities that are not capable of the causal functionality that one expects when one uses the word *cow*.

Here as well, the paradigmatic case for causal functionality is a perceptual image. Thus, all cows are the same in that they produce the same effect, namely, the same perceptual image in the mind. The problem, however, is that just as each cow is a unique individual, so, too, each perceptual image should also be a unique mental particular. Hence, Buddhist epistemologists must argue that all those images are the same, and to do so they use the same reason: Those images are the same because they all have the same effect, which in this case is a second-order determination of sameness (*ekapratyavamarśajñāna*). The obvious question here is: What warrants the sameness of all those determinations? If one again asserts that they all have the same effect, then the argument ends in an infinite regress. Well aware of this

problem, Buddhist epistemologists follow Dharmakīrti's argument: The sameness of those second-order determinations is not constituted by the fact that they all produce the same effect; rather, they are counted as the same because they are phenomenally presented in that fashion. In short, each instance of the judgment, "That is a cow," just seems the same.

Dharmakīrti's answer to the problem of infinite regress may seem ad hoc, but it probably reflects a subtle approach to conventionality. In brief, Dharmakīrti apparently holds that some conventions—including causality—are so stable that they may be treated as invariable when they are used in nomological arguments about the interpretation of perceptual content. Most Buddhist epistemologists, however, do not pursue this controversial aspect of Dharmakīrti's thought and instead leave such concerns to philosophers of the *Madhyamika* or Middle Way school.

## RELATIONS IN INFERENCE

The exclusion theory and the attendant problem of infinite regress may leave several questions unasked, but Buddhists seem satisfied with its use, perhaps because it so greatly simplifies the theory of inference. On their view, all inferences take this basic form: "S is P because S is E," where S is the subject of the proposition to be proven, P is the predicate, and E is the evidence. A common example would be: "The mountain is a locus of fire because it is a locus of smoke." The success of the inference depends on the pervasion (*vyāpti*), which by the time of Dharmakīrti is understood as a necessary relationship between evidence and predicate. Dharmakīrti formulates this relation as a necessary rule of unaccompanied nonarising (*avinābhāvaniyama*). In other words the evidence cannot occur if it is not accompanied by the proximate occurrence of the predicate, or to put it another way the predicate is necessarily predicable of any subject to which the evidence is correctly predicated.

Buddhist epistemologists describe this invariable relation between evidence and predicate as being of only two kinds: either the evidence is the effect of the predicate, or else the evidence stands in a relation of identity (*tādātmya*) to the predicate. The causal relation is operative in the inference of fire from smoke; the identity relation is operative in an inference such as, "This is a tree because it is an oak."

Both in the case of the causal relation and the identity relation the success of the Buddhist analysis of inference depends heavily on the exclusion theory of meaning and reference. For example, when one infers the presence

of fire from seeing smoke, the inference succeeds precisely because of the meaning of the concept smoke. That is, an instance of smoke is excluded from all those other entities that do not have the causal characteristics of smoke. One of those characteristics is central to the inference: namely, that any entity properly called smoke is necessarily caused by an entity that can be properly described as fire. Hence, if one's perceptual content has been correctly interpreted, the identification of the object as smoke already gives one the information needed to infer the presence of fire. The same type of account holds true in the identity relation: the concept or term *oak* can only be properly applied to an entity that also has all the causal characteristics that make it suitable to be called a tree. In this way the inferential process is a matter of recognizing the relation between concepts, sometimes through the help of empirical examples.

The exclusion theory thus provides a seemingly analytical relation between the concepts employed in an inference, and inferences are therefore treated as intrinsically reliable. This suggests that inference is largely a matter of understanding the conventions that govern the use of concepts. The problem, however, is determining whether those conventions accurately depict the causal characteristics of real things. How does one determine, for example, that smoke is necessarily produced by fire? Here, one encounters the general problems of induction, and while Buddhist epistemologists propose various empirical means of overcoming such problems, it would be difficult to argue that they have fully succeeded.

*See also* Buddhism; Buddhism—Schools: Dge-lugs; Buddhism—Schools: Madhyamaka; Epistemology, History of; Illusions; Mind and Mental States in Buddhist Philosophy; Perception; Reference; Universals, A Historical Survey; Vasubandhu.

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*John D. Dunne (2005)*

## BUFFON, GEORGES-LOUIS LECLERC, COMTE DE

(1707–1788)

The French naturalist and author Georges-Louis Leclerc, Comte de Buffon, enjoyed international acclaim for the artistic expression of his own grandiose, often brilliant theories and for presenting in similar fashion the discoveries of leading contemporaries, particularly in the field of natural science.

### LIFE

Born at Montbard, son of an upper middle-class magistrate, Buffon was first educated by the Jesuits of Dijon. Details about his personal life are sparse and uncertain. It is generally believed that, after studying law and despite a marked proclivity for mathematics, he went to Angers at the age of twenty-two to study medicine while indulging in botany and horsemanship. His stay ended abruptly when, presumably having killed an opponent in a duel for no verifiable reason, he set out on travels through France and Italy with the irresponsible young duke of Kingston. His mother's death in 1731 recalled him to Montbard where, as heir to her wealth, he turned the family manor into a château. Assuming the name of de Buffon, he adroitly enlarged his estates, which, in due course, were raised to an earldom.

The rest of his long life was divided between Montbard and Paris; no evidence has yet appeared supporting the belief that he also spent a year in England. When only twenty-six, he was, through influence in high places, elected to the Academy of Science after having presented a paper on mathematical probability. He was soon engaged in silviculture and publishing experiments on the means of preserving and strengthening wood, and his

reputation as a scientist was further enhanced by a translation in 1735 of Stephen Hales's *Vegetable Staticks* and, five years later, of Isaac Newton's *Method of Fluxions*, for which he wrote a much admired preface on the history of calculus.

From 1739 until his death he was curator of the Jardin du Roi in Paris, which, under his direction, expanded greatly and became an important scientific center. By 1740 he had begun work on his monumental forty-four-volume *Histoire naturelle*, the most ambitious and comprehensive history of natural science until recent times. Buffon was aided in this enormous task by reports from correspondents scattered throughout the world and by a team of highly specialized collaborators at home.

The first three volumes of the *Natural History*, including *Theory of the Earth* and *History of Man*, appeared in 1749. Published by the royal press, they were exempt from censorship. Almost immediately, however, they incurred the wrath of the Sorbonne for the bold views that ran counter to the book of Genesis. Out of deference to religious authority, Buffon penned an act of submission, only to proceed serenely in the same audacious manner.

Along with the volumes on quadrupeds (1753–1767), birds (1770–1783), and minerals (1783–1788) were the so-called *Supplements* (1774–1779), which included his justly famous work on Earth's geological periods, *The Epochs of Nature* (1778). After Buffon's death the vast project was brought to a close by B. G. E. Lacépède, with eight volumes on oviparous quadrupeds, snakes, fish, and whales.

Buffon's *Discourse on Style*, delivered upon the occasion of his admission to the French Academy in 1753, remains the best known of his shorter pieces. It contains the celebrated dictum: "The style is the man himself," the meaning of which has often been simplified to the point of misinterpretation.

### THOUGHT

Buffon's death in Paris shortly before the French Revolution was mourned by the leading journals of Europe as the passing of one of the great figures of the century. His place in the history of ideas has since been undergoing a gradual reassessment still far from settled; certain areas of agreement have, nevertheless, been established. It is generally accepted that while he often engaged in scientific investigation, either through personal observation or through wide reading, his true inclination was for generalization. Influenced especially by Bacon, Newton, Gott-