Alethic Values

Graham Priest

July 5, 2015

Departments of Philosophy, the Graduate Center, CUNY, and the
University of Melbourne

The Asian philosophical traditions are rich and sophisticated. Most Western-trained philosophers, however, know very little of them. The situation is slowly changing as more Western philosophers are coming to read the Asian texts, and more Western philosophy departments are teaching Asian material. The present essay is a small contribution to this felicitous trend.

The question which will concern us here might be posed as: How many truth values are there? I will not be concerned to answer this question. Rather, the point is to survey some of the answers to the question advanced by some thinkers and traditions, both East and West. The Eastern traditions that will concern us here are both Indian in origin: Buddhism and Jainism.

It should be said straight away that we will be looking at some seminal texts, both East and West. Such texts are always subject to disputes of interpretation; and here is not the place to defend my interpretations. Those I shall give are the ones that strike me as most plausible, however.[1]

<center>*   *   *</center>

N = 1

---

[1] I will add a reference or two at the end of each section, for those who wish to take matters further.

Let me start this exercise in the history of ideas by making the question more precise. We are concerned with truth as it applies to propositions, sentences, statements, beliefs, or whatnot (rather than, e.g., friends or coins). Which of these sorts of things are the primary bearers of truth—indeed, what such a claim might mean—is a knotty issue. However, nothing much here will depend on resolving it. So I shall just speak of truth-bearers, in a non-committal fashion.

Truth-bearers can be true; but according to most traditions, they can take other values: most notably falsity. As we shall see, they may be thought to take other values as well. To forestall any quibbles about whether values are really of a *kind* with truth, I will simply call them *alethic values*. Let N be the number of alethic values. Our question, then, is: what is N?

The simplest answer is that $N = 1$: there is only one truth value, *the truth* (t): all truth-bearers are true; there is no such thing as falsity. The view was reputedly held by Antisthenes (445-365, BCE); and what may have been his arguments are rehearsed by Plato (429–347 BCE) in the *Euthydemus*, 283e-284c. A variation on the arguments is rehearsed in the *Theaetetus* (118d-189b), essentially: The false is what is not. What is not does not exist. So the false does not exist.

We do not need to scrutinize the reasoning. It suffices here to note that it puts the view that $N = 1$ on the table. And however plausible it is, one cannot deny that it is the simplest of views![2]

N = 2

For the next answer in ascending order, we remain in Ancient Greece, but turn to Aristotle (384-322 BCE): $N = 2$. Aristotle adds a second alethic value: *falsity* (f). So there are now two values, t and f; and truth-bearers take exactly one of these. This picture is articulated in the Principles of Excluded Middle (*PEM*) and Non-Contradiction (*PNC*). The *PEM* says that a truth-bearer must have one of these values; the *PNC* says that they cannot have both.

Aristotle defends these principles in Book Γ of the *Metaphysics*. What, exactly, his arguments are, and how successful they were, may be disputed. The arguments for the *PNC* in Book 4, in particular, are a motley and opaque bunch. However, this need not concern us here.[3]

---

[2]For further discussions of Antisthenes and related matters, see Denyer (1993).

[3]On the arguments, see Dancy (1975) and Priest (2006), ch. 1.

N = 3

The next answer in ascending order is that $N = 3$. And for this, we turn to... Aristotle again.

In the somewhat notorious Book 9 of *De Interpretatione*, Aristotle argues that truth-bearers whose contents are contingent states of affairs about the future, such as that it will rain in Melbourne at some time on 1/1/3001, are *neither true nor false* (n). So now we have t, f, and n.

Aristotle argued that if such truth-bearers were either true or false, the consequence would be fatalism, which he rejects. How good Aristotle's arguments are, again, need not concern us. Perhaps of more concern is the relationship between the position in *De Interpretatione* and the defence of the *PEM* in the *Metaphysics*. Aristotle gives us no guide to this question in either of these places—or any other. In the end, I suspect, the two texts are just inconsistent with each other.

However, of more importance here is the fact that the endorsement of a third alethic value in *De Interpretatione* is clearly driven by metaphysical considerations, namely the open and indeterminate nature of aspects of the future. The answer to our target question is, then, no mere bloodless dispute about the nature of logic. Logic is driven by metaphysics.

In truth, this should already have been visible to us when discussing the last answer. For Aristotle defends the view that $N = 2$ in the *Metaphysics*, not the *Analytics*.—Indeed, there, he points out that the logical validity of various syllogisms is independent of the the *PNC* (*An. Post.* 77^{a}10-21).—*Metaphysics* Γ announces itself at the start as a study of *being qua being*. The *PEM* and *PNC* are, thus, principles about the nature of *being*.[4]

N = 4

For the next answer, we leave Ancient Greece and move to Ancient India. Here we find $N = 4$. This is embodied in a principle called the *catuṣkoṭi* (four corners). The four corners are four alethic possibilities. These add one to Aristotle's triad, *both true and false* (b), to give us t (true and true only), f (false and false only), n (neither true nor false), and b (both true and false).

The origin of the catuṣkoṭi in Indian philosophy is unknown. It is certainly in place by the time of the historical Buddha (Siddhārtha Gautama;

---

[4]On the argument of *De. Int.* 9, see Haack (1974), ch. 4, and Priest (2008, *Introduction*), 7.9 and 11a.7.

according to one standard chronology: 563-483 BCE); for in the *Majjhima Nikāya* and other sūtras, we find the Buddha's disciples asking him difficult metaphysical questions, such as: what happens to the enlightened person after death? They put the question by asking whether the person exists, not, both, or neither; and it is clear that they take themselves to be giving the Buddha four mutually exclusive and exhaustive possibilities to choose from. Instead of *tertium non datur*, we have *quintum non datur*.

In these sūtras the Buddha, in fact, refuses to endorse any of these answers. The reason often given (for example, in the *Cula-Malunkyovada Sūtra*) is that such metaphysical speculation is a waste of time, and irrelevant to achieving enlightenment. But in some of the sūtras, notably the *Majjhima Nikāya*, something else is hinted at: that none of these four possibilities 'fits the case', though nothing further is made of the idea for a long time.[5]

N = 5

It seems to have lain dormant in Buddhist philosophy until taken up by Nāgārjuna (dates unknown, some time first or second century CE) who laid the philosophical ground for a later kind of Buddhism, Mahāyāna. And it is he who will give us our next answer: $N = 5$.

The central metaphysical claim of Mahāyāna Buddhism is that all things are empty (*śūnya*). The claim is interpreted somewhat differently in different Mahāyāna schools. But in Madhyamaka (Nāgārjuna's school), to be empty is to be empty of intrinsic nature: everything is what it is in virtue of its relationships (and only in virtue of its relationships) to other things. Nāgārjuna's *Mulamadhyamakākrikā* is an extended argument to the conclusion that everything is empty. Frequently, he runs through the cases of the catuṣkoṭi in a four-pronged *reductio*.

But he also says (e.g., ch. 22) that sometimes none of the four applies—for example, with respect to the nature of the enlightened person after death. So we have a fifth possibility. Call this e, none of the above. So now we have t, f, b, n, and e. But what is this e?

To understand this, we have to delve into metaphysics again. According to Nāgārjuna—or at least one standard interpretation of him—any object has a dual reality (*satya*), conventional and ultimate (like the two sides of one and the same coin). Its ultimate reality can be grasped directly (if you work hard at it), without conceptual mediation. Its conventional reality is

---

[5]On the catuṣkoṭi, see Ruegg (1977) and Priest (2010).

how it appears when seen through the grid of concepts and language which thought imposes on it.

And corresponding to the two sorts of reality, there are two sorts of truth: the truth about conventional reality, conventional truth; and the truth about ultimate reality, the ultimate truth.

The sorts of things that are conventional truths are obvious enough: I live in New York, cats are mammals, Caesar crossed the Rubicon. What of the sorts of things that are ultimate truths about an object? One cannot say. To do so would be to impose our conceptual/linguistic grid, and thus to describe its conventional reality. Ultimate reality is therefore ineffable. This is our fifth value, e, ineffability.

We now have to be a little careful about what truth-bearers are. It does not make much sense to suppose that a sentence is ineffable: to be ineffable is to be *in*expressible in language. So truth-bearers have to be propositions or beliefs: something not, by definition, guaranteed of linguistic expression. But that is but a wrinkle.

As usual, this is not the place here to go into the truth of Nāgārjuna's view or the soundness of his arguments for it. It suffices that the view has taken us to $N = 5$.[6]

N = 6

Which brings us to $N = 6$. Sadly, I know no examples of this.[7]

N = 7

But $N = 7$ is quite a different matter. For this, we stay in India, but move from Buddhism to Jainism. There, we find $N = 7$.

The origins of Jainism are somewhat clouded, but it seems to arise in India about the same time as Buddhism (and so circa 6th c BCE). Its philosophical foundations were laid somewhat later, between about the 2nd and 5th centuries CE, by philosophers such as Siddenansena (fl. 5th c.).

Before we get to seven, we have to go back to three. For the Jains, there were three *basic* alethic values, t, f, and a third. Let me call this i. The meaning of i is somewhat obscure (and modern commentators disagree about

---

[6]For further discussion, of Nāgārjuna's use of the catuṣkoṭi, see Westerhoff (2006) and Priest (2010).

[7]So this is the null reference.

how it is to be interpreted). Sometimes it is glossed (or at least translated) as 'non-assertible', which suggests *neither true nor false*. Sometimes it is glossed as 'assertable and deniable', which suggests *both true and false*. Given that ineffability is certainly in the air in both Buddhist and Hindu thought at this time, maybe it should be understood as *ineffable*. Maybe it is to do duty for all these. Anyway, we can leave scholars to argue about this.

To get from three to seven, we have to consider some core Jaina metaphysics. This is encapsulated in the principle of *anekānta vāda*—the principle of non-(one-sidedness)—as articulated, for example, by Siddhasena in his *Nyāyāvatāra*, v. 29. Reality is multi-faceted, like a polyhedron. Everyone who has a view has a view of one of the facets. Their views are all equally correct and equally incomplete.

As far as alethic values goes, the result is spelled out by Vādideva Sūri (fl. 12th c CE) in his *Pramāna Naya Tattvālokālamkāra* (ch. 4, vv. 15-21), with a view called the *saptabhaṅgī* (seven-fold division).

Every truth-bearer will have one of the three basic values in every facet. (The Jains use the word *syād* to mean something like: in some facet.) So to capture the whole picture we have to take into account the alethic value at every facet. So, for example, if the truth-bearer is t in some facets, f in others, and i in none, its total value will be $\{t, f\}$. Thus, the overall possible values of a truth-bearer will be any non-empty subset of $\{t, i, f\}$—non-empty, because reality has many facets, and so at least one. So $N = 7 = 2^3 - 1$.[8]

<div align="center">

*   *   *

</div>

So we have reached $N = 7$. Let me end with a few final comments.

First, none of the philosophers we have met had any knowledge of modern formal logic. However, each of the above views can be turned into a rigorous such logic. The main logical technique to be deployed is—naturally—that of many-valued logic. Formally, many-valued logics allow for N to be of any size.

Next, I certainly do not claim that we have had an exhaustive tour of the terrain we have been crossing—even in Ancient philosophy. I have chosen some philosophers whose views are important and distinctive. I am sure there are others. Despite this, and modern many-valued logics notwithstanding,

---

[8]On Jaina logic, see Ganeri (2002) and Priest (2008, *Jaina*).

I know of no natural suggestions for values of N greater than 7. With one exception: modern fuzzy logics allow for degrees of truth; so an alethic value is any real number between 0 and 1 inclusive. That is, $N = 2^{\aleph_0}$. As far as I know, nothing like this view is to be found in Antiquity.

Third, since I expect that most readers of this article will know little of Asian philosophical traditions, and to forestall possible misconception, I should point out that there were certainly Indian philosophers who endorsed the claim that $N = 2$, such as the Hindu Nyāya philosophers—a school going back to about the 6th c BCE, but regenerated in the 10th c CE as Navya-Nyāya (new Nyāya)—and the Buddhist logicians Dignāga (fl. 6th c CE) and Dharmkirti (fl. 7th c CE).[9]

Finally, as is clear, I have made no attempt to evaluate the various claims about the value of N, or the metaphysical views on which these are based. That would be an entirely different, and *much* lengthier, project. The point of this note has simply been to chart some history; and, in the process, I hope, to open people's eyes to some possibilities of which they may have been unaware.

References

[1] Dancy, R. M. *Sense and Contradiction in Aristotle.* Dordrecht: Reidel, 1975.

[2] Denyer, N. *Language, Thought and Falsehood in Ancient Greek Philosophy.* London: Routledge, 1993.

[3] Ganeri, J. (ed.). *Indian Logic: a Reader.* London: Routledge, 2001.

[4] Ganeri, J. "Jaina Logic and the Philosophical Basis of Pluralism*." History and Philosophy of Logic* 23 (2002): 268-81.

[5] Haack, S. *Deviant Logic.* Cambridge: Cambridge University Press, 1974.

[6] Priest, G. *Doubt Truth to be a Liar.* Oxford: Oxford University Press, 2006.

---

[9]For a discussion of many-valued logic, including fuzzy logic, see Priest (2008, *Introduction*), chs. 7 and 11. For a general discussion of Indian logic, see the papers in Ganeri (2001).

[7] Priest, G. *Introduction to Non-Classical Logic: from If to Is*. Cambridge: Cambridge University Press, 2008.

[8] Priest, G. "Jaina Logic: a Contemporary Perspective." *History and Philosophy of Logic* 29 (2008): 263-78.

[9] Priest, G. "The Logic of the Catuṣkoṭi." *Comparative Philosophy* 1 (2010): 32-54.

[10] Ruegg, D. "The Uses of the Four Positions of the Catuṣkoṭi and the Problem of the Description of Reality in Mahāyāna Buddhism." *Journal of Indian Philosophy* 5 (1977): 1-71.

[11] Westerhoff, J. "Nāgārjuna's Catuṣkoṭi." *Journal of Indian Philosophy* 34 (2006): 367-95.