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Logical Pluralism and Paradoxical Assertions in the Philosophy of Religion

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Abstract

Many authors show how useful logic can be as a tool for building theories that can account for problems in the philosophy of religion, such as paradoxical assertions. As a consequence, one's philosophy of logic is crucial as well, since it determines which logics, from the set of available and constructible logics, one can use to build a theory. In this paper, we present the relatively recent debate between logical pluralism and monism because the positions in this debate determine which logic(s) can, with justification, be applied to build a theory that addresses problems in the philosophy of religion. We begin by presenting the problem of paradoxical assertions and the debate over logical pluralism that bears on the addressing paradoxical assertions. We then canvass strategies for arguing in favor of logical monism, and pluralism; ultimately, we conclude that the Western tradition has reached a stalemate on this issue. We then turn our attention to the potential for Indian religious traditions to contribute to the debate. We present the *five-step-syllogism* from Nyāya-Hindu philosophy, the *four corners of reasoning* from Buddhist philosophy, and the *seven-fold theory of predication* from Jaina philosophy. The upshot of our presentation is to lay the groundwork for cross-traditional logical debate by identifying the ways in which Indian discussions of debate and dialogue relate to modern approaches to logic and the philosophy of logic.

1 | INTRODUCTION

Religious doctrines are often paradoxical. *The doctrine of the trinity* in Catholicism holds that the father, the son, and the holy ghost are all identical.[1] However, the relation of being a father is such that nothing can be both a father and a son with respect to the same individual. *The doctrine of non-duality* in Advaita Vedānta holds that there is no duality between the individual self (*ātman*) and God (*brahman*). Thus, the individual self and ultimate reality are one and the same, which conflicts with the apparent diversity of our experience.[2] Both of these doctrines are paradoxical. If the paradoxicality of a doctrine is a reason to reject it, then we ought to seek ways to understand paradoxical assertions that can lead to accepting them. How can we make sense of paradoxical assertions? Following many scholars, we suggest turning to logic.

Consider the following two principles. *The principle of excluded middle* holds that there are only two truth values, true and false. *The principle of bivalence* holds that all propositions are either true or false. If one adopts a logic, for example classical logic, that conforms to these two principles, then, holding other things constant, both of the above assertions remain paradoxical. How can something be both a father and a son? How can something be both the individual self and God? These statements appear to be self-defeating and contradictory. However, if one adopts a logic that lacks these principles (or others), then they can be made less troubling. For example, if one accepts dialetheism – that some propositions are both true and false – then one can argue as follows. The doctrine of the trinity and the doctrine of non-duality express propositions that are true contradictions.[3] The father is identical to the son, and that is a true contradiction. The individual self is both experienced as distinct from, and at the same time, is identical to God, and that is a true contradiction. The contrast between the application of the two systems to the paradoxical assertions raises the question: which system is correct, classical or dialethism? This question requires that we examine the philosophy of logic, in particular the debate over whether there is one true logic or a plurality of true logics.

Logical pluralism is the philosophical view that there is *more than* one true logic; logical monism is the philosophical view that there is *only one* true logic. If logical monism is true, then in order to build a theory that can make sense of paradoxical assertions through the use of dialetheism one must debate whether the principles of excluded middle and bivalence are true, whether the one true logic is the same for all domains, such as math, science, and religion, and that the one true logic contains neither excluded middle or bivalence.[4] However, if logical pluralism is true, then one only needs to show that there are logics in the set of true logics, which can be used to make sense of paradoxical assertions. Thus, the debate over logical pluralism alters the justificational demand placed on the use of logic in building an account of paradoxical assertions in the philosophy of religion. If monism is true, *one must* show that their preferred logic is the one true logic and that it can effectively treat paradoxical assertions. If pluralism is true, then *one need only* show that their preferred logic is in the set of true logics and that it can effectively treat paradoxical assertions. Logical pluralism reduces the justificational demand on the use of a logic in treating paradoxical assertions, and so it is an attractive option in the philosophy of religion.

As a consequence, in what follows, we canvass the debate between pluralists and monists about logic. Section 2 discuss two strategies for arguing in favor of logical monism. The first, due to Williamson and Priest, we call the 'abductive argument'; the second, due to Griffiths and Paseau, we call the 'metalogical argument'. In Section 3 we discuss arguments in favor of logical pluralism. Section 3.1 focuses on the pluralism of Carnap, and the more recent version due to Beall and Restall. Section 3.2 discusses the normative route to logical pluralism found in Field and Russell. The upshot of Sections 2 and 3, in our view, is that the Western debate has reached a kind of stalemate. Thus, in Section 4 we discuss how contributions to debate and dialectic found in Indian philosophy can be developed to add a new dimension to the debate over logical pluralism.

2 | WHAT IS THE DEBATE OVER LOGICAL PLURALISM A DEBATE ABOUT?

At base, the debate between monists and pluralists about logic is over this question: how many logics are there? If the answer is just one, then monism is correct; if there are more than one, then pluralism is. If pluralism is correct, it

offers the possibility of avoiding costs associated with revising one's all-purpose logic, though the specific ways in which it can do this will depend on the details of the pluralism (more on this below). While this could be a promising option for anyone interested in paradoxes generally, it may offer particular appeal to those interested in the problems raised by paradoxical assertions in the philosophy of religion. In this section, we will canvass arguments in favor of both monism and pluralism about logic, and assess their relative merits.

2.1 | Logical Monism

There has been significant recent attention to pluralism about logic, including a few arguments against it. Perhaps because it has been taken to be the default position, far less attention has been paid to logical monism. That said, there are two strategies that have been employed to defend logical monism – an abductive argument, and a metalogical argument; we give the details of each below.

2.2 | Abductive Monism

In the "Methodological Afterword" to Williamson (2013), Williamson argues (following Quine) that an inquiry into which logic we ought to use must be conducted in a way that is broadly continuous with theoretical investigations in the sciences.[5] He thinks that logic, like natural science, is the attempt to discover, deepen, and extend our knowledge. Because of this, the methodology of logic is similar to that of science. We test our theories against the available evidence, and to the extent that a theory extends, deepens, or reveals new knowledge in a systematic non-gerrymandered way, it is a good theory. However, unlike natural science, the domain of knowledge we seek to deepen when we do logic is of logical truths. Since our task is to understand this domain, there could be only one logic which does this best, that is, only one best theory of logical truths. So, we must be monists.[6]

Another argument in favor of abductive logical monism is given by Priest. For him, logic is the study of validity. Validity is a relationship between premises and conclusions in an argument such that every time all the premises are true, it is impossible for the conclusion to be false. The central task of logical investigation is to pick out the correct relation of validity from the various possible candidate relations.[7] But, this is not yet an argument for monism. What is needed is an argument that there is exactly one correct account of validity.

Priest (2006) draws a distinction between those accounts of semantics (on which he prefers to base his account of validity) which have an 'informative' semantics, and those which do not. That is, while there might be many different semantic theories, there will only be a few 'informative' ones, namely those which capture the intuitive meaning of their components, and for which it is clear why those notions are related to the logical ones in play (as, for example, the meanings of the logical connectives) (Priest, 2006, p. 181). But, these considerations only narrow the field of candidate theories. The final move that gets Priest to monism is to note that there is a single logic which best accounts for the available evidence. Priest and Williamson differ over what they take the evidence to be. While Williamson treats the logical truths as the body of evidence against which we test a theory, with the virtues of strength and simplicity as the criteria we use in that testing, Priest might agree that these are relevant, he says that it is our intuitions about the validity of particular arguments that do the most work.

2.3 | The Metalogical Argument

Griffiths and Paseau present another strategy for defending logical monism in their *One True Logic: A Monist Manifesto*, which they dub the 'metalogical argument'. It runs as follows. Pluralists want to do metalogical reasoning – but in which logic should they do it? At first, the authors note that almost every logician does their metalogic in a classical

first-order setting. The upshot is that no matter how much a logician might profess their pluralism, many are really monists when it comes to real validity facts. This argument bears a similarity to arguments against non-classical views of logic whereby some argue that non-classical logicians can't really advocate non-classical logics because they do their metatheory in classical logic. This argument has enough history to have a standard reply, best articulated in Meyer (1985): while it is true that many logicians do their metalogical reasoning in classical logic, they need not do so at the cost of giving up any non-classical scruples they might have; rather they were merely "preaching to the gentiles in their own language". One can easily imagine a similar pluralistic reply.

Griffiths and Paseau also present a stronger version of the metalogical argument. They argue that logical pluralists need their metalogical reasoning to be acceptable in all the object-level logics they endorse. This leaves the pluralist with four options for which logic to use in their metalogical reasoning: (1) a logic that is the intersection of all true logics, (2) the unique true logic for metalogical reasoning, (3) an arbitrarily chosen true logic, or (4) the pluralist must present a unique argument for each admissible logic. They argue that none of these possibilities is appealing by means of a dilemma: either pluralists must choose a logic, and thereby undermine their pluralism, or, if they pick a reasonable logic for metalogical work, the object-level pluralism looks unmotivated.

3 | LOGICAL PLURALISM

We have thus far focused on arguments for monism; what of pluralism? Pluralism about logic is the claim that there is more than one correct account of logic. This need not, and often does not, mean that just anything can serve as an account of logic. Many logical pluralists are at pains to draw limits around their pluralism, and to set out the criteria a theory must meet in order to count as a logic. In this section, we look at three approaches to logical pluralism, arranged in roughly chronological order. The first, due to Carnap, we dub 'wide pluralism' as it takes the broadest approach to which logics can be considered. The pluralism developed more recently by Beall and Restall, is examined next. It is narrower than the one proposed by Carnap, in that they draw limits around what can be counted as an account of logical consequence. Finally, we look at recent work which finds a source for logical pluralism in reflections on epistemic norms.[8]

3.1 | Pluralisms, Wide and Narrow

One early source for logical pluralism is Carnap's *Logical Syntax of Language* (*LSL*). There Carnap develops a view of logic with few, if any, limits on logics. He says that there can be no question of whether a logic is 'correct', but only of the consequences adopting some logic leads to, and whether, as a result of those consequences, that logic is useful. Carnap's famous 'Principle of Tolerance' sums up his view:

> Our attitude to requirements of this kind is given a general formulation in the *Principle of Tolerance:*
> *It is not our business to set up prohibitions, but to arrive at conventions.* [...] *In logic there are no morals.*
> Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes.
>
> (Carnap, 1937, pp. 51–52)

The view that emerges from *LSL* is this. While there might only be one language at a time, there are nonetheless any number of possible languages that might be put forward for consideration. Moreover, as noted in the principle, everyone can build their own language as they see fit.

What distinguishes Carnap's view from other accounts we discuss is his rejection of justification. That is, anyone can propose any collection of rules as a logic; one cannot tell them that their collection of rules does not constitute a logic. All one can ask for is the consequences of adopting that logic, and one can point out that adopting a particular

logic might not lead to consequences that are useful for a given investigation. This pluralism about logic is therefore as wide as possible, in the sense that it puts no constraints on what can be counted as a logic. Any constraints that we might put on our choice of logic come from a subsequent pragmatic assessment of the logic's fitness for our project.

Beall and Restall (2006) propose a narrower pluralism than Carnap's. For them, as with Priest above, logic is about validity. But, they say that our pre-theoretic notion of validity is vague, and can be made precise in various ways by using a schema they call the Generalized Tarski Thesis (GTT):

An argument is valid$_x$ if, and only if in every case$_x$ where all the premises are true, so is the conclusion.

The GTT is a recipe for creating accounts of logical consequence by stipulating what a 'case' is to be. For example, taking cases to be Tarskian models yields classical logic, while taking them to be constructions yields constructive logic. Next, they marry this recipe for precise accounts of validity to admissibility criteria; roughly, an account of logical consequence is admissible just in case it has three properties: (1) necessity – the truth of the premises should necessitate the truth of the conclusion, (2) normativity – we go wrong in some way if we believe all the premises but fail to believe the conclusion, and (3) formality, which they describe in several ways without settling on a favored account. They then argue that at least two of the instances of the GTT they discuss are admissible, which generates a pluralism about logic.

We can now see how this pluralism is narrower than Carnap's. Where Beall and Restall are at pains to draw limits around what counts as a logic, and to craft admissibility criteria, Carnap denies that the question of admissibility can arise at all.[9] One advantage of the narrow strategy is its modesty – because they set limits around which logics are admissible, they need not countenance every theory that could be proposed. But, there is a related disadvantage in that the limits one draws around what counts as a consequence relation are themselves contested, whereas the wide strategy can prescind from those debates.

3.2 | Logical Pluralism: The Normative Turn

A recent strand in logical pluralism stems from reflecting on the normative role that logic plays in our reasoning.[10] Field (2009) proposes a view that he calls 'relativist expressivism'. The basic idea is this: there are many different norms we might use for forming and evaluating beliefs, and many different ways in which those norms might be assessed to be good or bad relative to our epistemic goals. Further, there is no reason to suppose that one norm will be the unique best one. The situation is similar with logic: since logic is normative, the plurality of epistemic norms will give rise to a plurality of logics, and we can evaluate them as being better or worse than other logics relative to our goals. Again, there's no reason to suppose there will be a unique best one.

Where Field takes considerations about the normativity of logic to generate a pluralism, Russell (2017) and Blake-Turner and Russell (2018) deny that logic is normative at all, and defend a pluralism based on epistemic goals called 'telic pluralism'. The idea is that one can replace the normativity constraint in Beall and Restall's GTT with the constraint that relations of logical consequence must be suited to meeting epistemic goals, which are things like truth, relevance, or demonstrability. This view turns out to be quite flexible, and even need not be pluralist. The view comes with the cost, however, of suborning one's view of the nature of logic to the conception one has of normativity. That is, if one thinks that epistemic goals are inherently normative, then the view is a non-starter. And, moreover, there is substantial pressure in the history of thinking about logic to think that logic is normative for our reasoning. Giving this up is no small cost.

In our view, the Western philosophical tradition has reached a kind of stalemate. Some have the intuition that logic is the theory of correct reasoning – though they might disagree about which logic that is – and conclude that there must be only one. Others have the intuition that logics are formal systems that obey certain restrictions, and there are at least two such systems. All of these intuitions are contested. We think that there are resources from outside the Western tradition that can help break this stalemate.

4 | DEBATE AND DIALECTIC IN INDIAN PHILOSOPHY AND GROUNDING A CONNECTION TO THE LOGICAL PLURALISM DEBATE

Many Indian religious traditions contribute to the theory of argumentation through texts on debate and dialogue. Are any of these contributions directly or indirectly applicable to the debate over logical pluralism? We cannot give a complete answer to this question here. So, we defend the view that there is a pathway for future work for deriving contributions to the debate over logical pluralism. In order to make the argument for this we separate out three questions.

(a) In what sense of "logic" does a tradition or thinker contribute to logic?
(b) Is the tradition or thinker talking about "logic" in a sense that is relevant to the debate over logical pluralism?
(c) How is the contribution to logic by the tradition or thinker significant to the debate over logical pluralism?

We will develop a pan-Indian approach that focuses on (a) because a cross-traditional dialog between ancient Indian and contemporary Analytic philosophy of logic requires that we fix what senses of "logic" carry across so that the conversation is meaningful. Our approach allows others to explore answers to (b) and (c) in relation to our exploration of (a). But if (a) has no good answer, since no sense of "logic" carries across we are doubtful about the prospects for (b) and (c). Although some of our remarks gesture toward answering (b) and (c), we confine the substance of what we say to (a). To answer (a) we need to look at the various senses in which the term "logic" can be used. Hofweber (2023) offers us four definitions. For each of these we can make an argument that examines whether or not an Indian tradition, thinker, or text discussed logic in the sense under investigation. We will formulate each argument in the negative, and then discuss it critically. After examining Hofweber's definitions, we will turn to looking at the notion of inference in Indian philosophy to generate a discussion of "logic" deriving from Indian debate and dialogue texts.

L1: Logic is the study of artificial formal languages.

1. Indian tradition T didn't discuss any artificial languages, such as modal logic or predicate logic.
2. So, tradition T did not contribute to L1.

Most (if not all) traditions of Indian logic that are considered classical or ancient will not have contributed to logic in L1. In so far as artificial formal languages are developed in mathematical languages, the case is even stronger that Indian thinkers did not contribute to logic in the sense of L1. Comparatively, we note that depending on how strongly one reads "artificial language" it might be the case that most classical and ancient traditions of philosophy didn't contribute to logic in the sense of L1. So, if we want to explore how Indian thinkers can contribute to the debate over logical pluralism, L1 isn't the sense we ought to be exploring. In addition, because the debate over logical pluralism is a debate in the philosophy of logic, and one can contribute to the philosophy of logic without contributing to formal logic, it seems inappropriate to use L1 as a reason to engage resources from Indian philosophy.

L2: Logic is the study of formally valid inference and logical consequence.

1. Indian tradition T didn't specify any rules of inference or say anything about the consequence relation as we now understand it and investigate it in the philosophy of logic.
2. So, tradition T did not contribute to L2.

There are two parts to this argument: (i) formally valid inference, and (ii) logical consequence. In so far as "formally valid inference" is tied to an artificial language, we get the result that Indian traditions did not contribute to logic in the sense of L2 for the same reason explored under L1. But if we take "valid inference" and "logical consequence" more seriously than "formally", it is clear that Indian thinkers had something to say about logic in the sense of L2. There are many debates in Indian philosophy about whether a certain inference is good, and why it is good. Later we will

examine one between Jains and Buddhists. These debates neither take place in a formal language nor discuss formal languages, but they do present inferences and discuss why and whether or not they are good. One reason why there is so much debate is because debate between different traditions, say over the self or consciousness or God, often required enough common epistemic ground so that debate was possible. Agreement on which inferences were good was necessary to establish common ground, as well as to assess arguments. One need only read Matilal's (1998), *The Character of Logic in India*, to get a sense of how much debate is going on about good *vs.* bad inferences in Indian philosophy. So, the real issue is whether L2 must be read in the sense where "formally" and "artificial language" are synonymous. If not, there is an open path under L2 to finding ways in which Buddhists, Hindu, or Jain philosophers can make contributions to the debate over logical pluralism by examining whether the diverse inferences accepted by a tradition constitute a single logic or two or more distinct logics.

L3: Logic is the study of logical truths.

1. Indian tradition T didn't specify any logical truths.
2. So, tradition T did not contribute to L3.

Logical truths can be written outside of formal languages. "Everything is either true or false" is a logical truth of classical logic written in a natural language, English. A logical truth need not be presented in a formal language. It isn't clear that Indian traditions discussed logical truths as much as they discussed necessary falsehoods, such as the son of a barren woman, or the sky-flower. Necessary falsehoods are discussed frequently in Buddhist and Hindu philosophy for many reasons. However, they are almost always presented in the frame of a metaphysical falsehood that is necessarily false, rather than as a necessary falsehood of logic, such as "nothing can be both true and false at the same time." The phrase "the son of a barren woman" is not a logically necessary falsehood; rather it expresses a metaphysical impossibility, as well as a physical impossibility, At best it is a conceptually necessary falsehood.

L4: Logic is the study of the general features, or forms, of judgements.

1. Indian tradition T did not specify general forms of judgment.
2. So, tradition T did not contribute to L4.

Many schools of Indian thought discussed forms of judgment. It can be argued on that basis that they also discussed logical truths, since logical truths are a subclass of forms of judgment. They likely didn't discuss logical truths under common notions of "logical truth" we now have, such as judgements only involving logical constants arranged in a way so as to make the judgement true in virtue of the meaning of the logical constants alone. But, in so far as they were aware of general forms of judgment, and which forms of judgment constituted good reasoning, they must have had some idea of "logical truth".

We will discuss three examples. The *five-step syllogism* in Nyāya-Hindu philosophy. The *four-corners of reasoning* in Buddhist philosophy. And: *the sevenfold theory of predication* in Jaina philosophy. Since far more attention has been given to Nyāya and Buddhism in the scholarly literature, we will focus on elaborating Jainism in relation to the possibility of finding contributions from Indian sources for the debate over logical pluralism.

The *five-step syllogism* is found in the *Nyāya-Sūtra* of Gautam Akṣapāda.[11] It is an account of the proper form of reasoning. It offers an instance of good reasoning, as well. And it is distinct from the account offered by Aristotle in his *three-step syllogism*.

1. Thesis: There is a fire on the hill over there (not in perceptual view).
2. Reason: There is smoke on the hill over there (in perceptual view).
3. Connection: Wherever there is smoke, there is fire, like in a kitchen when one is cooking and observes fire followed by smoke.
4. Application: The case of smoke and fire is like the case of what is experienced in the kitchen.
5. Conclusion: There is a fire on the hill over there (not in perceptual view).

Good reasoning requires that one first set out their thesis for their audience. Often one's thesis comes from some observation that drives them to inquire. Curiosity naturally follows observation of the world. In this case, someone sees smoke on a hill, and wonders: what is the cause of the smoke? Given that in the past they have experienced smoke after the production of fire, when they were cooking in their kitchen, their thesis becomes: there is a fire on the hill, with the supporting reason being that there is smoke on the hill, which they can see, as well as the connection that wherever there is smoke, there is fire. Once they have applied the connection, a connection that is anchored by their prior experience in the kitchen, to the case at hand (smoke on the hill) they are in a position to draw the conclusion: there is a fire on the hill.

Two things should be noted about this theory of good inference. First, it is a causal account of good inference. It is trying to give an account of the form of the causal path that a good inference takes. There are normative implications that follow from this, but the account is a kind of causal account. Second, there are a number of criticisms that have been made of the five-step syllogism, including the fact that it is not a normative account of good reasoning because it is a causal account of good reasoning. Here are the main criticisms.

(a) It is redundant, since the Thesis and Conclusion say the same thing.
(b) It is superfluous, since the Application step is unnecessary.
(c) It is a convoluted hybrid of two distinct types of reasoning: inductive and deductive, where the inductive component is a form of bad reasoning. The argument can be broken down as follows:

Deductive component:

All locations where there is smoke are locations where there is fire.
There is smoke on the hill.
∴ There is fire on the hill.

Notice this has the same form as Aristotle's argument:

All Men are Mortal.
Socrates is a Man.
∴ Socrates is Mortal.

Inductive component:

In a kitchen a fire is followed by smoke.
∴ In all cases fire is followed by smoke.

While these criticisms initially seem plausible, they are all based on a confusion between an assertive and erotetic background to the very theory of what logic and reasoning are about. Vaidya's (2016) *Does Logic and Critical Thinking Education Have a Western Bias?* carefully dismantles these criticisms in order to clarify in what sense Akṣapāda's formulation is a contribution to debates about the general form of good reasoning. To be brief, the inductive component need not be seen as a case of induction based on citing a single instance. Rather, it can be seen as offering an example, that another interlocutor can examine the merits of in terms of its relation to the connection claim. In addition, as a causal account, the example in the inductive component offers something to the individual to base their reasoning on. What is going on with the smoke on the hill is that it is caused by a fire the same way smoke follows fire when I cook in my kitchen. In addition, the whole syllogism makes more sense when it is put forward against the background of another asking questions who may not share all of the same experiences that the person putting forward the argument has had. This takes us to the significance of questioning and doubting in Indian philosophy and the role it plays in inquiry and debate. We turn now to Buddhism.

Consider the question: does one that has attained enlightenment exist after death? Let *p* stands for *one that has attained enlightenment exists after death*. According to the *catuṣkoṭi* (the four-corners of reasoning) found in Buddhist philosophy there are at least the following answers available.

Either

(1) *p*, or
(2) not-*p*, or
(3) both *p* and not-*p*, or
(4) neither *p* nor not-*p*.

It is important to note that all of these options are supposed to be genuinely distinct. However, within first-order classical logic, we cannot make sense of the four corners as presenting genuinely distinct options because the rules of inference allow for collapsing the four corners. From (1) and (2) we can derive (3) by the rule of conjunction. From (3) we can derive (1) and (2) by the rule of simplification. According to De Morgan's law (3) and (4) are logically equivalent. And given that first-order classical logic endorses excluded middle and bivalence, (3) and (4) are direct violations.[12] Thus, the *catuṣkoṭi* requires deep reflection and interpretation. The literature on the *catuṣkoṭi* is vast; Priest's (2021) *The Fifth Corner of Four: An Essay on Buddhist Metaphysics and the Catuṣkoṭi* offers an in-depth treatment. One insight that can help unlock the logic of the four-corners is that the options are genuinely possible, not for every kind of thing, but for some kinds of things. Thus, for example, it is possible to hold (3), if one is standing with half of their body on one side of a doorway, with the other half on the other side. They are both in and not in the room. And from that one can deny that (1) and (2) follow from (3), because they assert each that a person is wholly in a room or not in a room. And they can deny that (3) and (4) are equivalent in meaning because (4) that a person is neither in nor not in a given room, is false on the current reading. On this approach, the four-corners isn't telling us that for every question, one can take any of the options coherently, rather it is telling us that relative to the widest set of questions, these are the four options available. For some all of the options will make sense, but for other questions, some options might be incoherent. It is even said in Buddhist philosophy that one can deny all of the corners relative to some questions.[13]

The *saptabhaṅgī* (the sevenfold theory of predication) is an account of the general forms of judgment developed within Jainism. It sits alongside *nayavada*, the theory of standpoints, and *syādvāda*, the theory of conditional predication.

Where A, B, and C are variables ranging over parameters,[14] such as substance, time, place, and condition, and *p* is a variable ranging over existential statements or predicative judgments, the sevenfold theory of judgment can be presented as follows:

1. From A, it is true that *p*.
2. From B, it is false that *p*.
3. From A, it is true that *p*; and from B, it is false that *p*.
4. From C, it is *unsayable* whether *p* or not-*p*.
5. From A, it is true that *p*; and from C it is *unsayable* whether *p* or not-*p*.
6. From B, it is false that *p*; and from C, it is *unsayable* whether *p* or not-*p*.
7. From A, it is true that *p*; from B, it is false that *p*; and from C, it is *unsayable* whether *p* or not-*p*.

There are two important things to note. First, the basic truth-values are *true*, *false*, and *unsayable*; the set of seven comes from combining the basic three. This already shows that the Jaina theory understands the notion of a variable, since it allows for different combinations. Second, the theory does not endorse the view that there *are* true contradictions. Thus, (3), for example, tells us that from some parameter A, *p* is true, and from *another distinct* parameter, B, *p* is false. This claim is distinct from the claim that from the very same parameter A, *p* is true, and *p* is false. Thus, the dialethic treatment of the doctrine of trinity and non-duality offers one account of paradoxical assertions, the Jaina

theory of sevenfold predication would offer yet another account by revealing hidden parameters belonging to each of the assertions.

Although our presentation of ideas about reasoning and debate from Indian philosophy has been brief, one can hear an objection coming from the perspective of formal logic. Since none of these ideas are formally laid out they are not contributions to logic. While this is a justified observation from the point of view of formal logic, it would be a mistake to think that these contributions from debate and dialogue do not bear on formal logic and the philosophy of logic simply because they themselves are not formal (enough).

For example, consider a scenario in which Aristotle discusses the principle of noncontradiction, but never discusses or presents syllogistic logic. That is, he discusses the metaphysics of logic, but doesn't develop a theory of syllogism and of valid and invalid inferences. If one holds that a thinker only contributes to "logic" when they actually present rules of inference or a theory of valid and invalid syllogisms, then in this scenario Aristotle would not have contributed to logic. However, this seems intuitively wrong. Aristotle clearly does contribute to the metaphysics of logic via discussion of the principles of noncontradiction and bivalence.

Given that principles of judgment control the downstream construction of logical rules, it seems that one can contribute to the theory of judgment, and thus to logic, without constructing rules of inference. The law of noncontradiction doesn't specify a rule, but it does show that some rules cannot be accepted, such as from A conclude not-A. Likewise, we can argue that the forms of judgment proposed in Nyāya, Buddhism, and Jainism might themselves constrain what rules of inference can be accepted. We think this is in fact the case in the work of Priest and Garfield on Buddhist logic. Our concern is primarily with Jaina thinkers who didn't work out any rules of inference formally, but did discuss the soundness of specific inferences. Although we cannot go into it here, we believe their general theory of judgment can be developed to do some interesting work in the philosophy of logic.

This takes us back to issue we wish to discuss: (a) In what sense of "logic" does a tradition or thinker contribute to logic? Why should we think that the relevant notion of "logic" that is to be used to account for good and bad reasoning must be taken from Western sources alone? So far we have been arguing over in what sense, if any, an Indian tradition can contribute to Western notions of logic. Why not look at the notion of inference (*anumāna*) in Indian philosophy, as opposed to the notion of "logic" in 20th century Western philosophy, to see whether an intervention in the debate over logical pluralism can be made? After all, inference is related to consequence and good inference is related to validity, and soundness.

Gorisse (2015) shows that there is an intricate debate between Jains and Buddhists about whether the following inferences are good: (i) from the taste of a mango one can infer the color of the mango, and (ii) from the color of a mango one can infer the taste of the mango. Not only is the debate about the goodness of an inference, but also what is the best explanation of why it is good or bad. Gorisse further argues that the Jains have an epistemic account of good inference. She says,

> In the Jain tradition, invariable concomitance is known by a separate cognitive process, a conjecture (*tarka*) that grasps the impossibility to be otherwise, which is the Jain equivalent to the Buddhist triple characteristic (*trairūpya*) of evidence. In this line, whereas Dharmakīrti grounds the validity of invariable concomitance on ontological relations, *Jain philosophers consider that the only means to establish the validity of the invariable concomitance is the direct conjectural grasp of the impossibility to be otherwise.*
>
> (Gorisse, 2015, p. 2, emphasis added)

The core idea is that validity is captured through an epistemic process involving counterfactual reasoning. An argument is valid when one's reasoning from the premises to the conclusion leads one to the view that the conclusion couldn't but be true. Gorisse tells us that the distinctive component of the Jaina theory of inference involves the

epistemic reading of the counterfactual. One way to capture the core idea is by contrasting two different notions of good argument:

> **Non-Epistemic:** An argument is good if and only if it is impossible for the premises to be true and the conclusion false.
>
> **Epistemic:** An argument is good if and only if knowing the premises guarantees that one is in a position to know the conclusion.[15]

While classical logicians prefer non-epistemic accounts of goodness which capture validity, Jains, arguably, prefer the epistemic view of goodness where there is a connection to knowledge.

It is now time to make a bold general assertion. All traditions of Indian philosophy discuss the theory of inference within the theory of knowledge. The conception of "logic" that comes out of Indian philosophy must be understood to be part of the theory of knowledge in an important way. Inference is a way of knowing about the world. So, giving a theory of inference is giving a theory of how knowing the premises makes it the case that you know the conclusion of the argument. How does this bear on the debate over logical pluralism?

The view that inference is part of the theory of knowledge bears on the debate over logical pluralism, without siding with either pluralism or monism, by offering an account of the consequence relation that is embedded in a theory of knowledge. In broad strokes, whether or not one accepts the Jain view of valid inference, as long as one is operating with the influence of Indian philosophy, it will be the case that the debate over logical pluralism will be approached through the lens of *logic in the service of knowing* or *logic as a tool for knowing*. This can lead to many views about logical pluralism. For example, one could hold that logic as an epistemic tool leads to the view that there are many correct logical systems because there are many different problems to which we can apply logic in the service of gaining knowledge. Just as there are many tools, each only good for the specific job they are designed to do, there are many logics, each only good for the specific problems they are designed to solve. Because logics are epistemic tools, we can find a path to logical pluralism based on the plurality of tools. However, things can go the other way as well. If one holds that logic is a specific tool in the service of knowing the true ontology of the world or is based on the true ontology of the world, then debates about inference in Indian philosophy may speak more directly to logical monism. On this account, logic is either about knowledge of true ontology or is articulated on the basis of true ontology.

Regardless of how things are explored, our point is the following. *The claim that Indian religious and philosophical traditions cannot contribute to the debate over logical pluralism because they hardly or never wrote down any rules of inference in a formal language is simply false.* What is to be seen is exactly how a specific text or thinker in a tradition can be analyzed so as to draw out a contribution, which can then be applied to the debate. We see this as a valuable direction for future debates over logical pluralism at the intersection of global philosophy of religion and the philosophy of logic. Our view is not limited to Indian philosophy. We believe a similar strategy is open to a number of traditions, Chinese philosophy in particular strikes us a good place for applying the strategy we do here. Our hope is that the debate over logical pluralism can be revitalized both for the philosophy of logic and for applying it in other areas of philosophy, such as metaphysics and the philosophy of religion.

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ENDNOTES

[1] Beall and DeVito (2023) provides a helpful catalogue of other contradictions in Christian doctrines. See also Beall (2021) and Beall and Cotnoir (2017).

[2] See Vaidya (2023) for discussion of the logic of the non-duality claim in Advaita.

[3] Not every dialetheist must be committed to seeing the doctrine of the trinity as expressing a contradiction. Nonetheless, a dialetheist *could* still say this; see Cotnoir (2017). We are grateful to an anonymous referee for pushing on this claim.

[4] It is possible to accept a logic that has both excluded middle and bivalence and handle these paradoxical assertions, though this will entail making modifications to the logic elsewhere such as removing disjunctive syllogism. We are again grateful to an anonymous referee for pushing us to be clearer on this point.

[5] Hjortland (2017) dubs this 'anti-exceptionalism about logic'.

[6] See Woods (2015) and (2019) for some interesting limitations on theories of this kind.

[7] See, *inter alia*, Priest (2006), chapter 11. We note that this account of logic as centrally about validity is disputed between Williamson (forthcoming) and others, including Priest.

[8] Readers are also commended to Cook (2010) and Caret and Kouri Kissel (2021).

[9] See also the discussion in Restall (2002), and Griffiths and Paseau (2022), especially p 37 *ff*.

[10] We pass over a full discussion of the normativity of logic; see, *inter alia*, MacFarlane (2004) and Milne (2009).

[11] See Ganeri (1996) for an excellent presentation of 19th century accounts of the 5-steps of Proper Reasoning.

[12] See Priest (2010) for discussion of these points.

[13] See Priest (2021) for discussion of the fifth corner of four.

[14] Note that some Jaina philosophers, such as Prabhācandra, add that there is second kind of *saptabhaṅgī* where the variables range over standpoints understood as *the comprehensive, the collective, the pragmatic, the direct,* and *the semantic.* There is a further debate over how many such standpoints (*naya*) there are.

[15] There are actually two versions of this bi-conditional. One that uses "knows the conclusion" and one that uses, as this one does, "is in a position to know the conclusion." I use the latter formulation here, but it might be the case that Jains, and other Indian traditions that accept this account of a good argument, would prefer the simpler formulation. One reason for this is that knowledge is often tied to action in Indian epistemology. At least in the Nyāya tradition it is linked to the idea of unhesitating action. The idea is if one knows, they won't hesitate in action. Thus, knowing the premises might require knowing the conclusions such that one cannot or would not hesitate in action were they to have the appropriate desire.

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