

## **The Implications for the Principle of Bivalence of Accepting Truth as Evidentially Constrained**

If it ever comes to be that all philosophers agree on what truth is, how meta-discourses can achieve it and how philosophers would recognise such an event, philosophy could get on with settling some of its favourite questions, such as those around identity, morality and the nature of reality. So, the suggestion is, that until consensus has been reached about truth itself it remains a futile hope to ever settle any of the other questions, aiming to give rise to truthful answers, with which philosophy concerns itself.

This paper sees yet another argument for the adoption of a specific notion of truth and, more importantly, what such a notion would entail. You will find this argument located within a well established discourse around whether or not truth should be regarded as evidence transcendent or evidentially constrained but you will also find that it is placed only at a beginner's level of grappling with some of the most fundamental concepts underscoring this debate. In short, the argument will run as follows: My claim is that, given the soundness of certain premises (which it is my aim to establish) it simply must be the case that many of our propositions remain indeterminate in truth value. (Indeterminacy refers to the, so to speak, truth status of a proposition which cannot be conclusively settled as either true or false.) The first point being made will be that there are certain premises for an argument for indeterminacy which cannot serve such an end. I shall argue that an example of premises which cannot support an argument for indeterminacy will be premises making metaphysical claims. The second point made is that, besides the unhelpfulness of premises such as the aforementioned, there are also certain premises which are necessary for establishing an effective argument for indeterminacy; a case in point being that truth be regarded an epistemic notion and that not the metaphysics in question but rather the knowability thereof must serve as premises for an argument for indeterminacy. However, my intention is to avoid dedicating much of this paper towards an argument for truth as evidentially constrained (so only the most abbreviated mention will be made of some of the reasons why truth should be regarded an epistemic notion). The aim, rather, is to clarify the premise for an argument for indeterminacy which asks for the knowability of the states of affairs which would make a proposition true or false and then to focus on what an effective argument for indeterminacy entails for the Principle of Bivalence.

### **Truth as an epistemic notion**

Bob Hale, in his article, *Realism and its Oppositions*, proposes that philosophical projects concerned with truth are not as much about ontological questions about the existence of certain objects in and properties of reality, but rather about identifying certain classes of statements and what notion of truth should be applied to each class. But because it seems misguided to argue truth related issues assuming that all theorists take all discourses, or classes of statements, to be subject to the same criteria for truth, I shall, for the purposes of this paper, make reference primarily to scientific language and metaphysical discourse in philosophy.

I think it fair to generalise and say that the agreed objective of science, whether it be of the classical Newtonian or Quantum type, is to forward objectively true claims about the nature of reality which can, under certain conditions, be recognised by all agents. In other words, it is explicitly part of the nature of science to guard against the subjective interpretation of data and construction of truths. Implicit to the nature of science is that interpretations which are to be accepted as legitimate scientific interpretations, and therefore can give rise to certain scientific laws and principles, or serve to substantiate such laws and principles, must stand hostage to being

capable of revision. Scientific laws, principles and hypotheses are presented as linguistic items such as propositions and assertions. And, since this is the case, it is relatively uncontroversial that scientific propositions and claims must be up for verification and falsification or be deemed pseudo-scientific. For some reason, unfathomable to certain theorists, metaphysics, in philosophy, lost this objective of truth being established by way of verification- or knowability. It is, of course, true that philosophy does its work differently to science, and it may therefore be argued that metaphysics should not be subject to the same constraints as placed on science, but surely forwarding contingent truths about reality should be up for revision- and not just by way of an opposing rational proof? The reason for this is that philosophy is partially founded on the important difference between validity and truth and when metaphysics does its work it aims for more than a tidy end to a perfect argument. The problem, as I see it, lies in the fact that at present, but rooted firmly in the philosophical methods of some of the first metaphysicians such as Plato and Aristotle concluding apparent truths about the reality of Forms and some such things, metaphysics still subscribes to quite a large degree to the idea that the truth of metaphysical propositions has very little, if anything, to do with the knowability of the content of the propositions. It seems to be enough to present a deductively valid argument for the conclusion to be accepted as an actual truth about reality. And this, to me, seems to stand in breach of the distinction between validity and truth.

But there is a very respectable alternative for those theorists who find truth to be associated to some degree with knowledge. This split about how truth ought to be conceived in metaphysics and the meta-discourses around the languages of science is best described thus: the one camp claims to adhere to a notion of truth which is characterised by truth outrunning the evidence we may have in support of it. In this case truth could be defined by something like the Correspondence Principle (which states that a proposition is true if and only if it corresponds to the facts). In such a case that which would make a proposition true is called its truth conditions. But, notably, any further clauses about how a speaker would know when this correspondence has occurred are conspicuously absent, leaving the attainment of truth about the nature of reality hostage to the validity of rational proofs only. My worry is that if it is the case that Correspondence theories about truth suggest that a statement needs to correctly correspond to the facts in order to be true then it seems to be inconsistent to make the *method* of settling truth dependent on validly deducing truth across inferential lines. This is because validity does not in any way guarantee that propositions correspond with reality. It seems to me that Correspondence theories suggest that truth has something to do with language making links with reality but then fall short of actually making the proof of such a link a requirement. Instead most theorists who subscribe to Correspondence theories (which refer to only a contingent relationship between statements and facts in the world) also subscribe to Classical Logic for settling actual truth- making the settling of truth something like a logical necessity. This then suggests that truth- not validity- has been settled by deductive reasoning across inferential pathways. Accepting deductive reasoning as a legitimate way to yield true conclusions about reality means that all propositions can be regarded, a priori, as being either true or false. This is because proofs of this kind are either valid or not. It is such a conception of truth exactly which is captured by the Principle of Bivalence- which holds that all propositions are either true or false. Quite evidently it is implicit to Classical Logic that the Principle of Bivalence obtains- making truth always determinable either way. However, when the method for establishing truth, namely deductive reasoning, does not take into account what the definition of truth requires, such as that a proposition is true if and only if it corresponds to a certain state of affairs in the world it places the definition and method for establishing truth at odds with each other.

Now even though it is by no means being suggested that all realists would fall into a category characterised by a subscription to both Correspondence theories about truth and the acceptance of

principles such as the Principle of Bivalence I think that it is safe to say that many theorists of the realist type do subscribe to both. I leave this thought suspended by forwarding, in conclusion, the suggestion that the partnership of Correspondence theories about truth and Classical Logic is an inherently unstable position about truth.

The other camp, anti-realism, regards truth as something like warranted assertibility- stating that a speaker is warranted in making claims to truth only if such a claim has met with its verification conditions. For the anti-realist, the attainment of truth is entirely based on the knowledge the speaker can manifest of the contents of which they speak. The intuition is that the *accidental* achievement of saying something true *without knowing this to be so* can hardly be a helpful way of looking at truth and *how* we can know true things about the world. Truth becomes a matter of practicality. And because it is a practical issue whether or not truth is obtained it must simply be the case that at times, for practical reasons, truth is not determinable. It is suggested that only this understanding can really be helpful in (and consistent with) gaining truth in contingent claims about reality and existence. In this case a proposition is true if and only if it has met its verification conditions. It is quite possible for, and most likely that, most theorists will agree that the truth of statements has something to do with those statements corresponding to reality, in other words making correct reference. But the anti-realist regards such a notion of truth more compatible with a further stipulation; that is that a Correspondence theory of truth must insist that truth can only be settled when there is some appeal being made to speaker knowledge. Anti-realism, in a sense, asks for a more congruent relationship between a commonly held definition for truth and the way in which truth is settled. And this seems to ask for truth being conceived of as an epistemic notion.

The suggestion, therefore, is that it is only correct to view a scientific or metaphysical proposition as true if and only if the speaker is warranted in asserting it. And this warrant is based on speaker knowledge of the content of the proposition. The reasoning in support of such a notion of truth for these particular types of propositions is that they are used in such a way as to imply the tracking of objective facts (correspondence to matters of fact) and not as the conclusions to deductively valid arguments.

Looking at the following arguments,

#### **Argument 1**

**P1:** The determinate truth/falsity of the class of statements to which proposition (A) belongs is evidentially constrained

**P2:** There is no evidence available for determining the truth of statement (A)

**C1:** Therefore, the truth of proposition (A) is indeterminate

#### **Argument 2**

**P1:** The determinate truth/falsity of the class of statements to which proposition (A) belongs is evidentially constrained

**P2:** The speaker of proposition (A) is unable to access the evidence necessary for determining the truth of proposition (A)

**C2:** Therefore, the truth of proposition (A) is indeterminate

### **Argument 3**

**P1:** The determinate truth/falsity of the class of statements to which proposition (A) belongs is evidentially constrained

**P2:** There is evidence of there existing a state of affairs in the world which show proposition (A) to be false

**C3:** Therefore, proposition (A) is determinately false

### **Argument 4**

**P1:** The determinate truth/falsity of the class of statements to which proposition (A) belongs is evidentially constrained

**P2:** There is evidence of there existing a state of affairs in the world which show proposition (A) to be true

**C4:** Therefore, proposition (A) is determinately true

it my aim is to show that Argument 1 must necessarily conclude the indeterminacy of some propositions. The reason for this is that there is no substantive way of establishing, in the absence of evidence, whether the indeterminacy concluded in arguments 1 and 2 is due to inadequate observation or an actual absence of some required state of affairs. In other words, it is being proposed that indeterminacy is, a priori, partially characterised by the inability of the speaker to know whether premises 2 of arguments 1 or 2 correctly describe the situation. The inability to settle which of these premises is correct when evidence is unavailable is what partially leads to some propositions having an indeterminate truth value. It is my claim that arguments 3 and 4, only, are correctly stating the conditions for determinate truth value. Other cases for determinate truth value that have been, quite evidently, omitted from the list of these 4 arguments are examples of arguments which use, as a premise, truth being defined as evidence transcendent.

Looking at premise 2 of arguments 1 and 2 it should be sufficiently clear that the absence of evidence does not conclusively explain *why* there is no evidence available. This is because the unavailability of evidence could be due to either an absence of certain metaphysical states of affairs or it could be due to an inadequate or flawed capacity to observe and aptly judge an existing metaphysical state of affairs. The fact that it remains impossible to put in place substantive criteria for establishing a useful distinction between these two possible reasons for the absence of evidence is why truth cannot, either in principle or in actuality, be settled when we have no evidence available to serve as verification conditions. It is important to know why evidence is unavailable because it would be a pity to assume, incorrectly, for instance, that this is due to the way the world is. Of course, the proponent of the Principle of Bivalence could present a counter argument that it is of no concern what the reason is for the absence of evidence because a statement must, in principle and whether we know it to be so or not, be either true or false. But it seems that it does

matter what the reason for the lack of evidence is in terms of what further inferences we are entitled to validly deduce from a proof. And this is the point precisely.

For instance, according to argument 1, if it is not being taken into account that absence of evidence could also be due to lack of speaker knowledge or observation (as in argument 2), Error theorists can happily conclude that, for instance, moral propositions are false. The reason is, quite simply, according to Error theorists, that the world is such that it does not accommodate some of our propositions (in the sense of providing something like truth conditions or verification conditions). If it were the actual and known case that there are no corresponding facts to verify certain propositions it does, indeed, seem to make such a proposition false. But, unfortunately for the Error theorists, an absence of evidence for the truth of a proposition is not the same as evidence for the falsity of a proposition. And it is only the latter which can a priori support determinate truth because an absence leaves the question open ended as to why there is an absence. And it may just not necessarily be due to a lack of a certain metaphysical state of affairs. Arguments 3 and 4 are, therefore, the only legitimate ways of concluding under which conditions it is possible to assume determinate truth or falsity. Error theorists claim that problematic language is the sort of language which the world cannot support and must, therefore, always be false. But it seems to me as if this is the wrong way of putting it. Problematic language is surely the sort of language which leaves the speaker *unable* to establish *why* the evidence is not available. Knowing (which is what the error theorists claim they do) that the necessary metaphysics is absent must, admittedly, render propositions false but it is not because the language is problematic. Such propositions are false precisely because the language *is* unproblematic due to its making reference to a knowable state of affairs- even if this is knowing that such a state is non-existent. What makes language problematic is not, in itself, that it is the sort of language which makes reference to something which does not exist or that it makes reference to something which, even though it does exist, is not trackable by the speaker. The problem for language arises when it is impossible to say which.

### Classical Logic

The Principle of Bivalence has it that all propositions have exactly one of two truth values: true or false. In other words the principle states that all propositions must, by logical necessity, be either true or false. It is, therefore, a priori knowable that either a proposition or its negation will be true. This principle, combined with a commitment to truth being evidence transcendent, sits at the very foundations of, and is what legitimises, Classical Logic. For example, propositions such as “Living things obey different laws to non-living things” or “There is a dimension of reality which is independent of the physical dimension” or “The ultimate object of our affection is a beautiful cosmos” are either true or false. By this view the middle position, that of indeterminacy, is excluded by necessity. Now it does, indeed, seem as if it is correct to think that such propositions must be either true or false depending on whether they correspond to the facts or not. And if knowledge of whether or not the propositions do correspond to the facts is irrelevant to how we think of truth then, I suppose, nothing more remains to be said counter the Principle of Bivalence.

However, if truth is correctly thought of as an epistemic notion, in other words that truth cannot outrun evidence, this does not bode well for the Law of the Excluded Middle. This is then how the argument runs: If there are certain propositions which speakers simply do not (in actuality) or can have no (in principle) knowledge of the contents and if truth is not based on something like tautological principles and definitions then there are certain propositions which cannot be determinately true or false. It may be the case that metaphysicians and scientists are *able to* and *do* say true things without having knowledge of when this happens but if this fact is enough on which

to base an entire discipline aimed at saying substantively true things about the nature of reality, it seems very hard to see how metaphysics will even get off first base.

It seems quite evident, and largely uncontroversial, that Classical Logic is biased towards realism by presupposing the Principle of Bivalence, theories such as correspondence theories about truth and the Law of the Excluded Middle. These are the cornerstones of Classical Logic and are what validate realist claims in metaphysics, ethics and epistemology. If it emerges, however, that truth is better thought of as evidentially constrained then certain propositions remain indeterminate primarily because they are indeterminable. The indeterminacy of such propositions means, at least, that an *unrestricted* acceptance of the Principle of Bivalence is a priori wrong. Classical Logic, which at present is only forwarding tautologies about truth, will only be helpful (if the aim is to know anything substantially true) when it appeals to an epistemic notion of truth. The suggestion is that Classical Logic cannot serve philosophy under epistemically unconstrained conditions, if the quest of philosophy is something like gaining metaphysical or meta-ethical knowledge. Hale puts it thus: "If an epistemic notion of truth is correct then realism can only properly endorse Bivalence if ingredient terms are not subject to reference failure or vagueness." I take Hale to mean, by "reference failure", the inability of the *speaker* to know when terms within a sentence properly denote the state of affairs to which they seem to make reference. Only under these prescribed epistemic conditions can realist claims, in particular, or realist language in general, appeal to the laws of Classical Logic to enable true deductions.

Dummett speaks of two lines of thought for rejecting Classical Logic. I shall only make mention of the first as this is more pertinent to this paper. To place the following in some sort of context, Dummett reckons that the problem with which we are primarily concerned here is not that we are unable to tell whether an argument is classically valid but rather whether statements which are classically valid have conclusively established their truth. Dummett's claim is that an argument can be made for meaning being determined by use and that only correct use can conclude the truth of the statement. In my view, to this should be added, that also only incorrect use can establish the falsity of a statement. Such an argument would have to be premised on an acceptance that claims to truth (in other words assertions) must by their very nature actually be capable of being shown to be either correct or incorrect. If sentences are not capable of being shown to be correct or incorrect then their work must lie outside the class of indicative statements. Dummett maintains, correctly, that Classical Logic does not ask for anything such as correct use except maybe in terms of syntax and deductive inference. And it just does not seem as if the correct or incorrect use of an indicative sentence is entirely captured by the correct or incorrect application of syntactical and inferential rules. The correctness of a sentence has, at least, *also* to do with making proper reference to aspects of reality. And it seems as if this aspect of correct use can only be satisfied by a notion of truth which requires truth to be epistemically constrained.

Looking at truth in science or, within philosophy, in something like metaphysics it seems that a commitment to, for instance, metaphysical realism about all or just a few sorts of entities and properties *may* be adequately supported by Classical Logic, depending on the requirements of the theorist. But any theorist who is concerned with establishing conclusive truths needs to appeal to more than what Classical Logic seems to demand. It seems, to me, that metaphysical realism, in particular, should (and should be able to do so with no trouble at all) appeal to an evidentially constrained notion of truth. But this has not been the primary argument attended to. I, therefore, conclude by reiterating that, if it is accepted that truth has, at least a positive association with speaker knowledge this may ask, to a greater or lesser degree, that some propositions are indeterminate. Such a class of propositions represents the "excluded middle", in other words, propositions which are undecided because they cannot, by an epistemic notion of truth, be said to

be either true or false. If this is regarded a legitimate class of propositions then it simply entails, by logical necessity, that the Principle of Bivalence (which states that all propositions are either true or false) is not apt under all conditions. And this means that the unrestricted acceptance of Classical Logic stands in need of revision.