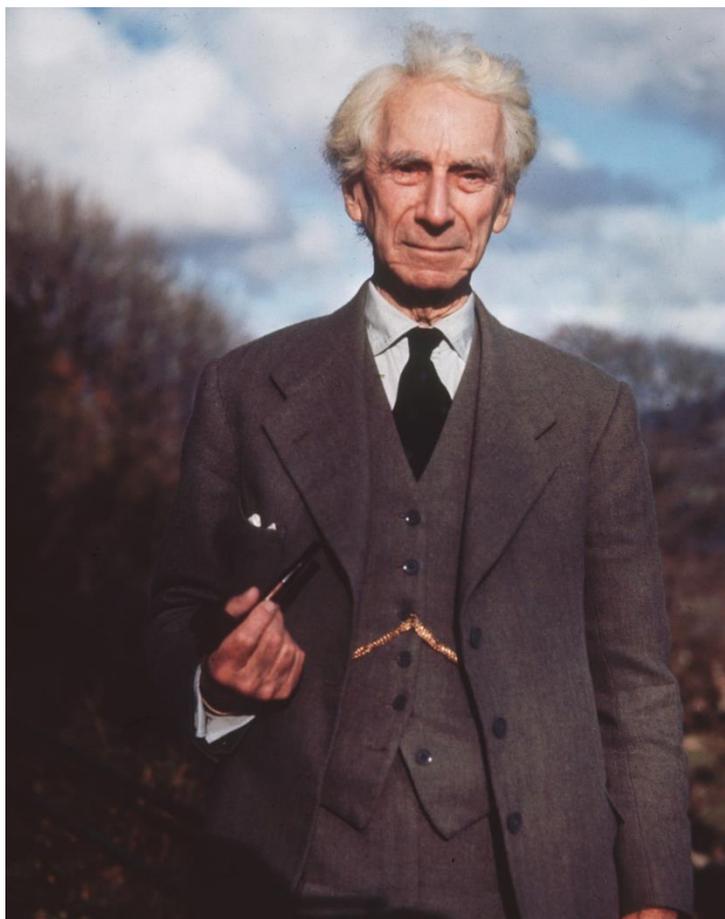# Classic Text 09 - Truth

The notion of truth is ordinarily one we take for granted. We all have a sense of what it means to say that some belief or utterance is true or false but are hard pressed to say just what we mean by "truth" without resorting to circular definitions. Indeed in Classic Text 07 we encountered, among others, the "justified, true, belief" theory of knowledge, taking the meaning of the middle term very much for granted.

The classic text for this study unit is taken from Chapter 12 of Bertrand Russell's 1912 slim volume *The Problems of Philosophy*. Aimed at the intelligent but non specialist reader, the text is still used, more than a century later, by many universities as a primer in Philosophy. The chapter "Truth and Falsehood" below, comprises of, perhaps the most succinct, statement the **correspondence theory of truth**. Despite its difficulties, a 2009 survey of 3226 faculty members and graduate students of Philosophy

Bertrand Russell (1872 – 1970) circa 1965 British Philosopher, Logician, Mathematician, Nobel Laurite and Early 20th Century Proponent of Analytical Philosophy. (Photo by Hulton Archive/Getty Images)

revealed that a 44.9% majority of respondents either accept or lean towards correspondence theories of truth over other such theories. ([philpapers](#)) Of course philosophical theories are not judged by their popularity, however hopefully Russell's classic text will reveal some of the theory's allure.

The Problems of Philosophy by Bertrand Russell, 1912

Chapter XII - Truth and Falsehood

OUR knowledge of truths, unlike our knowledge of things, has an opposite, namely error. So far as things are concerned, we may know them or not know them, but there is no positive state of mind which can be described as erroneous knowledge of things, so long, at any rate, as we confine ourselves to knowledge by acquaintance. Whatever we are acquainted with must be something; we may draw wrong inferences from our acquaintance, but the acquaintance itself cannot be deceptive. Thus there is no dualism as regards acquaintance. But as regards knowledge of truths, there is a dualism. We may believe what is false as well as what is true. We know that on very many subjects different people hold different and incompatible opinions: hence some beliefs must be erroneous. Since errone-

ous beliefs are often held just as strongly as true beliefs, it becomes a difficult question how they are to be distinguished from true beliefs. How are we to know, in a given case, that our belief is not erroneous? This is a question of the very greatest difficulty, to which no completely satisfactory answer is possible. There is, however, a preliminary question which is rather less difficult, and that is: What do we mean by truth and falsehood? It is this preliminary question which is to be considered in this chapter.

In this chapter we are not asking how we can know whether a belief is true or false: we are asking what is meant by the question whether a belief is true or false. It is to be hoped that a clear answer to this question may help us to obtain an answer to the question what beliefs are true, but for the present we ask only 'What is truth?' and 'What is falsehood?' not 'What beliefs are true?' and 'What beliefs are false?' It is very important to keep these different questions entirely separate, since any confusion between them is sure to produce an answer which is not really applicable to either.

There are three points to observe in the attempt to discover the nature of truth, three requisites which any theory must fulfil.

(1) Our theory of truth must be such as to admit of its opposite, falsehood. A good many philosophers have failed adequately to satisfy this condition: they have constructed theories according to which all our thinking ought to have been true, and have then had the greatest difficulty in finding a place for falsehood. In this respect our theory of belief must differ from our theory of acquaintance, since in the case of acquaintance it was not necessary to take account of any opposite.

(2) It seems fairly evident that if there were no beliefs there could be no falsehood, and no truth either, in the sense in which truth is correlative to falsehood. If we imagine a world of mere matter, there would be no room for falsehood in such a world, and although it would contain what may be called 'facts', it would not contain any truths, in the sense in which truths are things of the same kind as falsehoods. In fact, truth and falsehood are properties of beliefs and statements: hence a world of mere matter, since it would contain no beliefs or statements, would also contain no truth or falsehood.

(3) But, as against what we have just said, it is to be observed that the truth or falsehood of a belief always depends upon something which lies outside the belief itself. If I believe that Charles I died on the scaffold, I believe truly, not because of any intrinsic quality of my belief, which could be discovered by merely examining the belief, but because of an historical event which happened two and a half centuries ago. If I believe that Charles I died in his bed, I believe falsely: no degree of vividness in my belief, or of care in arriving at it, prevents it from being false, again because of what happened long ago, and not because of any intrinsic property of my belief. Hence, although truth and falsehood are properties of beliefs, they are properties dependent upon the relations of the beliefs to other things, not upon any internal quality of the beliefs.

The third of the above requisites leads us to adopt the view -- which has on the whole been commonest among philosophers -- that truth consists in some form of correspondence between belief and fact. It is, however, by no means an easy matter to discover a form of correspondence to which there are no irrefutable objections. By this partly -- and partly by the feeling that, if truth consists in a correspondence of thought with something outside thought, thought can never know when truth has been attained -- many philosophers have been led to try to find some definition of truth which shall not consist in relation to something wholly outside belief. The most important attempt at a definition of this sort is the theory that truth consists in coherence. It is said that the mark of falsehood is failure to cohere in

the body of our beliefs, and that it is the essence of a truth to form part of the completely rounded system which is The Truth.

There is, however, a great difficulty in this view, or rather two great difficulties. The first is that there is no reason to suppose that only one coherent body of beliefs is possible. It may be that, with sufficient imagination, a novelist might invent a past for the world that would perfectly fit on to what we know, and yet be quite different from the real past. In more scientific matters, it is certain that there are often two or more hypotheses which account for all the known facts on some subject, and although, in such cases, men of science endeavour to find facts which will rule out all the hypotheses except one, there is no reason why they should always succeed.

In philosophy, again, it seems not uncommon for two rival hypotheses to be both able to account for all the facts. Thus, for example, it is possible that life is one long dream, and that the outer world has only that degree of reality that the objects of dreams have; but although such a view does not seem inconsistent with known facts, there is no reason to prefer it to the common-sense view, according to which other people and things do really exist. Thus coherence as the definition of truth fails because there is no proof that there can be only one coherent system.

The other objection to this definition of truth is that it assumes the meaning of 'coherence' known, whereas, in fact, 'coherence' presupposes the truth of the laws of logic. Two propositions are coherent when both may be true, and are incoherent when one at least must be false. Now in order to know whether two propositions can both be true, we must know such truths as the law of contradiction. For example, the two propositions, 'this tree is a beech' and 'this tree is not a beech', are not coherent, because of the law of contradiction. But if the law of contradiction itself were subjected to the test of coherence, we should find that, if we choose to suppose it false, nothing will any longer be incoherent with anything else. Thus the laws of logic supply the skeleton or framework within which the test of coherence applies, and they themselves cannot be established by this test.

For the above two reasons, coherence cannot be accepted as giving the meaning of truth, though it is often a most important test of truth after a certain amount of truth has become known.

Hence we are driven back to correspondence with fact as constituting the nature of truth. It remains to define precisely what we mean by 'fact', and what is the nature of the correspondence which must subsist between belief and fact, in order that belief may be true.

In accordance with our three requisites, we have to seek a theory of truth which (1) allows truth to have an opposite, namely falsehood, (2) makes truth a property of beliefs, but (3) makes it a property wholly dependent upon the relation of the beliefs to outside things.

The necessity of allowing for falsehood makes it impossible to regard belief as a relation of the mind to a single object, which could be said to be what is believed. If belief were so regarded, we should find that, like acquaintance, it would not admit of the opposition of truth and falsehood, but would have to be always true. This may be made clear by examples. Othello believes falsely that Desdemona loves Cassio. We cannot say that this belief consists in a relation to a single object, 'Desdemona's love for Cassio', for if there were such an object, the belief would be true. There is in fact no such object, and therefore Othello cannot have any relation to such an object. Hence his belief cannot possibly consist in a relation to this object.

It might be said that his belief is a relation to a different object, namely 'that Desdemona loves Cassio'; but it is almost as difficult to suppose that there is such an object as this, when Desdemona does

not love Cassio, as it was to suppose that there is 'Desdemona's love for Cassio'. Hence it will be better to seek for a theory of belief which does not make it consist in a relation of the mind to a single object.

It is common to think of relations as though they always held between two terms, but in fact this is not always the case. Some relations demand three terms, some four, and so on. Take, for instance, the relation 'between'. So long as only two terms come in, the relation 'between' is impossible: three terms are the smallest number that render it possible. York is between London and Edinburgh; but if London and Edinburgh were the only places in the world, there could be nothing which was between one place and another. Similarly jealousy requires three people: there can be no such relation that does not involve three at least. Such a proposition as 'A wishes B to promote C's marriage with D' involves a relation of four terms; that is to say, A and B and C and D all come in, and the relation involved cannot be expressed otherwise than in a form involving all four. Instances might be multiplied indefinitely, but enough has been said to show that there are relations which require more than two terms before they can occur.

The relation involved in judging or believing must, if falsehood is to be duly allowed for, be taken to be a relation between several terms, not between two. When Othello believes that Desdemona loves Cassio, he must not have before his mind a single object, 'Desdemona's love for Cassio', or 'that Desdemona loves Cassio', for that would require that there should be objective falsehoods, which subsist independently of any minds; and this, though not logically refutable, is a theory to be avoided if possible. Thus it is easier to account for falsehood if we take judgement to be a relation in which the mind and the various objects concerned all occur severally; that is to say, Desdemona and loving and Cassio must all be terms in the relation which subsists when Othello believes that Desdemona loves Cassio. This relation, therefore, is a relation of four terms, since Othello also is one of the terms of the relation. When we say that it is a relation of four terms, we do not mean that Othello has a certain relation to Desdemona, and has the same relation to loving and also to Cassio. This may be true of some other relation than believing; but believing, plainly, is not a relation which Othello has to each of the three terms concerned, but to all of them together: there is only one example of the relation of believing involved, but this one example knits together four terms. Thus the actual occurrence, at the moment when Othello is entertaining his belief, is that the relation called 'believing' is knitting together into one complex whole the four terms Othello, Desdemona, loving, and Cassio. What is called belief or judgement is nothing but this relation of believing or judging, which relates a mind to several things other than itself. An act of belief or of judgement is the occurrence between certain terms at some particular time, of the relation of believing or judging.

We are now in a position to understand what it is that distinguishes a true judgement from a false one. For this purpose we will adopt certain definitions. In every act of judgement there is a mind which judges, and there are terms concerning which it judges. We will call the mind the subject in the judgement, and the remaining terms the objects. Thus, when Othello judges that Desdemona loves Cassio, Othello is the subject, while the objects are Desdemona and loving and Cassio. The subject and the objects together are called the constituents of the judgement. It will be observed that the relation of judging has what is called a 'sense' or 'direction'. We may say, metaphorically, that it puts its objects in a certain order, which we may indicate by means of the order of the words in the sentence. (In an inflected language, the same thing will be indicated by inflections, e.g. by the difference between nominative and accusative.) Othello's judgement that Cassio loves Desdemona differs from his judgement that Desdemona loves Cassio, in spite of the fact that it consists of the same constituents, because the relation of judging places the constituents in a different order in the two cases. Similarly, if Cassio judges that Desdemona loves Othello, the constituents of the judgement are still the same,

but their order is different. This property of having a 'sense' or 'direction' is one which the relation of judging shares with all other relations. The 'sense' of relations is the ultimate source of order and series and a host of mathematical concepts; but we need not concern ourselves further with this aspect.

We spoke of the relation called 'judging' or 'believing' as knitting together into one complex whole the subject and the objects. In this respect, judging is exactly like every other relation. Whenever a relation holds between two or more terms, it unites the terms into a complex whole. If Othello loves Desdemona, there is such a complex whole as 'Othello's love for Desdemona'. The terms united by the relation may be themselves complex, or may be simple, but the whole which results from their being united must be complex. Wherever there is a relation which relates certain terms, there is a complex object formed of the union of those terms; and conversely, wherever there is a complex object, there is a relation which relates its constituents. When an act of believing occurs, there is a complex, in which 'believing' is the uniting relation, and subject and objects are arranged in a certain order by the 'sense' of the relation of believing. Among the objects, as we saw in considering 'Othello believes that Desdemona loves Cassio', one must be a relation -- in this instance, the relation 'loving'. But this relation, as it occurs in the act of believing, is not the relation which creates the unity of the complex whole consisting of the subject and the objects. The relation 'loving', as it occurs in the act of believing, is one of the objects -- it is a brick in the structure, not the cement. The cement is the relation 'believing'. When the belief is true, there is another complex unity, in which the relation which was one of the objects of the belief relates the other objects. Thus, e.g., if Othello believes truly that Desdemona loves Cassio, then there is a complex unity, 'Desdemona's love for Cassio', which is composed exclusively of the objects of the belief, in the same order as they had in the belief, with the relation which was one of the objects occurring now as the cement that binds together the other objects of the belief. On the other hand, when a belief is false, there is no such complex unity composed only of the objects of the belief. If Othello believes falsely that Desdemona loves Cassio, then there is no such complex unity as 'Desdemona's love for Cassio'.

Thus a belief is true when it corresponds to a certain associated complex, and false when it does not. Assuming, for the sake of definiteness, that the objects of the belief are two terms and a relation, the terms being put in a certain order by the 'sense' of the believing, then if the two terms in that order are united by the relation into a complex, the belief is true; if not, it is false. This constitutes the definition of truth and falsehood that we were in search of. Judging or believing is a certain complex unity of which a mind is a constituent; if the remaining constituents, taken in the order which they have in the belief, form a complex unity, then the belief is true; if not, it is false.

Thus although truth and falsehood are properties of beliefs, yet they are in a sense extrinsic properties, for the condition of the truth of a belief is something not involving beliefs, or (in general) any mind at all, but only the objects of the belief. A mind, which believes, believes truly when there is a corresponding complex not involving the mind, but only its objects. This correspondence ensures truth, and its absence entails falsehood. Hence we account simultaneously for the two facts that beliefs (a) depend on minds for their existence, (b) do not depend on minds for their truth.

We may restate our theory as follows: If we take such a belief as 'Othello believes that Desdemona loves Cassio', we will call Desdemona and Cassio the object-terms, and loving the object-relation. If there is a complex unity 'Desdemona's love for Cassio', consisting of the object-terms related by the object-relation in the same order as they have in the belief, then this complex unity is called the fact corresponding to the belief. Thus a belief is true when there is a corresponding fact, and is false when there is no corresponding fact.

It will be seen that minds do not create truth or falsehood. They create beliefs, but when once the beliefs are created, the mind cannot make them true or false, except in the special case where they concern future things which are within the power of the person believing, such as catching trains. What makes a belief true is a fact, and this fact does not (except in exceptional cases) in any way involve the mind of the person who has the belief.

End of Exert

Correspondence Theory of Truth

Simply put the **correspondence theory of truth** states that the truth or falsity of a belief or statement depends solely on how it relates to the world. True beliefs or statements accurately describe or "correspond" to the world as it, whereas falsehoods fail to do so.

Consider an even simpler example involving only three terms as opposed to Russell's four. According to the correspondence theory of truth, "A cat is on a mat" is true if and only if there exists in the world A, a cat and B, a mat and there obtains a relation between A and B such that A is on B. If any of the terms is missing or the relation fails to obtain, then the statement is false. In language, A and B correspond to subject and object respectively with the verb expressing the relation. The property of having, what Russell called a "sense" or "direction" is as he puts it "the ultimate source of order and series..." Thus if A and B were to be transposed such that B is on A, the statement would also be false. Russell's point about inflected languages (such as German or Italian) is that they have, among others, subject and object cases making them much easier to distinguish than languages such as English that have lost much of their inflection but rely on other clues, such as word order.

According to Russell, the correspondence theory of truth accounts for the fact that beliefs are mind dependent but independent of minds for their truth. For clarity we shall reserve the term "fact" to refer to "a true statement" and what Russell refers to as "facts" as "states of affairs". Thus in worlds were there are no minds there can be no truths only states of affairs. For example, there were no truths concerning the detailed surface of the Moon before humans landed there. There were however states of affairs, such as one particular lunar rock lying adjacent to another one that nobody knew about. When humans arrived on the Moon however, they were able to infer true beliefs about the detailed surface on which they stood, to the extent that such beliefs corresponded to states of affairs wholly independent of them. Thus, while these astronauts subsequently reported many truths concerning their observations *they* did not make them true. The *correspondence* between their beliefs and the states of lunar affairs did. Furthermore what true statements they might have recounted may be accorded facts.
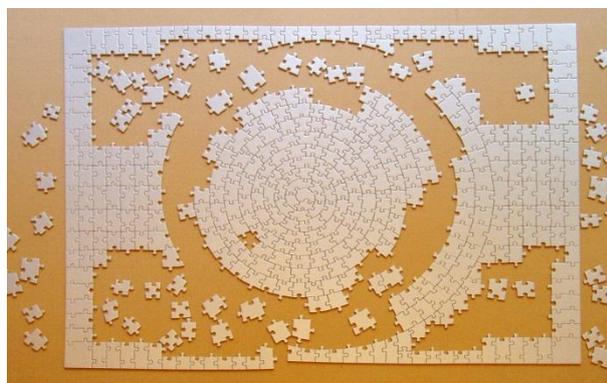
Several objections to the correspondence theory of truth question our ability to know the world. For a realist like Russell who believed that we know objects directly as they are, this is no impediment. For a thoroughgoing idealist however, who maintains that reality, as we know it, is fundamentally a mental construct, the idea of correspondence with the world, as it is, is incoherent, if only because for them, there are no external objects to which statements or beliefs correspond. To the radical sceptic, on the other hand, who believes we can know nothing, the correspondence theory of truth is simply false. Unfortunately there is no arguing with either an idealist or radical sceptic who can simply stand their ground. If all of reality is either a mental construct or simply unknowable, anything we adduce to the contrary will itself be seized upon as a mental construct or a falsehood.

Michael Williams (1977) provides an altogether different argument according to which the correspondence theory of truth is either vague or circular. Thus, a proponent of the correspondence theory of truth offers some accompanying theory of the world, or she does not. If she does not, the argument in favour the theory would be so vague as to be useless or even unintelligible because truth would then supposedly correspond to some undefined, unknown or ineffable world. On the other hand, the moment a proponent of the correspondence theory of truth offers some accompanying theory of the world she is operating under some ontological or scientific model, which itself stands in need of justification. However, the only test of the truth of the accompanying theory of the world, according to the correspondence theory of truth, would be for it to correspond to the real world, hence its circularity.

One possible rejoinder to Williams' objection might run as follows: No psychologist or philosopher today seriously entertains the idea of a *tabula rasa* (Latin: blank slate) on which experience is inscribed. Even new-born babies come into the world with certain propensities; therefore the possibility of a proponent of the correspondence theory of truth having no accompanying theory of the world is simply a non-starter. Everybody has some *weltanschauung*. On the other hand, theories of the world including, ontological or scientific models, in particular, differ fundamentally from first order statements or beliefs about states of affairs, which may or may not correspond to the world as it is. Instead, they are collections of statements or beliefs about other high order statements or beliefs that draw together theories, logics as well as knowledge and value systems. And while it is true that these themselves stand in need of justification, they do not *reduce* to a correspondence of states of affairs in the world alone. Russell's example of Othello's belief, as well as the example of the cat on the mat at the beginning of this discussion, were chosen precisely because they do demonstrate such a reduction. That worldviews, including ontological or scientific meta-theories, do not is no indictment on the correspondence theory of truth as it relates to states of affairs in the world as it is. Problems however do arise when it is pressed into purposes for which it is not fit, such as evaluating meta-theories and *a priori* assumptions. At most Williams' objection demonstrates that the correspondence theory of truth is not wrong, only circumscribed. Towards the end of this of this study unit we shall examine theories of truth more suited to scientific theories.

Coherence Theory of Truth

Russell contrasts the correspondence theory of truth with the **coherence theory of truth** according to which, truth and falsity are to be determined by relations to other beliefs or statements rather than to the actual world. In this sense, a true belief is one "coheres" with a body of other true beliefs, whereas a false one fails to do so, just as the right puzzle piece fits in place with surrounding pieces whereas pieces that are out of place fail to do so. Russell quickly dispatches with the coherence theory of truth, pointing out that "there is no reason to suppose that only one coherent body of beliefs is possible." Anyone who has a penchant for fantasy literature will have marvelled at how a skilled author is able to create amazingly internally self-consistent worlds with no basis in reality. Russell's second reason for dispensing with

the coherence theory of truth concerns the nature of the laws of logic. In a consistent coherence theory of truth, the truth or falsity of such laws would depend on the degree to which they cohere with other such laws. Suppose that we chose to assume that the **law of non-contradiction**, $\sim(p \bullet \sim p)$ were false. That would render *every* statement true, including such absurdities as: "It rains phlegm on Saturn," and "It does not rain phlegm on Saturn." If you are not convinced, here is a formal proof starting with the negation of the law of non-contradiction and any other proposition *q,* no matter how absurd:

1. $\sim(\sim(p \bullet \sim p))$
2. $p \bullet \sim p$ 1 D.N.
3. p 2 Simp.
4. $p \vee q$ 3 Add.
5. $\sim p \bullet p$ 2 Comm.
6. $\sim p$ 5 Simp.
7. q 4,6 D.S.

To make matters worse, assuming the law of non-contradiction to be false effectively maximises coherence by necessitating the truth of every possible statement in the Universe, including the law of non-contradiction itself, which is beyond absurd. According to Russell, "the laws of logic supply the skeleton or framework within which the test of coherence applies, and they themselves cannot be established by this test. For the above two reasons, coherence cannot be accepted as giving the meaning of truth, though it is often a most important test of truth after a certain amount of truth has become known."

This last clause bares some further elaboration. Once we do know a great deal about any one subject, such as the human body, further truths that we might discover are highly likely to be consistent with what we already know. Indeed if we "discovered" something about the human body totally at variance with what we already knew, chances are our "discovery" will turn out to be mistaken. Thus we can use coherence as an indicator of the likelihood of a truth in matters about which we already know a great deal, however we cannot appeal to consistency to establish truths in the first place.

Constructivist Theory of Truth (and Knowledge)

According to social constructivism, truth is a social construct which is historically and culturally specific and is shaped *inter alia* by power struggles within a community. Unlike the correspondence theory of truth, constructivist theories of truth do not reflect any external "transcendent" realities. Instead perceptions of truth are viewed as contingent on convention, human perception, and social experience. These include representations of physical and biological reality, including race, sexuality, and gender. (Wikipedia: Truth)

Unlike Descartes, for whom there was "one test and rule of truth, namely, that whatever is clearly and distinctly conceived is true," Giambattista Vico's *verum factum* principle (1710) argued in his *De antiquissima Italorum sapientia, ex linguae latinae originibus eruenda* ("On the most ancient wisdom of the Italians, unearthed from the origins of the Latin language,"): "The criterion and rule of the true is to have made it. Accordingly, our clear and distinct idea of the mind cannot be a criterion of the mind itself, still less of other truths. For while the mind perceives itself, it does not make itself." In his influential *Scienza Nuova* (The New Science, 1725) he went on to argue that civil life, like

mathematics, is wholly constructed. This idea was subsequently taken up by Hagel and Marx however; Marx "did not reject the existence of objective truth but rather distinguished between true knowledge and knowledge that has been distorted through power or ideology. (Wikipedia: *Giambattista Vico* and *Truth*)

The chief objection to constructivist theories of truth (and knowledge) is that they leave themselves open to the charge of relativism. Vico is quite correct to point out that much of our knowledge has been made. For example there would be no theorems of mathematics if people had not invented the number system. Although it is a moot point among mathematicians whether theorems are discovered or invented, there is no doubt that it has been through intellectual effort that such theorems have come to be known. The problem comes when Vico insists that "the criterion and rule of the true is to have made it." Except for trivial examples of truth making, such a making the statement: "A cat is on a mat" true by physically placing a cat on a mat, humans have almost no power to *make* contingent propositions true unless they already correspond to some state of affairs in the world as it is. A Geographer may make many discoveries and produce useful knowledge, but he cannot *make it true* that, "Asia is the largest continent" unless it already tallies with a state of affairs in the world. If we really were truth makers, truth would be whatever we chose to make it to be, which is manifestly delusional. More problematic: the truth of one person's making might contradict that of another's and yet both be accounted true, relative to race, sexuality, gender, culture, society, or historical context. However, it cannot be for example, that relative to one person's culture, the cat is on a mat, while relative to another's culture the very cat is not simultaneously on the same mat. There is an unambiguous state of affairs in the world, according which there is or is not a cat on the mat, irrespective of anybody's culture. The problem with relativism then is that we are required to relinquish any claim to absolute truth. This however is self-refuting because if there are no absolute truths, then that in itself is an absolute truth.

Social Constructivist Theory meanwhile, holds that, a proposition is true just in the case that it is consistent with the beliefs of the socially influential or "power elite." But no matter how influential the "power elite," they are no more truth makers than the rest of humanity. They may misrepresent or stage the *presentation* of knowledge through power or ideology, to the point that their propaganda is believed to be factual by the masses however; a falsehood cannot be made true by belief alone, no matter how fervent. Indeed the belief that thoughts by themselves can bring about effects in the world or that thinking something corresponds with actually doing it, has come to be known by psychologists as "magical thinking" and it is by no means confined to the wishful thinking of children.

Constructivist theories, social or otherwise, may describe how *beliefs* are constructed or influenced by race, sexuality, gender, culture, society, or historical context; however they simply do not account for the relation between *truth* and states of affairs in the world, as it is. At best they simply ignore the question; at worst they deny that there even is a reality independent of our constructs.

Pragmatic Theories of Truth

Charles Sanders Peirce (say: /pɜrs/ like "purse",) William James and John Dewey are usually credited for the development of pragmatism around the turn of the 20th century. Because pragmatism brings together such a broad range philosophical fields of enquiry including epistemology, metaphysics, logic, philosophy of science, mind and language as well as ethics and aesthetics, we have confined

the following to discussion to pragmatic theories of truth alone. Pragmatism (from Greek πρᾶγμα (pragma), "a thing, a matter or a fact," from the verb πρᾶσσω (prassō), "I practise or achieve") rejects the idea that the function of thoughts is to describe, represent, or mirror reality. Instead pragmatists regard the function of thought as an instrument or tool for prediction, action, and problem solving. Thus while truth is not regarded as a property of a statement, utility is the essential mark of truth. Accordingly, a proposition is true if it is useful to believe. So those beliefs that lead to the best "payoffs," which are the best justification of our actions, and that promote practical success, are accounted truths. This is an eminently sensible and practical notion, as anyone labouring under a false belief about an activity is unlikely to be met with success. For William James, (1909) "the 'true' is only the expedient in our way of thinking, just as the 'right' is only the expedient in our way of behaving." In other words truth, like right, is a quality whose value is confirmed by its efficacy in actually putting concepts into practice (hence, "pragmatic.") Therefore unlike coherence or constructivist theories of truth, that can or do ignore external reality, pragmatism *requires* that external world be dealt with.

Although pragmatism was widely accepted in its time and continues to survive in modified forms today, it is not without its problems. Firstly, it may be useful for one person to believe a proposition to be true while for another it may be useful to disbelieve it. According to Freud, for example, people need to believe in a god who keeps a watchful eye on everyone in order to avoid despair. For others however, it would not be useful to believe such a proposition as the idea of being constantly observed would lead to despair in equal measure. That a proposition can be simultaneously true and false is a violation of the law of non-contradiction, as we have seen. (Internet Encyclopaedia of Philosophy: Truth) It is quite likely however that the "proposition" in question is not *precisely* the same in both cases, in which case we are not dealing with a genuine contradiction. Nevertheless to say that there is a "true" for me and a different "true" for you, in spite of relevant facts, is just relativism.

Secondly, certain ideas are psychologically useful to believe but objectively false. For example it is psychologically necessary to believe that we lead meaningful and valuable lives, whereas objectively, the universe is quite indifferent to our existence. Hence it would seem that the pragmatic theory of truth overestimates the strength of the connection between usefulness and truth. (Internet Encyclopaedia of Philosophy: Truth) However, we are aware here, that we are comparing different beliefs without contradiction: one first person and subjective, the other third person and objective.

Finally, according to Russell, James' version of pragmatism confuses the notion of truth with epistemology. What pragmatism describes is an indicator or sign of truth, rather than a theory of the meaning of truth. For example, when the street lights come on, it is an indication or sign of evening. In the same way that it would be a mistake to say that "'evening' just means 'the time that the streetlights come on,'" so it would be a mistake to claim that a proposition that is part of a perfect science at the ideal limit of inquiry, which is an indicator of truth, is just what "true" means. (Wikipedia: Pragmatic Theory of Truth)

It is hard to believe that James could have made such an elementary mistake, however in Science it is not uncommon to let quantifiable proxies stand in for phenomenon that are not directly measurable, though are known to exist, as indicated by other phenomena. In medicine for instance we can operationalise the concept of health by looking at a number of quantifiable indicators of

health such as blood pressure, body mass index, blood sugar levels, resting pulse, respiration rate *etc.* without losing sight of the fact what we a measuring are *signs* or *indicators* of health rather than the phenomenon of health itself. It may just be that truth, like the concepts of health, intelligence, personality *etc.* can only be defined through the operations by which we measure them. Such a view wold be compatible with pragmatism, without confusing the notion of truth with epistemology.

Verificationism

Verificationism is not a theory of truth but a now defunct philosophical attitude towards meaningfulness. Verificationism is included here as it provides a logical segue into falsificationism from which it arose. In short the **verifiability principle** states: "Meaning is method of verification," a corollary of which is that, if a statement has no method of verification, *i.e.* a *way of telling* whether it is true or not, then it is meaningless. (Devitt & Sterelny, 1987 p. 189)

Verificationism arose from within two groups of logical positivists who formed the Berlin and Vienna Circles in the 1920's, which included philosophers, scientists and mathematicians. Initially shocked by what was happening in German Philosophy at the time, they sought to place meaningful philosophical discourse on par with empirical sciences. Rudolf Carnap one of the group's active members quotes snippets from Martin Heidegger's *What is Metaphysics?* by way of example:

> What is to be investigated is being only and—nothing else; being alone and further— nothing; solely being, and beyond being-nothing. What about this Nothing? … Does the Nothing exist only because the Not, i.e. the Negation, exists? Or is it the other way around? Does Negation and the Not exist only because the Nothing exists? … We assert: the Nothing is prior to the Not and the Negation…. Where do we seek the Nothing? How do we find the Nothing…. We know the Nothing…. Anxiety reveals the Nothing…. That for which and because of which we were anxious, was 'really'—nothing. Indeed: the Nothing itself—as such—was present…. What about this Nothing?—The Nothing itself nothings. (Heidegger as quoted by Carnap 1932, p. 69)

At a stroke, the verification principle was supposed to eliminate metaphysics, ethics and aesthetics. In particular, the dispute between idealists and realists as to whether there is an external reality was thought to simply evaporate. Since both parties already agree on the empirical evidence as the "given," which is what verifies statements and hence provides their meanings, this leaves nothing but a pragmatic choice of language between material-thing language defined in terms of the "given" and sense-data language defined in terms of the "given." This task of dismissing metaphysical issues and replacing them with linguistic ones to be analysed for meaning became part of the "linguistic turn" in philosophy. (Devitt & Sterelny, 1987 p. 189-90)

However the verification principle soon ran into some serious difficulties. According to Devitt & Sterelny, *op. cit.* "[i]n particular, it proved impossible to frame it in a moderate enough form to save much of our cherished knowledge; the weapon eliminated not only German metaphysics, but just about everything else as well. Further, it cast doubt on its own status. How was *it* to be verified." (p. 190)

The final section below concerns the nature of scientific hypotheses. In a world that, for better or for worse, has ceded most of its knowledge making to science, there is a popular conception that what

is "scientific" must be "true" and that all else besides, must at best be opinion and at worst meaningless. Indeed we are daily bamboozled by adverts that claim their products are "scientifically formulated." What can this mean?

Falsificiationism

A statement, hypothesis, or theory is **falsifiable** or **refutable** if it is possible to prove it to be false. According to **falsificationism,** an hypothesis must be falsifiable in order to qualify as scientific; alternatively if an hypothesis is not able to be refuted it is not scientific, though not necessarily meaningless either.

According to Karl Popper, (1934) the philosophers of the Vienna Circle had conflated two different problems: those of meaning and demarcation, with verificationism as a single solution to both. Popper however pointed out that there are meaningful theories that are not scientific, and that therefore, what qualifies as meaningful does not necessarily coincide with demarcation. Instead Popper urged, verifiability should be replaced with falsifiability as the criterion of demarcation. He also refuted the positivist belief that non-falsifiable statements are meaningless or otherwise inherently bad. (Section 6, footnote 3 & Wikipedia: Falsifiability)
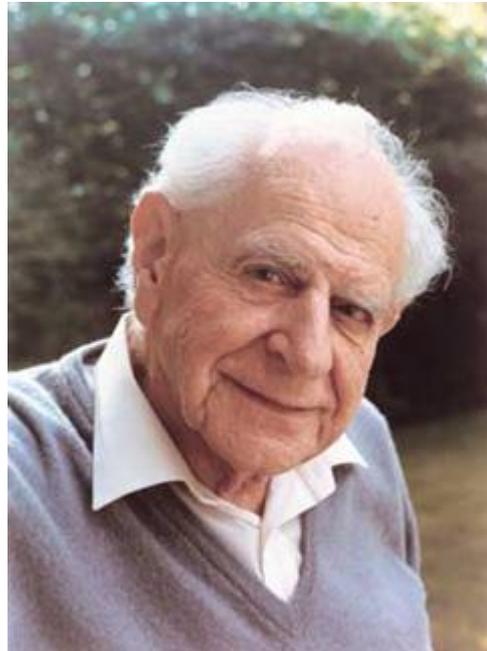
Sir Karl Popper (1902 - 1994) Arguably the Most Influential Philosopher of Science of the 20th Century

Traditionally, the goal of Science had been to prove universal hypotheses such as, "All swans are white" as "Laws" derived form a series of singular existential statements such as, "This swan is white," "This swan is also white …" and so on, that correspond to individual instances of observation. Unfortunately, there is no deductively valid way of deriving a universal statement from singular existential statements alone, no matter how many. This, in short, is the problem of induction, as discussed in Critical Reasoning 03. Nevertheless, before Europeans discovered Australia, no one in the western world had ever seen a swan that was not white, so the generalisation stood... That is until 1790 when the English naturalist John Latham scientifically described the Black Swan *Cygnus atratus*. Unlike deriving a universal statement from singular existential statements, a singular existential statement corresponding to the observation of a black swan does falsify the universal statement "all swans are white," via the deductively valid elementary rule of inference, *modus tollens*. Thus, if *U* is some universal that precludes an observation *O* and *O is* observed, then we have

1. $U \supset \sim O$
2. *O* $/\therefore \sim U$ 1,2 M.T.

Although the logic of falsificationism is valid, it is naïve to consider a statement in isolation from the group of statements that comprise of a scientific theory. It is these groups of statements that must be accepted or rejected by scientists. Of course, scientific theories can always be defended by the introduction of *ad hoc* hypothesis or qualifications, such as "all swans are white, except those found

in Australia," however according to Popper, scientists must make a *decision* as to whether to accept or reject the statements that go to make up a theory or that might falsify it. At some point however, if the weight of *ad hoc* hypotheses or qualifications and discarded falsifying observations exceeds the support they offer to the base theory, a decision will ultimately have to be made to reject it. (Wikipedia: Falsifiability) Informally, the demise of such theories is known as **death by a thousand qualifications**, as discussed in Critical Reasoning 06.

In 1963 Popper published a collection of lectures and papers entitled: *Conjectures and Refutations: The Growth of Scientific Knowledge*, which provides a synopsis of his work within the field of Philosophy of Science at the time. Here he argues that all scientific theories are by nature conjectures and inherently fallible, and that refutation is the overriding process of scientific discovery: Theories that survive the process of refutation are considered to have a higher degree of **verisimilitude** and hence closer to truth, while those that have been refuted either fall by the wayside or must be reworked as fresh conjectures, subject to further rounds of refutation.

Falsificationism has received a hostile reception from both philosophers and scientists alike. On the one hand, falsificationism entails **fallibilism**, according to which nothing, including observational statements, can be known with certainty. This requires that certain observational statements must be taken as basic by general agreement rather than conjecture and refutation. (Humphreys, 2005) On the other hand, many scientists and philosophers of science such as Bartley (1976) maintain that there is a "gulf between Popper's way of doing philosophy and that of the bulk of contemporary professional philosophers…" Indeed it may be that Popper's notion of conjecture and refutation is an idealisation of what actually goes on in the day to day production of scientific knowledge, however contemporary Science cannot even begin to operate without tacitly accepting the criterion of falsifiability. As Albert Einstein is reported to have said: "No amount of experimentation can ever prove me right; a single experiment can prove me wrong." (Paraphrased - Calaprice, 2005 p. 291)

Task

This study unit does not nearly cover every theory of truth; indeed there is a whole raft of minimalist or deflationary theories of truth which completely dispense with the predicate "… is true." At some point however, as someone who is interested studying Philosophy, you will have to take a stand and either develop your own theory of truth or justify endorsing a version of one of the existing theories. This is not a task that can be indefinitely postponed because our ordinary language, culture, educational, ethical and legal systems are shot through with references to truth and falsehood. Nor can one be forever agnostic about truth: either it is objective and represents the world in some way or it is not - there is no middle ground. How you choose to present your theory is up to you.

Feedback

Below are some of the characteristics of a good theory to keep in mind when evaluating your own theory of truth. As always it is important to get some unbiased feedback from someone who is interested in Philosophy, whose judgement you can trust. Remember:

- A theory is not the same as an hypothesis; an hypothesis is just a guess, educated or otherwise. A theory, on the other hand provides an explanatory framework for observation or reflection. From the assumptions of the explanation a number of possible hypotheses follow that can be tested, analysed or formally proved in order to provide support for, or challenge, the theory. (Modified from Wikipedia: Theory)

- A good theory must have content that can possibly be refuted. It must assert that things operate in one way and rule out other possibilities. (Peter, 2007)

- A good theory should be internally consistent, *i.e.* different parts of the same theory should not contradict one another.

- A good theory should also be economical: it should explain more than it assumes (see Occam's razor, at right.)

- Ideally, a good theory should be simple, unless the phenomenon it explains is very complex. Even then, it should be simpler that the phenomenon it explains.

- A theory should not attempt to explain an obscure phenomenon by one that is even more obscure.

- Elegance is often the hallmark of a good theory; however no theory is accounted true on aesthetic grounds alone. In Logic and in Mathematics, the elegance of a proof equates with its succinctness: overly long and contorted proofs are considered inelegant.

> ### *Occam's razor* (Latin: *lex parsimoniae*)
>
> So named after William of Ockham (c. 1287 - 1347) this problem-solving principle states that "entities must not be multiplied beyond necessity." In practical terms this means that among competing hypotheses, the hypothesis with the fewest assumptions should be selected. As far as theories are concerned; one should proceed with a simpler theory unless a slightly less simple theory has greater explanatory power. Even then, the simpler of two theories with equal explanatory power should be favoured.
>
> Note: Occam's razor is a heuristic or guiding principle. It does not guarantee the logical or scientific truth of any hypothesis. However as Popper (1992) observed, we prefer simpler theories to more complex ones "because their empirical content is greater; and because they are better testable."

In our next Classic Text we shall be considering Game Theory in the context of Sociobiology.

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