

Philosophers have developed a theory of truth in which the truth of a belief is a matter of the “fit” it has with the set of beliefs that we already accept to be true. This theory is called the *coherence theory of truth*. If the “fit” is right, then the belief is true. Let’s look at this theory in more detail.

A) We must assume, first, that each person already has a set of beliefs each of which the person takes to be true without question. For example: each person believes that s/he is a human being, believes that they are walking (when they are), believes that they live at such-and-such address, believes that  $2+2=4$ , believes that they are on earth, believes that they are sick when they feel sick, and so on. There are countless beliefs each person accepts as true without question, beliefs that have been confirmed over-and-over, that have been successfully acted on, and that have been communicated to others with no hesitation that they might be wrong. Every now-and-then something might happen that make us call one of these “solid” beliefs into question, and (to our surprise!) we might have to give it up: (a classic example is the trusting person who, after decades of marriage, discovers that their spouse has been having an affair). But overall, each of us has a “core set” of beliefs that we never question.

B) The next thing to notice is that beliefs have connections to each other. This happens because a belief is always in the form of a proposition (a statement) and statements have logical relationships to each other. For example, these two statements are contradictory: (i) God exists, (ii) God does not exist. If you believe one of these, you shouldn’t believe the other; if you do, your belief system contains a contradiction. Here is another example: (i) I live in Boston, (ii) I live in Massachusetts. Because Boston is located in Mass, it follows by logic that if you live in Boston, you must live in Mass. So, if you believe that you live in Boston, you should believe you live in Mass. But this relationship between these two beliefs doesn’t work the other way: If you believe you live in Mass, you should only believe you live in Boston if you actually do; it doesn’t follow by logic that you *must* live in Boston.

C) The third thing to point out is that a set of two or more propositions (statements) is said to be *coherent* if two conditions are satisfied: (1) it is *consistent*; that is, does not contain a contradiction. Another way to put this is: a set of two or more propositions meets this condition if it is *possible* for all to be true. This doesn’t mean that they *are* all true, only that they *can be* all true. Here are two examples of sets of four propositions. The first set does not satisfy this condition, the second set does:

1. (i) Boston has no sales tax.
  - (ii) There is a quart of milk in my refrigerator.
  - (iii) The moon orbits Earth every 28 days.
  - (iv) Mass. has a state-wide sales tax.

This set fails to satisfy condition (1) because it is not possible for all four to be true. If (iv) is true, (i) *must* be false because Boston is a city in Mass; if (i) is true, (iv) *must* be false, again because Boston is a city in Mass. The point is not that that (i) is actually true or that it’s actually

false; the same for (iv). What makes this set of propositions *incoherent* is that it is inconsistent, it contains a logical contradiction. Now compare this set to the following set:

2. (i) I have a friend who's a good skier.
- (ii) I can't go to class today because I feel sick.
- (iii) Elm trees in NE are dying out due to an insect infestation.
- (iv) I have a friend who skis.

These four propositions satisfy condition (1) because it's *possible* for all to be true. Suppose one of these, say (ii) is actually false (say, I'm not sick and can go to class, I just don't want to so I make up a lie). That wouldn't matter because it wouldn't be the other three that *requires* (ii) to be false, it's false on its own (we might say), independently of the other three propositions. Note also that there happens to be a logical connection running from (i) to (iv); if (i) is true, then (iv) *must* be true, but if (iv) is true, (i) could be true or false. This set of four propositions does not contain a contradiction, it is consistent and thus it meets condition (1).

Now suppose someone believes the four propositions in set 1. Their belief system would *not* be coherent; it fails to satisfy condition (1). But if someone believes the four propositions in set 2, their belief system would be consistent and thus satisfy condition (1), even though one of the beliefs (ii) would actually be false.

The second condition for a belief system to be coherent is: (2) the meanings of the beliefs must be *connected*. Granted, this condition is somewhat vague; in general, however, we can say that propositions are connected in meaning when they are about the same topic; their subject-matter connects them. Take, for example, these two propositions:

- (i) My car battery is very old.
- (ii) I need to drive to work every day.

Their meanings are connected, not directly but indirectly, because there is an overlap in topic; both are about my car as my means of transportation. But now compare these two propositions to the following two:

- (i) No triangle can be divided into three congruent triangles.
- (ii) There's a 6-pack of beer in my refrigerator.

Even though both contain numbers, we understand that they are about completely different topics; there is no overlap in their meanings. One is about the world of geometrical shapes, while the other is about the contents of my refrigerator.

In sum, beliefs are *coherent* when they are: (1) consistent, and (2) connected.

D) Now let's turn to the *coherence theory of truth*:

For any belief (P) and any system of coherent "core" beliefs (S):

P is true, if and only if:

adding P to S results in larger system of beliefs that is at least as coherent, overall, as S.

Because *coherence* is defined as: consistent + connected, we can expand this statement to the following:

For any belief (P) and any system of coherent "core" beliefs (S):

P is true, if and only if:

- a) adding P to S results in a larger system of beliefs that is at least as *consistent*, overall, as S, and
- b) P has a *connection* to at least some of the propositions in S.

In sum, according to the coherence theory: truth = coherence, and coherence = consistency + connection.

Let's look at an example:

Let S = the following set of 5 propositions that someone might believe:

1. There are 3 apple trees in my yard.
2. There are 2 pear trees in my yard.
3. Fruit trees produce fruit.
4. I like apples but not pears.
5. My yard contains 5 rose bushes.

These 5 propositions form a coherent "story", a coherent set of beliefs. None negates or falsifies or makes us doubt any of the other 4, and they are all about the same general topic (that is, there meanings are connected). Given that S has internal coherence, it is possible for someone to have S as a mini "core" belief-system, a set of beliefs that the believer takes to be true without question, and none would be given up. Now suppose this person wants to form four new beliefs. Here they are:

- P1. Trees are taller than bushes.
- P2. My yard has no plants in it.
- P3. I pick apples from my yard but not pears.
- P4. Today is Saturday.

What happens, according to the coherence theory of truth, as we add each of the new beliefs to S?

1. S + P1: both (a) and (b) are satisfied. P1 *coheres* with S. Thus, P1 is true, and should be believed by the person who believes S.
2. S + P2: (a) is violated and (b) is satisfied. P2 conflicts with S. Thus, P2 is false and should not be believed by the person who believes S. Believing P2 would make the belief system

*inconsistent*, it doesn't "fit," and because S is a "core" system it is not given up or changed; thus P2 should be rejected.

3. S + P3: both (a) and (b) are satisfied. P3 *coheres* with S. Thus, P3 is true, and should be believed by the person who believes S.

4. S + P4: (a) is satisfied, (b) is violated. P4 is not connected with any proposition in S; P neither coheres with nor conflicts with S. Thus, belief-system S does not form a "core" set of beliefs that can make P4 either true or false. The person must turn to a different "core" set of beliefs, beliefs that are not about the person's yard, but about days of the week, calendars, and other relevant beliefs that are connected to "Today is Saturday."

### **Evaluation of the coherence theory of truth**

Philosophers who accept the coherence theory of truth point out that it seems to account for the truth of some of our most important systems of beliefs. Take mathematics, for example. We all believe countless mathematical propositions, such as " $2+2 = 4$ ," and "a triangle has fewer sides than a square." What makes such mathematical beliefs true? The best theory seems to be the coherence theory; if new mathematical discoveries "fit" in with the body of mathematical propositions that mathematicians already accept as true, then they will be accepted as true. And if they don't "fit," mathematicians reject them as false. According to those who hold the coherence theory of truth, belief systems such as geometry and arithmetic count as strong evidence supporting the coherence theory of truth.

Other philosophers, however, have pointed out several problems with the coherence theory of truth. Two are thought to be especially worrisome.

1) Coherence *can't* equal truth because there are well-known counterexamples; that is, systems of connected beliefs that are coherent but completely false. For example, in the history of astronomy there is a theory called the "Ptolemaic System" according to which the earth is at the center of the solar system and all the other observable celestial bodies (planets, stars, moons) revolve around earth. This model of the observable universe was believed by astronomers and thought at the time to be "core," a set of beliefs that were beyond question. All observations seemed to confirm it. This theory formed a *coherent* set of beliefs, and yet it is completely false.

Another well-known example is the case of astrology. Astrology is a coherent set of propositions, worked out in great detail, and believed by many people today. Yet, the idea that the position and movement of celestial bodies at the time of a person's birth will predict what happens to that person in their life is completely false.

These and many other examples of coherent sets of beliefs that are false, prove – according to these critics – that the coherence theory of truth must be wrong. Even if we show that a system of

connected beliefs is completely coherent, it always makes sense to take a further step and ask: But are they true?

2) The second especially worrisome problem arises when we ask: is the coherence theory of truth itself true? By its *own* standards of truth, there must be a coherent set of “core” beliefs about truth with which it coheres. Given that it itself forms a coherent set of beliefs, we ask: what are our “core” beliefs about truth? It seems that they are *not* that truth equals coherence, but that our beliefs are true when the things and event they are about are the way our beliefs represent them being. We typically think that our beliefs about the world are true when the world is the way we believe it is. If, for example, you believe your friend is ill with the Covid virus, and you want to check if this belief is true, you’ll visit your friend and examine him/her and perhaps perform a Covid test. You’ll confirm that this believe is true if you find that your friend really is ill with the Covid virus. Your belief is true because it accurately matches with reality. (This is called the correspondence theory of truth). This is what most people believe about truth, and it is clearly *not* the coherence theory. Thus, by its own standards of truth, the coherence theory of truth should be rejected as false; it doesn’t have the right “fit” with our “core” beliefs about what makes our beliefs true.