
“The point of philosophy is to start with something so simple as not to seem worth stating, and to end with something so paradoxical that no one will believe it.” – Bertrand Russell

The Paradox of the Chicken and the Egg: Which came first, the chicken or the egg?

The Socratic Paradox: “All I know is that I don’t know anything.”

Buddhist Paradox of Desire: In order to attain enlightenment one must eliminate all desires.

Galileo’s Paradox: Consider all the whole numbers $(1, 2, 3, \dots)$, some of those numbers are even, but some are not. So, there are more numbers than there are *even* numbers. But for every even number k there corresponds exactly one number n such that $k = 2n$. So there are just as many even numbers $(2, 4, 6, \dots)$ as there are numbers $(1, 2, 3, \dots)$.

How might we define “paradox”?

paradox = $\pi\alpha\rho\acute{\alpha} + \delta\acute{o}\chi\alpha$
para + *doxa*
 beyond + belief

paradox (def. 1): An argument, based on (apparently) acceptable premises and using (apparently) valid reasoning, which leads to an (apparently) unacceptable (absurd, false, contradictory, etc.) conclusion; or the conclusion of such an argument.

“This is what I understand by a paradox: an apparently unacceptable conclusion derived by apparently acceptable reasoning from apparently acceptable premises” – Sainsbury¹

On this understanding a paradox (i) Starts with premises that seem true, (ii) Proceeds via reasoning that seems valid, and (iii) arrives at a conclusion that seems absurd.

Definitions of “Argument”, “validity”, and “soundness”:

- *argument*: An *argument* is a set of sentences, consisting of premises and a conclusion, where the conclusion is what is trying to be established, and the premises, taken together, are alleged to support the conclusion.
- *validity*: an argument is *valid* when its conclusion is logically necessitated by its premises—if its premises are true, then its conclusion must also be true.
- *soundness*: an argument is *sound* when it is both valid and has true premises.

– Sound argument: Socrates is human. All humans are mortal. \therefore Socrates is mortal.

paradox (def. 2): an argument that seems sound but has a conclusion that seems absurd.

¹Cf. Quine: “a paradox is just any conclusion that at first sounds absurd but that has an argument to sustain it”

Chicken/Egg as argument

- (1) Every chicken is preceded by a chicken egg.
- (2) Every chicken egg is preceded by a chicken.
- (3) If every X is preceded by a Y , then X did not come first.
- (4) So neither a chicken nor a chicken egg came first.

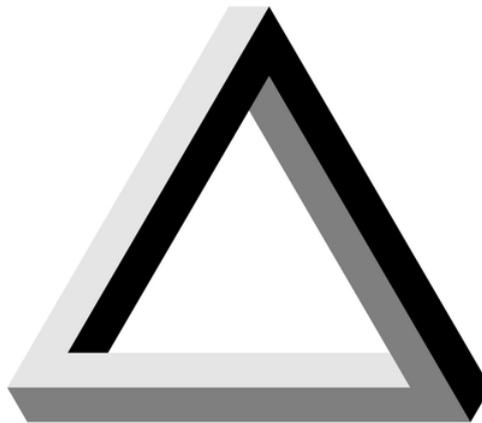
Here is a useful related definition of “paradox”.

paradox (def. 3): A set of statements that are individually plausible and yet jointly inconsistent.

Chicken/Egg as inconsistent set of statements

- (S1) Every chicken is preceded by a chicken egg.
- (S2) Every chicken egg is preceded by a chicken.
- (S3) If every X is preceded by a Y , then X did not come first.
- (S4) Either a chicken came first or a chicken egg came first.

This way of looking at paradoxes is reminiscent of the Penrose triangle—every corner is individually coherent but they are jointly incoherent.



Solving paradoxes: There are three main forms a solution can take (w.r.t def 2.):²

- *Reject-a-premise:* Argue that one of the apparently uncontroversial premises is in fact controversial.
- *Reject-the-reasoning:* Argue that the apparently uncontroversial reasoning is in fact controversial.
- *Accept the conclusion:* Argue that the conclusion isn't in fact absurd.

To genuinely *solve* a paradox one must *identify the culprit*—is a premise false, the conclusion acceptable, or is the reasoning mistaken?—and one must explain why we were deceived by the culprit so we won't be tricked again.

²This is in relation to paradoxes as understood as arguments (see def. 2). If understood as in def. 3, the general forms are related but slightly different: either (i) argue that an apparently plausible statement isn't in fact plausible, or (ii) argue that the statements are in fact jointly consistent.

The role of paradoxes in philosophy

“Paradoxes are fun. . . Paradoxes are serious. Unlike party puzzles and teasers, which are also fun paradoxes raise serious problems. Historically, they are associated with crisis in thought and with revolutionary advances. To grapple with them is not to engage in an intellectual game, but is to come to grips with key issues.” – Sainsbury

“More than once in history the discovery of paradox has been the occasion for major reconstruction at the foundations of thought”- Quine

Many philosophical problems can be construed as paradoxes. Consider the problem of skepticism. The following statements are each individually plausible, yet jointly inconsistent:

THE SKEPTICAL PARADOX:

- (1) You know that you have hands.
- (2) If you don't know that you're not a brain-in-a-vat, then you don't know that you have hands.
- (3) You don't know that you're not a brain-in-a-vat.

The skeptic argues that since (3) and (2) are true (1) is false. The dogmatist (e.g. Moore) argues that since (1) and (2) are true (3) is false. Others, the “closure-deniers” (e.g. Dretske and Nozick), take an intermediate position by accepting both (1) and (3), but deny the closure principle (2). The contextualist (e.g. Lewis) maintains that the statements are not actually inconsistent, (1) is only true in an ordinary context when the standards are low, while (3) is only true in context where the standards have been raised, thus any attempt to derive a contradiction using (2) will be equivocal.

Or consider the problem of fatalism. The following statements are each individually plausible, yet jointly inconsistent:

THE FATALIST PARADOX:

- (1) You didn't, but you could have chosen to skip class today.
- (2) If you didn't skip class today, then it was true yesterday that you wouldn't skip class today.
- (3) If it was true yesterday that you wouldn't skip class today, then you couldn't have chosen to skip class today.