

# Occam's Razor

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Occam's razor or the [law of parsimony](#) is a concept which is embraced by some people in the sciences, philosophy, and the broader humanities. Simply put, Occam's razor states that the [simplest theory is often the best, suggesting that nature uses the simplest means to an end.](#)

Occam's razor is often used to reduce the number of competing theories under discussion, but it is important to remember that it does not actually rule out a theory, as you need empirical evidence to prove or disprove something.

The saying "when you hear hoofbeats, think horses, not zebras," is a classic example of Occam's razor, and it also illustrates the [weakness](#) of this

theory, since of course if one is in Africa or on a zebra preserve, the opposite of this statement would be true. In this instance, additional empirical information about the location of the hoofbeats and ideally observation of whatever is creating the sound is necessary before the presence of zebras can be disproved.

This theory is quite ancient, and it was commonly used in medieval philosophy. It is named for [William of Ockham](#), who appeared to use the concept a great deal, although he most certainly did not invent it. Ockham also did not use the theory without [criticism](#); several of his contemporaries pointed out that a reduction to the simplest answer was not always the best solution. Modern scientists have also suggested that nature seems to abhor simplicity, sometimes

coming up with incredibly complex ways to accomplish simple things like fertilization of a flower.

Many people use Occam's razor to eliminate a competing theory when they are given a choice between a theory which suggests the presence of an additional entity and one which does not. The [goal is to make as few assumptions as possible](#), and in the process hopefully come up with a workable answer to a problem or question. For example, at one point the field of physics relied on an "ether" to explain how light traveled. The existence of this ether could not be proved, and when Einstein suggested his [Theory of Relativity](#), he did away with the ether altogether, positing a clear and simple theory which was deemed to be the best theory because it did not rely on the existence of a nebulous "ether."