

Title: When is the simpler theory better?

Abstract: Ockham's razor, the principle of parsimony, says that a theory that postulates fewer entities, causes, or processes is "better" than a theory that postulates more, so long as the simpler theory is compatible with what we observe. But what does "better" mean? It is obvious that simpler theories are easier to remember, manipulate, and test. The hard problem is to say why the fact that one theory is simpler than another is relevant to deciding what the world is like. In this lecture I'll describe two "parsimony paradigms" within which this hard problem can be solved. The first involves likelihoods; the second involves ideas from model selection in statistics.