Abstract Possible Worlds
by Alvin Plantinga (excerpted from *The Nature of Necessity*, 1974)

1. Worlds

In exploring and explaining the nature of necessity, Leibniz turns to the idea of *possible worlds*; we can do no better. So we must ask initially what sort of thing a possible world *is*. The first and rough answer is that it is a *way things could have been*; it is *a way the world could have been*; it is a *possible state of affairs* of some kind. There are such things as states of affairs; among them we find some that obtain, or are actual, and some that do not obtain. So, for example, *Kareem Abdul-Jabbar's being more than seven feet tall* is a state of affairs, as is *Spiro Agnew's being President of Yale University*. Although each of these is a state of affairs, the former but not the latter obtains, or is actual. And although the latter is not actual, it is a *possible* state of affairs; in this regard it differs from *David's having travelled faster than the speed of light* and *Paul's having squared the circle*. The former of these last two items is causally or naturally impossible; the latter is impossible in that broadly logical sense.

A possible world, then, is a possible state of affairs—one that is possible in the broadly logical sense. But not every possible state of affairs is a possible world. To claim that honour, a state of affairs must be *maximal* or *complete. Socrates' being snubnosed* is a possible state of affairs; it is not complete or inclusive enough to be a possible world. But what is this 'completeness'? Here we need a couple of definitions. Let us say that a state of affairs S *includes* a state of affairs S' if it is not possible (in the broadly logical sense) that S obtain and S' fail to obtain—if, that is, the conjunctive state of affairs S *but not* S' (a state of affairs that obtains if and only if S obtains and S' does not) is impossible. So, for example, *Jim Whittaker's being the first American to climb Mt. Everest* includes *Jim Whittaker's being an American*. It also includes *Mt. Everest's being climbed, something's being climbed*, and *no American's having climbed Everest before Whittaker did*. Similarly, a state of affairs S *precludes* a state of affairs S' if it is not possible that both obtain. Thus *Whittaker's being the first American to climb Mt. Everest* precludes *Luther Jerstad's being the first American to climb Everest* as well as *Whittaker's never having climbed anything*. But now it is easy to say what completeness is; a state of affairs S *is complete* or *maximal* if for every state of affairs S', S includes S' or S precludes S'. And a possible world is simply a possible state of affairs that is maximal. Of course *the actual world* is one of the possible worlds; it is the maximal possible state of affairs that is actual, that has the distinction of actually obtaining. Obviously *at least* one possible world obtains. Equally obviously, *at most* one obtains; for suppose two worlds W and W^* both obtained. Since W and W^* are distinct worlds, there will be some state of affairs S such that W includes S and W^* precludes S. But then if both W and W^* are actual, S both obtains and does not obtain; and this, as they say, is repugnant to the intellect.

2. Books

It is clear that a proposition like

(1) Socrates is snubnosed

is intimately related to a state of affairs like

(2) Socrates' being snubnosed.

Roderick Chisholm, indeed, thinks the relation so intimate as to constitute identity. As he sees it, there are not *two* kinds of entities—propositions and states of affairs—but only one; propositions just *are* states of affairs. Perhaps he is right. Without entering that question, we may note that in any event there is an obvious respect in which (1) corresponds to (2); it is impossible, in that broadly logical sense, that (1) be true and (2) fail to obtain. We might extend the use of 'entails' and say that (1) *entails* (2). But it is equally impossible that (2) obtain and (1) be false; (2) also entails (1). And obviously for any possible world *W* and proposition *p*, *W* entails *p* or entails the denial of *p*. Now for any possible world *W, the book on W* is the set *S* of propositions such that *p* is a member of *S* if *W* entails *p*. Like worlds, books too have a maximality property; if *B* is a book, then for any proposition *p*, either *p* is a member of *B* or else not-*p* is. And clearly for each possible world *W* there will be exactly one book. There is at least one, since for any world *W* and proposition *p, W* entails either *p* or its denial; so the set of propositions entailed by *W* will be maximal. There is also at most one; for suppose a world *W* had two (or more) distinct books *B* and *B'*. If *B* differs from *B'*, there must be some proposition *p* such that *B* contains *p* but *B'* contains the denial of *p*. But then *W* would entail both *p* and its denial, in which case *W* would not be a possible state of affairs after all. So each world has its book. Similarly, each maximal possible set of propositions is the book on some world; and the book on the actual world is the set of true propositions. The book on a world *W* is the set of propositions *true in W*. To say that *p* is true in a world *W* is to say that if *W* had been actual, *p* would have been true. More exactly, if *p* is true in *W*, then *W* entails *p*; it is impossible that *W* be actual and *p* be false. The locution 'truth in *W*' (for specific *W*) denotes a property that a proposition has if it is not possible that *W* obtain and *p* fail to be true. *Truth-in-W* is to be explained in terms of truth *simpliciter*, not *vice versa*. A proposition is true in the actual world if it is true; it is true in *W* if it *would have been* true had *W* been actual.