There is a widely-held and plausible, yet mistaken view which links causation with necessity. Causation is construed as some sort of ‘necessary connection’. This connection is conceived as entailing either that the cause is a necessary condition for the effect, or else that given the cause, the effect was a necessary consequence of that cause. That is to say, the cause is conceived as either a necessary, or else a sufficient condition for the effect – or else it is both a necessary and a sufficient condition for the effect.¹

Some recent theorists have preserved this general structure behind their theory, but have weakened the notion of ‘necessary and sufficient conditions’. Instead of the traditional construal in terms of impossibility of finding cause without effect, or effect without cause, it has been suggested that we should content ourselves with some sort of (relative) improbability of finding cause without effect, or effect without cause. Such theories are called probabilistic accounts of causation, but they are close enough in spirit to a necessitarian account of causation to be included, for our purposes, together with ‘necessary connection’ theories.²

In the initial sections of this paper, we present arguments in support of the growing number of philosophers who say, that all such theories are misguided. Rejection of necessitarian theories will leave us in urgent need of a substitute. In the later parts of this paper, we support and extend a rival approach to causation, one which grounds causation more intimately in the details of scientific theories.

Of course a ‘necessary connection’ theory of causation owes us some account of what kind of ‘necessity’ it rests upon. Either one of the realist or one of the non-realist theories of necessity may be added to some necessitarian (or probabilistic) account of causation, to give the
full theory. But regardless of how the theory of necessity (or probability) is spelt out, we believe both necessitarian and probabilistic theories of causation should be rejected. A cause may be neither a necessary nor a sufficient condition for an effect. The effect could have come about without the cause, either from some other cause or by no cause at all, and consequently the cause is not a necessary condition for the effect. Nor can the occurrence of effect always be taken to ensure a high probability that it was preceded by the cause, nor even to have increased the probability of the cause above what it would otherwise have been. Neither necessity nor its probabilistic weakening are essential to causes, as we shall argue more fully below. Similarly, neither sufficiency nor its probabilistic weakening are essential to causes. A cause need not be a sufficient condition for the effect, and may not even ensure an increased probability for that effect.

We have learned this largely from Hume. Hume's contributions to the theory of causation have a theological background. French theologians, notably Descartes and Malebranche, belonged to a theological tradition which insisted that God could not be fettered by any constraints whatever upon His freedom. Hence given a cause, any cause, God cannot be thereby compelled to permit the effect to follow. If cause is followed by effect, this can only be by the grace of God, by an entirely free choice, on the part of God, to permit the effect to follow. God could intervene and present us with a miracle whenever He chooses. Hence the cause is not, by itself, a logically sufficient condition for the effect. It is only the cause together with the will of God which yields a sufficient condition for the effect. Given just the cause alone, at any time prior to the effect, it is possible for God to choose not to permit the effect. Hence it is possible for the cause to occur and the effect not to follow. That is to say, the cause is not a sufficient condition for the effect. Nor can theologians like Descartes allow that the cause is necessary for the effect. God, being omnipotent, could have brought about the very same effect simply by willing it, or by the mediation of some other quite different cause.

Take the conclusion of this theological argument, then remove God from the scene, and the result is Hume's theory of causation. Instead of asking us to admit that God could choose not to permit the expected effect to follow a given cause, Hume asks us to admit simply that the effect could fail to follow a given cause. And he is right. (In fact he asks us to imagine the effect failing to follow, and he takes imaginability