II

THE DOCTRINE OF IMPLICIT LAW

1. *Covering Law as a Necessary Condition*

LET me begin by challenging in a general way the claim that the covering law model, as it is most naturally interpreted, and as its exponents themselves usually represent it, states a *necessary* condition of giving an explanation of historical events and conditions. The contention I want to examine is that an explanation somehow *requires* a law, that it is not *complete* unless the law in question has been specified, that it is not *tenable* unless the law has been verified by an appropriate empirical procedure. My thesis will be that in spite of there being a certain point in saying of quite ordinary explanations in history that they require to be covered by laws, the conclusions which covering law logicians have commonly gone on to draw are quite unjustified. For although there is indeed a sense in which a 'law' can often be shown to be 'required' by the kind of explanation the historian gives, it is usually not the sort of thing that these logicians would find very interesting. And the only relevant laws which would interest them are not required in the sense which they intend.[1]

To assess the covering law claim we must discover both the exact sense in which the alleged law is required—i.e. elucidate the 'covering' relation—and make clear the logical characteristics of the law itself. Unfortunately, as even the brief survey of the previous chapter will have shown, the terminology of covering law literature is rather fluid when these points are touched upon. It is as if the claim intended could not be put quite satisfactorily either in technical or ordinary language.

[1] In Chapter VI, I shall argue that for some kinds of explanation in history the claim that a covering law is a necessary condition of giving the explanation is totally incorrect. Nor are the points I am prepared to concede in the present chapter conceded in connexion with the kind of explanation which, in Chapter V, I shall call 'rational'.

There are, for instance, many ways of speaking of the supposed 'role' of the covering law itself, when an explanation is given. Mr. R. S. Peters puts the claim in its strongest form when he declares: "To explain an occurrence is to *deduce* it from general or lawlike statements, together with initial condition statements describing particular states of affairs."[1] But usually something much less than this is asserted; it is said only that a law is presupposed, or assumed, or taken for granted in giving the explanation. Even so, there are a number of not obviously equivalent ways of characterizing what Hempel calls the 'theoretical function' of the law in question. According to Popper, for instance, the law is 'tacitly used' in the explanation; White speaks of a law as 'guiding' an explanation;[2] and although at one point Gardiner declares that an explanation holds 'by virtue of' a law, at another he says that in history a covering law only has 'a bearing upon' what falls under it.[3] If we are to assess the force of the model's claim, on its necessary condition side, we must try to go beyond such non-committal ways of characterizing the logical 'role' in question.

When we come to look at what is said about the covering law itself, we shall also find a number of quite different terms used. Thus Hempel, having defined what he means by 'general law' quite austerely as "a statement of universal conditional form which is capable of being confirmed or disconfirmed by suitable empirical findings", goes on to allow that 'probability hypotheses' based on statistical information will do. Popper speaks of 'causal laws', 'laws of nature', and 'trivial empirical generalizations' as if the differences between them did not much matter for covering law theory. Gardiner refers indiscriminately to the covering law as a 'generalization', a 'rule', and a 'general hypothetical'. My argument, both in this and in later chapters, will endeavour to show that it is only if we take the differences between such logical characterizations seriously

[1] Op. cit., p. 141. My italics.
[2] Op. cit., p. 225, n. 1.
[3] Op. cit., p. 92.

that we can see clearly whether the model is sound—and, indeed, exactly what its claims are.

There is a possible objection to the line of argument I shall adopt in the present chapter which should perhaps be mentioned at the outset. For it might be urged that although there is considerable uncertainty as to what exactly is meant by a 'general law', it is clear from what at least *some* of the logicians in question have written that they do not intend to restrict the number of laws which may be employed in any particular explanation to *one*. May I not, therefore, beg questions unnecessarily in undertaking to discover what is meant by *the* covering law? Does it not make the model appear unnecessarily ridiculous—a mere 'straw man'—to suppose that we are expected to discern a single law covering the explanation of such complex historical phenomena as, say, the Norman Conquest or the unpopularity of Louis XIV?

Covering law theorists themselves furnish the answer to this objection. For it is notably not just in very simple cases that they speak of a single covering law being required. In the example quoted in Chapter I, Popper suggests that the explanation of the first division of Poland 'tacitly used' a trivial law of the form: "If of two armies which are about equally well-armed and led, one has a tremendous superiority in men, then the other never wins." This is surely exactly the sort of case where one would expect methodological realism to demand that the requirement of a *single* law be dropped. Yet Popper has no hesitation in attempting to find such a single law, the admitted triviality of his candidate being regarded as no barrier to its performance of its explanatory role. The same tendency is also exemplified in Gardiner's discussion;[1] and even Hempel, who formulates his theory carefully in terms of laws, cannot resist adding that the laws and initial condition statements taken together "imply the statement that whenever events of the kind described . . . occur, an event of the kind to be explained will take place". The strong temptation he obviously feels to assimilate the more complex case to the

[1] As will appear below in sections 4 and 6.

simple one is part of what we have to investigate. Having investigated it, I shall go on, later, to ask whether my conclusions would have to be modified in any important way if more realistic assumptions, methodologically speaking, were made about the laws said to be 'used'.

One way of getting at exactly what is meant—or, indeed, what *could* be meant—by a covering law would be to ask how an exponent of the model might set about the task of convincing an historian that such laws are indeed required by the explanations he gives. For, as covering law theorists themselves admit, the explanations found in history books seldom mention any laws. Nor are laws any more likely to be mentioned in explicit statements by the historian of how he arrived at the explanations he eventually gives. Is there any way in which the philosopher could convince the historian that laws were nevertheless somehow assumed or 'tacitly used' by the explanations given? To some extent Gardiner and Hempel have already given the covering law logician's answer to this question, but I wish in this chapter to re-examine it. For although I think that Gardiner, in particular, gauges correctly the way a historian would respond to a philosopher's probing, it does not seem to me that this response warrants the covering law conclusions he goes on to draw.

2. *Loose Laws and Probability Hypotheses*

Let us suppose that an historian makes a statement like: 'Louis XIV died unpopular because he pursued policies detrimental to French national interests'—an example which Gardiner discusses at length. How might a covering law theorist set about vindicating his claim that there is a law implicit in the explanation?

Two related, although quite different, arguments are commonly used in covering law literature. It will sometimes, for instance, be contended that although the historian mentions no laws in the explanation he gives, and although he may not have formulated any in arriving at the conclusion that it is tenable, still, if the explanation were challenged in a certain

way, he would have to fall back on a law if he wanted to defend it. Thus Gardiner, at one point, observes:

> . . . whenever a causal *explanation* is doubted or queried (as opposed to the doubting or querying of the truth value of one of its limbs) it is the generalization that warrants its utterance which comes under fire, and the same generalization must be defended by reference to previous experience if the claim to have offered a satisfactory explanation is to be upheld. In this sense it may be correct to speak of an 'implicit' reference to generalizations in all explanations.[1]

This argument is an important one, and I shall return to it in a later section of this chapter. But there is another, particularly neat and apparently conclusive one which it might be well to consider first: the claim that the explanation given requires a law in a *logical* rather than methodological sense of 'requires'. The word 'because', and the many substitute expressions for it which are to be found in the historian's explanations, will be said to depend for their very *meaning* on some kind of related general statement. No doubt an historian who gives an explanation like the one cited above will deny that he even knows a relevant law. But if the logician's argument can be sustained, it will, of course, be useless for the historian to object that his explanation instantiates no covering law. For what he says in giving the explanation will in some sense *commit* him to the truth of some corresponding general statement, so that if the latter cannot stand, neither can the explanation. The fact that an historian who uses an explanatory statement like the one mentioned does not realize that its truth depends on the truth of a law will be represented as a fact to be deplored, not one to make the starting-point of a methodology. People are all too seldom clearly aware of the full implications of what they say, and it may be presumed to be part of the logician's job to bring such lapses to our notice.

What is the nature of this allegedly 'tight' logical connexion? Some philosophers take the tough-minded view that an explanation *entails* its corresponding law.[2] Hempel very nearly

[1] Op. cit., pp. 25–26.

[2] This claim should be distinguished from the claim, noted in the preceding section, that the statement that an explained event occurred is entailed by its covering law together with statements of the relevant antecedent conditions. The present claim is that from an explanation a covering law can be deduced, not that from a covering law an explanation can be deduced.

makes this claim when he says, of a statement of the form: 'The explanation of *C* is *E*', that it "amounts to the statement that, according to certain general laws, a set of events of the kinds mentioned is regularly accompanied by an event of kind *E*".[1] And Gardiner, too, comes close to it when, at one point, he says that an explanation "entails a reference" to laws.[2]

Now 'entailment' is a term of art which has undergone many vicissitudes in the philosophical journals in recent years. But it is at any rate one common view, especially among logicians who tend to accept the covering law model, that entailment is to be regarded as a relation between two statements such that if '*p*' is true, and '*p*' entails '*q*', then '*q*' is true by virtue of some kind of linguistic guarantee. An example of such a logical relation would be: 'This is a cow' entails 'This is a mammal'. Such a relation is spoken of as 'linguistically guaranteed' because it depends on accepted definitions of the terms involved, i.e. 'cow' and 'mammal'. Given these, the entailment obtains; without them it does not. But it is surely very unplausible to claim that a statement of the form: '*E* because *C*', formally entails a law in this fashion. For it would depend on our being able to indicate an accepted criterion or definition of 'because' such that by substitution we could transform the particular statement—the explanation—into a general one—the law. To speak of a linguistic guarantee here would be to beg the question by recommending a definition of 'because' which does not exist—unless, perhaps, in a philosophical dictionary written by a covering law logician.

Exponents of the model may object to such a formal interpretation of entailment; they may object that although this is what has often been meant by 'entails', the term has also been used to designate a non-formal, yet completely 'tight', relation. Mr. R. M. Hare, for instance, defines entailment very broadly thus: "A sentence *p* entails a sentence *q* if and only if the fact that a person assents to *p* but dissents from *q* is a sufficient

[1] See Chapter I, section 1.

[2] Op. cit., p. 30.

criterion for saying that he has misunderstood one or other of the sentences."[1] That is, we might say that an explanation entails a law in the sense that it would be *unintelligible* for anyone to assert the first and deny the second: a person cannot *mean* anything by the explanation if he denies the law. But how could the logician hope to convince the historian of this? The historian has denied that he arrived at his explanation by means of a law; he would—as will appear more clearly later—deny that he would in practice have to defend it by citing a law; could he not also deny that there is any law which, having given the explanation, he would have to accept as true or be convicted of talking nonsense?

The attempt to show the historian that there is some law to which his explanation has indeed committed him often leads exponents of the model into formulating the sort of thing that Popper, in the passage quoted in the preceding section, called a "law of the sociology of military power"; and in the present instance it might produce a candidate like: 'Rulers who ignore their subjects' interests become unpopular.' It is in this way, for instance, that Hempel deals with an explanation of the migration of Dust Bowl farmers to California in terms of drought and sandstorms.[2] Realizing that an historian who gave such an explanation would certainly refuse to stand committed to anything as specific as, say, 'Farmers will always leave dry land when damper areas are accessible', we find Hempel cutting into the hierarchy of possible covering laws at a much higher level of generality with: 'Populations will tend to migrate to regions which offer better living conditions.' Yet it would still be open to a conscientious historian to object that the explanation has not committed him even to this, and the logician would then have to soar to still greater heights of generality. The higher the altitude the more innocuous the covering law becomes from a methodological point of view, and we are bound to wonder what point is served by insisting

[1] *The Language of Morals*, Oxford, 1952, p. 25. Hare uses this criterion to support his argument that 'ought' statements entail imperatives.

[2] Op. cit., p. 464.

that the historian has committed himself to anything whatever. Popper calls such laws 'trivial', but it is worth remarking that their triviality does not depend only on the fact that they are common knowledge, so that, as he puts it, "we take them for granted, instead of making conscious use of them". They are not like, 'If a man jumps over a 400-foot cliff he will dash his brains out at the bottom'. Their triviality lies in the fact that the farther the generalizing process is taken, the harder it becomes to conceive of anything which the truth of the law would rule out.

If the candidate law ascends too far into generalities it loses its methodological interest; but if it descends from the stratosphere it becomes possible to deny it without withdrawing the explanation. In the face of such a difficulty, covering law theorists often employ more cautious substitutes for 'entailment', which suggest its advantages without laying their claim open to strict test. Thus Gardiner, at one point, says only that an explanation "implies the formulation of laws or generalizations";[1] and according to Hempel, in historical cases the explanation often merely "points towards" a covering law. If the use of such terms is intended to mean no more than that a covering law is *suggested* by an explanation—i.e. to admit that there is no tight logical connexion at all—it would be difficult to quarrel with the logician's claim. Indeed, it would seem that the number of laws suggested by a 'because' statement is quite embarrassingly large. But the cost of modifying the covering law claim in this way would surely be rather high; for an explanation can scarcely be said to stand or fall by what it suggests. Such a 'loosening up' of the model would be much more radical than the concession made earlier that an explanatory statement, although it must be *deducible* from its covering law and antecedent condition statements, need not, in practice, actually be *deduced* from them.

If important methodological conclusions are to be drawn from the argument from meaning, the assertion of a tight logical connexion between law and explanation would seem

[1] Op. cit., p. 5.

to be essential. So the occasional use of 'entails', although it may sometimes be a slip, is not an insignificant one. That Gardiner and Popper, in spite of their avoidance of this term on the whole, really want to *mean* it, is strongly suggested by their willingness to accept in the covering role a law which is tightly connected with its case, even at the cost of allowing the law, rather than the connexion, to be loose.

For there are, of course, two ways in which an exponent of the model could attempt to deal with the difficulty, while refusing to loosen the *specification* of his candidate law. He might, on the one hand, claim that the law which he formulates out of the historian's explanatory statement is strictly entailed by it (although perhaps non-formally); then, in order to ease the historian's misgivings about acknowledging that he is committed to the precise law presented for his inspection, he might concede that the latter contains some such qualification as 'usually'. On the other hand, he might say that, although the elicited law must be regarded as strictly universal in form, it is only loosely connected logically with the explanation which it covers—so that the explanation is not necessarily falsified if the law is shown to be untrue. The same covering law theorists can be found adopting both of these expedients at different points in their writings. And Hempel appears to have settled uneasily on the ground between them when he remarks that "in many cases, the content of the hypotheses which are tacitly assumed in a given explanation can be reconstructed only quite approximately".[1] The impression given is that, although the laws concerned are both universal in form and tightly connected with the explanations falling under them, it is unfortunately impossible to say what they are.

Usually, in the desire to achieve a position which is both plausible to the historian and methodologically positive, covering law theorists are prepared to mutilate the law rather than the connexion. Thus, as we have seen, Hempel sometimes says that the covering function may be performed by a 'probability hypothesis'; and Gardiner discovers in the laws required by

[1] Op. cit., p. 464.

the historian's explanations a number of "levels of imprecision". In science we are thought to have genuinely universal laws of the form: 'Whenever *C* then *E*'; in history we have to make do with laws which would have to be expressed: 'Whenever *C* then probably *E*', or 'Whenever *C* then usually *E*'.[1] This unfortunate lack of rigour will be accounted for in different ways by different theorists. Whatever its source, it is assumed to account for the fact that historians mistakenly think their explanations entail no laws at all.

Yet the view that the historian's explanation derives its force and point from some less-than-universal law, although perhaps the lesser of two evils, is surely highly unsatisfactory from the standpoint of the covering law theorist himself. The mutilation of the alleged law does, it is true, make it more difficult for the historian to repudiate any particular candidate, yet it does not make it impossible. It is still open to him to make nonsense out of the claim that he is logically committed to anything of importance by insisting that the qualification of the law be increased from 'usually' to 'often', or from 'often' to 'sometimes'. And even if the historian accepted a loose law as undeniable, having given his explanation, this would scarcely vindicate the full covering law claim. For the question would surely then arise whether such a law would actually explain the cases to which it is represented as applying. Does the 'law', 'Whenever *C* then usually *E*', really explain the fact that *in this case* an *E* followed a *C*? Would not the *same* 'law' have 'explained', in the same sense, the non-occurrence of an *E* as well? It seems to me that whether or not such a law would explain a general fact—e.g. that we have more often found *E* following *C* than not—its explanatory force does not extend to particular occurrences falling under it.

3. *The Law Implicit in Complete Explanation*

The covering law theorist thus finds himself on the horns of a dilemma. If he loosens the connexion between law and explanation, the law said to give the explanation its force is

[1] See Note A, p. 170.

not logically required. But if he loosens the law itself, it becomes questionable whether what is logically required really has explanatory force. If any sort of case is to be made for covering law theory in historical contexts, some further account will obviously have to be given of such a puzzling state of affairs.

In the face of such difficulties, the logician may shift his ground a little. For he may argue that his failure to elicit from the historian's explanatory statement a covering law which is both plausible and methodologically interesting arises out of the fact that the explanations found in history books are generally incomplete. To say, for instance, that Louis XIV died unpopular because of his pursuit of policies detrimental to French interests, is only to make a beginning of explaining the king's unpopularity—it is, perhaps, what Hempel would call a mere 'explanation sketch'. The historian would obviously have to take into account much more than this before he could represent his explanation as providing information from which a *prediction* of that unpopularity could have been attempted. And, as most covering law theorists are careful to insist, explanation and prediction are, on their theory, correlative operations.[1]

Would the reformulation of the model as a theory of *complete* explanation make it more acceptable to historians? At the outset, perhaps not; for it may very well seem to them that if a complete explanation is one which represents what happened as predictable from a set of 'sufficient conditions', exponents of the model will find themselves claiming to elucidate the logical structure of something which is neither achieved nor attempted in their subject. Yet most historians would probably allow that some explanations may be regarded as more complete than others; and they might find it difficult to deny

[1] See, e.g. Hempel, op. cit., p. 462. As will appear in Chapter III, I do not think that explanation and prediction *are* correlative in this way; and as Chapter IV will show, there are reasons, too, for disputing the suggestion that the historian's original explanation was incomplete, in view of the question it may be presumed to be answering. But I let these points pass here for the sake of argument.

that the criterion which would be applied in deciding between them would be the degree to which each approximated to the logician's ideal. Are we to conclude, then, that the failure of the model to apply exactly to historical cases is due only to the fact that historians' explanations are always incomplete?

We shall, I think, be in a better position to deal with this question if we ask how the logician might attempt to convince the historian that, in some way which vindicates the revised covering law claim, a complete explanation might, on occasion, be given. And this the logician might attempt to do by adopting a rather different procedure from the one envisaged in the preceding section when the historian refuses to accept his candidate for the role of covering law. For instead of attempting to meet the latter's objections by making the antecedent clause of the law more and more general, or by loosening either the law or the connexion, he might have adopted the alternative of trying to induce the historian to modify the explanation itself.

Let us suppose that, having given his explanation of Louis XIV's unpopularity, the historian denies that he has committed himself to the law: 'Rulers who pursue policies detrimental to their subjects' interests become unpopular.' And let us suppose that the logician then insists on bringing to light exactly *why* the historian refuses to stand committed to the law. As Gardiner has suggested, the latter would probably object that, in giving the explanation he did, it was not his intention to imply that *any* policies which were detrimental to a country's interests would make their rulers unpopular. It was because such policies took the peculiar form they did in this particular case that they can be regarded as providing the explanation—e.g. the involvement of the country in foreign wars, the persecution of religious minorities, the maintenance of a parasitic court, and so on. But the logician, in the face of this objection, might simply agree to absorb the historian's specification of the king's policies into his law, which would be reformulated as: 'Rulers who involve their countries in foreign wars, who persecute religious minorities, and who

maintain parasitic courts, become unpopular.' And although the historian may still have some qualms about saying that this would in general be true, the logician might offer to absorb any further objections in the same way, no matter how exactly the historian felt obliged to characterize the policies in question.

The latter might, of course, object to the generalization of his explanatory statement on different grounds; for even if the king's policies are eventually specified to his satisfaction, there remains the possibility that in circumstances unlike those of the late seventeenth century in France, the pursuit of policies specifiable in the same way would not lead to unpopularity. The fact that they did in Louis's case might depend in addition on the fact that at least some of the policies in question were unsuccessful; that they were obviously attributable to the king himself, and so on. And besides such additional positive conditions, the explanation might not be regarded as complete without taking some negative ones into account; for the effect of the policies specified would depend, too, on the fact that Louis failed to head off his unpopularity in various ways—for instance, by a policy of 'bread and circuses'. But the logician might insist that there is nothing in his theory which prevents his taking all these additional factors, both positive and negative, into account, and he could continue the revision of his law in such a fashion as: 'Rulers who . . . and who are regarded as the true authors of their policies, and who do not offer "bread and circuses" become unpopular.' If the historian still rejects the suggestion that he commits himself to the assertion that this would always be true, the dialectical pattern of suggestion, objection, and revision has been sketched by means of which any specific further objection could be absorbed into the logician's law.[1]

What conclusions should be drawn about the covering law claim in view of the possibility of such a dialectic developing

[1] Mr. J. R. Lucas uses a similar dialectic to bring out features of moral arguments, in 'The Lesbian Rule', *Philosophy*, 1955, pp. 195–213. Lucas regards this as a typical pattern of argument throughout the humanities.

between logician and historian? Covering law theorists will no doubt say that what the dialectic elicits is a set of sufficient conditions falling under a covering law; for at every stage, the logician's revision answers the historian's objection that what the law sets out need not be universally true. But opponents of the model may very well insist that the series of more and more precise laws which the historian's objections force upon the logician is an *indefinite* one. And I think it is true that, in an important sense of 'need', the historian, having given his explanation, *need not* accept any particular candidate the logician formulates. It is always *logically* possible for the explanation to be just out of reach every time the logician's pincers snap shut. To this extent, the logician's argument from meaning still remains inconclusive; for the conjunction of an explanatory statement and the denial of any law that might be suggested, is never self-contradictory, or even strictly unintelligible. To put it another way: no matter how complicated the expression with which we complete a statement of the form, '*E* because . . .', it is part of the 'logic' of such 'because' statements that additions to the explanatory clause are never ruled out by our acceptance of the original statement.

To regard such an argument as entirely disposing of the revised covering law claim, however, is surely a little frivolous. For as the set of conditions which the historian's objections and qualifications fills out becomes more complicated, it will at any rate become harder and harder for the historian to deny that from such a set the unpopularity of a ruler could have been *predicted*. At some point or other in the dialectical progress, the reasons which the historian will be able to offer for refusing to accept the covering law will begin to appear rather thin; it will become not only irritating, but unreasonable, to suggest that there was any practical possibility of unpopularity not occurring in a situation like the one characterized, whatever else might happen to be the case. Unless he fortifies himself with a metaphysical theory to the effect that everything is relevant to everything else, there would seem to be *practical* limits to the sort of argument which the historian could use to

escape the logical pincers of the argument from meaning in its present, weaker form.

In addition, the covering law logician might contend that although he cannot show that any of the specific laws he formulates are *logically* required by the historian's explanations, there is nevertheless *some* general law which *is* logically required. For the historian would appear to be logically committed at least to the 'law': 'Any ruler pursuing policies and in circumstances exactly like those of Louis XIV would become unpopular.' Such a general 'law' is, no doubt, no more than a vacuous limiting case of a covering law. It is so odd in several ways that it is probably misleading to call it a law at all. It cannot be formulated without mentioning particular things; it is required not only by the specific explanation under examination, but by *any* explanation of Louis's unpopularity in terms of his policies and circumstances; it could be of no methodological interest, since the use of the word 'exactly' in effect rules out the possibility which calling it a 'law' at first seems to envisage. Yet the eliciting of such a vacuous 'law' does show that the argument from meaning—the conviction that some sort of generality was logically involved in the original explanation—was not entirely an illusion.

And the logician might, perhaps, go on to claim that what the dialectic between logician and historian does is provide such a vacuous 'law' with content. For the notion of 'exactly the same policies and circumstances' is one which has no meaning for any actual inquiry; it is enough for the purpose of the formulation of laws, and of prediction in accordance with them, that two situations resemble each other in *relevant* respects. What the dialectic does is *formulate* the respects in which another situation must resemble the one under examination for the same explanation to hold good.

It is important to add, however, that even if the historian concedes the point, a tightly connected and universal law could still not be extracted from his explanation—now 'complete' in the sense indicated—without still another concession being made. For the framing of a general law into which the

elicited conditions are to be incorporated as antecedent may encounter a further difficulty in the fact that at least some of these conditions will probably have been stated by the historian in particular rather than general terms. The historian who specifies what he takes note of in arriving at the detailed explanation of Louis XIV's unpopularity, will mention not only universals like 'warlike foreign policy', but also particulars like 'attacks on the Jansenists'. In the sketch I gave of the dialectic between logician and historian, this difficulty was deliberately avoided in the hope of making the quite different problem of the sufficiency of the historian's conditions clear. But, as Hempel very properly emphasizes in his formal statement of the model, it is universals, not particulars, which are "the object of description and explanation in every branch of empirical science"; and he leaves us in no doubt that 'E' and '$C_1 \ldots C_n$' in his schema stand for kinds of events, not particular happenings.

The fact that the historian, in mentioning, for example, 'attacks on the Jansenists', does not say in virtue of what general characteristic he regards these as a reason for expecting unpopularity, leaves open the possibility of a regress similar to the one already stopped. If we are to advance from the historian's statement of explanatory conditions to the assertion of a 'general hypothetical', it will therefore be necessary for the logician once again to require the historian to be 'reasonable'; he will have to obtain the admission that it is attacks on the Jansenists because, say, they are *a religious body* that we can regard them as conditions of the king's unpopularity. Only if this is obtained can a covering law be framed which gets rid of the name and definite article altogether. And there is, of course, no more logical compulsion about this transformation than there was about the acceptance of a definite set of conditions as sufficient.

4. *Generalizations and Principles of Inference*

Let us suppose that the historian concedes the rational force of the logician's demands. Then we might say that,

having considered and made explicit all the aspects of French interests, royal policy and other things considered relevant (i.e. required for the prediction of such a result), and having phrased them in universal terms, there is a general statement which the historian could not reasonably deny, namely: "Any people *like the French in the aspects specified* would dislike a ruler *like Louis in the respects specified.*" Such a law is not vacuous since the dialectic between logician and historian will have provided us with a definite 'filler' for the expressions italicized.

Does this amount to accepting the covering law theory in the form it takes toward the end of Gardiner's book, where the historian's specification of a detailed set of 'factors' is said "to satisfy the antecedent of a general hypothetical"—whether the historian realizes this or not?[1] Does the argument from meaning succeed after all, provided the logician, instead of loosening the rather simple law he might extract out of the original explanation, induces the historian to round out the explanation itself? I have, in fact, allowed the logician's demands upon the historian without further argument in order to show that even if these *are* conceded, the conclusions generally drawn by covering law theorists—particularly conclusions of a methodological sort—do not necessarily follow. For even if we admit that, having given the 'complete' explanation, it is no longer possible to deny a covering general hypothetical statement of the form, 'If $C_1 \ldots C_n$ then E', it should be recognized that the statement in question, having regard to the way it has been elicited, is scarcely the sort of 'general law' which would satisfy covering law theorists who insist that history become 'scientific'. Upon closer examination, I think it will be found not to be the sort of thing which could be 'appealed to', or 'used', or have a 'theoretical function' in the explanation given—indeed, that it is better called by another name if we wish to avoid being misled by the methodological recommendations which generally go with covering law theory.

[1] Op. cit., p. 97.

One difference between the present entailed 'law' and the one suggested by Popper is obvious. Whereas Popper's 'trivial' law was so vague and general as to be scarcely deniable, the present law is, by contrast, so highly specified that I have made no attempt to write it out. White, alone among covering law logicians, seems to have been uneasy about this. "I do not agree", he writes, "that the causal law implicit in the connections between historical statements are always so trivial that they are not mentioned explicitly; indeed, I think that the failure to mention them is just as often a result of their being too complicated and difficult to state."[1] Yet this reflection does not lead White to the conclusion which appears to me to be warranted: that such a candidate for the covering role is as trivial as Popper's, although trivial in a different way. To put it shortly, it is, or very well may be, a 'law' with only a single case.

This should not be surprising in view of the way the 'law' was elicited from the historian's statement of sufficient conditions. It was elicited simply by means of the demand that the historian be consistent. The logician's claim is really that since the historian agrees that it was because of the presence of a set of factors of type '$C_1 \ldots C_n$' that unpopularity resulted in this particular case—and only because of these—it must follow that unpopularity would always result from such a set of factors. By offering the 'complete' explanation, 'E because $C_1 \ldots C_n$', the historian thus commits himself to the truth of the covering general statement, 'If $C_1 \ldots C_n$ then E'. But what is the logical status of the statement thus elicited? How should it be characterized? It is surely nothing more than a formulation of the *principle of the historian's inference* when he says that from the set of factors specified, a result of this kind could reasonably be predicted. The historian's inference may be said to be *in accordance with* this principle. But it is quite another matter to say that his explanation entails a corresponding *empirical law.*

[1] 'Towards an Analytic Philosophy of History', in M. Farber, ed., *Philosophic Thought in France and the United States*, New York, 1950, p. 720, n. 22.

For our ordinary notion of an 'empirical law' has 'other cases' built right into it. When Hempel formulates the model's requirements in terms of 'universal hypotheses', for instance, he assures us that the latter imply that "whenever events of the kind described in the first group occur, an event of the kind to be explained will take place".[1] When he says that explanation is 'pseudo' unless implicit universal hypotheses can be confirmed "by suitable empirical findings", it is therefore natural to assume that this means experience of other cases similar enough to fall under the same classification as the one under examination. This implication is even more obvious when we speak of empirical *generalizations*—as Gardiner does throughout his discussion of the covering law claim.[2] For the notion of a generalization with but a single case would ordinarily, I think, be regarded as a self-contradictory one. It is thus interesting to note that when Gardiner applies the doctrine of implicit law to a particularly complicated and detailed historical example, the term 'generalization' suddenly, and without explanation, drops out of use, to be supplanted by the more formal 'general hypothetical'.

Reference to a law as a 'general hypothetical' is a logician's way of talking. The point of such terminology is put by Professor G. Ryle in a general discussion of the relation of statements of the form 'if p then q' to corresponding arguments ('p so q') and explanations ('q because p').[3] Knowing the truth of a general hypothetical, Ryle contends, is simply knowing how to argue and explain in accordance with it. The hypothetical is a statement, but what it states is the principle implicit in those arguments and explanations which are said to apply it. It tells us nothing about what is, has been, or will be the case; it tells us only what we should be able to say *if* so-and-so were the case. To assert the truth of 'if p then q' is to claim to be justified in inferring 'so q' if we notice p, or 'because p' if we notice q and p. The hypothetical belongs to

[1] See Chapter I, section 1.

[2] See, for instance, op. cit., pp. 84, 85, 87, 89, 93, 94, 97, 98.

[3] In ' "If", "So" and "Because" ', in M. Black, ed., *Philosophical Analysis*, Ithaca, N.Y., 1950, pp. 323–40.

the language of reasoning—of norms and standards, not of facts and descriptions.

Ryle speaks of 'if p then q' as an *inference license*; for he regards it as exhibiting our license to infer or explain in corresponding ways. But, as he does not mention, the hypothetical statement, unlike the licenses issued by the civil authorities, does not show the *source* of its authority on its face. It reveals nothing about the way it came to be issued; in particular, it does not indicate that its justification lies in the fact that whenever we have found 'p' to be true, we have found 'q' to be true as well. Thus to claim simply that a 'general hypothetical' lurks implicitly in the historian's explanation is to claim considerably less than covering law theorists generally do when they formulate their model in ordinary language. For if the logician's statement 'if p then q', is to be understood in conjunction with the rubric, 'we can infer that . . .', rather than 'we have found that . . .', to say that the historian's explanation commits him to the covering 'law' is merely to say that it commits him, in consistency, to reasoning in a similar way in any further cases which may turn up, since he claims universal validity for the corresponding argument, 'p so q'.

The distinction thus drawn between two interpretations which can be placed upon the notion of a 'covering law'—indeed, between two ways of interpreting the hypothetical statement, 'if p then q'—is not just logic-chopping; for it helps to clarify the positions of both opponents and supporters of the covering law model. On the one hand, it helps to explain the (quite justifiable) hesitation of the historian to admit that his explanation commits him to anything which he would recognize as a *law*. He may have no reason to believe that the incredibly complex concatenation of circumstances which is symbolized as 'p' will ever recur. How then can he assent to the generalization, 'if (i.e. *whenever*) p then q'? Hence, perhaps, the increased persuasiveness of the logician's hypothetical if it is formulated in its subjunctive (i.e. non-existential) form: 'If there had been, or were to be, p, then there would have been, or would be, q.' To this the historian will probably be

less inclined to object, although he may think it a rather useless piece of 'speculation'.

Distinguishing between empirical laws and principles of inference also helps to explain how the logician could remain so firmly convinced that, despite the historian's reluctance to agree, the explanation *must* exhibit the pattern set forth in the model. For the logician will regard it as obvious that every rational argument must have a principle—a kind of covert universality which is brought out by what I have called the demand for consistency. And this principle can be stated by means of a hypothetical statement—a 'general law'. From the vantage-point of abstract logical analysis, it is not immediately obvious how misleading it can be to draw the conclusion that a valid explanation entails a covering law, without specifying more clearly what 'law' is to mean. The need to make a distinction between general statements which express empirical generalizations and those which merely project in general terms the argument of the historian in a particular case may perhaps be obscured, too, by the fact that in *some* cases covering empirical laws may be explicitly mentioned in giving explanations. For in such cases, a failure to distinguish between 'empirical law' and 'inference license' would cause no confusion.

It is the methodological remarks which often accompany statements of covering law theory which show most clearly the need to make distinctions of the kind drawn above. For the legitimate, but thin, logical truth in the doctrine of implicit law is often perverted when its implications for historical practice come to be drawn. Thus White, in a carefully argued article, represents the historian's explanatory problem as the finding of true statements satisfying the antecedents of known laws, with previously known historical facts as consequents.[1] The suggestion seems to be that the success of explanation in history depends on the historian's having a sufficient stock of preformulated, empirically validated laws on hand—like methodological spanners which can be used to get a grip on

[1] White, op. cit., pp. 718–19.

events of various shapes and sizes as they are encountered. But, as the discussion of the attempts to elicit a complete explanation of Louis XIV's unpopularity suggests, the historian may not find himself confronted with 'standard sizes'.

Even from Hempel's formal statement of the model it is far too easy to draw a questionable methodological moral. Crawford, for instance, concludes from it that since historians actually give explanations "implicitly presupposing statements of law", we must hasten to establish the validity of these laws "by a procedure properly called scientific".[1] Empirical testing cannot begin, he points out, until the general laws in question are deliberately made explicit. To hammer this point home to historians, he admits, is "the main goal" of his argument. But such a methodological recommendation could scarcely survive, without serious modification, an understanding of the argument presented above. For in typical historical cases, the evidence which could be assembled for 'law' and case may coincide.

The misconstruction placed upon the logical truth behind the doctrine of implicit law is also exemplified in attempts to elucidate the logical structure of explanation in terms of the notions 'regularity', 'sequence', or 'instance'. Hempel himself uses these terms in the discussion which follows his original, formal statement of the logical ideal; the relevant law, he observes, "may be assumed to assert a regularity". Hempel's example is followed by Crawford, who, in attacking Mandelbaum, denies that we can speak of determining relations between events "unless we assume that the particular relationships are instances of regular relationships, that is, of regularities that could be formulated as laws". And again (although this is said to be a crude statement of the point): ". . . when we state that something, A, explains the event B, we assume that A is connected with B in some regular sequence."[2] Gardiner, in a cautious moment, asserts only that explanation "may be analysed in terms of regularity".[3] But caution is thrown to the winds when, at another point, he asks: "If our

[1] Op. cit., pp. 155, 165. [2] Op. cit., pp. 164–5. [3] Op. cit., pp. 82, 85.

knowledge of the existence of a causal connection is not dependent on our having observed a regularity in the concurrence of two events, we must ask in what instead it can be said to consist"—the question intending to reduce to absurdity any alternative to the covering law answer.

There is nothing in the 'covert universality' of an explanatory statement, in either a complete or incomplete form, which justifies this way of talking. The candidate 'law', the 'regularity', which has been elicited from the historian's explanation is no more than a logician's ghost of the inference actually drawn by the historian, with no immediate methodological implications. There is no point in saying that it is *used*, or *functions*, in the explanation; and there is no point in asserting it except to register one's belief that the inference drawn was a reasonable one. The thesis of the covering law theorist could be stated thus: 'We are not justified in inferring *q* from *p* unless "if *p* then *q*".' But in view of the licensing status of the hypothetical, this reduces to: 'We are not justified in inferring *q* from *p* unless we are justified in inferring *q* from *p*.' *Requires the truth of* is just a shadow of *requires the support of*; there is no methodological substance in it.

5. *The Uniqueness of Historical Events*

The conclusion to which we have been forced by the dialectic between logician and historian is that the historian's explanation, when specified in detail, may be found to contain the description of a situation or state of affairs which is *unique*. The argument does not show that this *must* be so, but it shows how easily it might be, and it strongly suggests that, in quite typical cases, it would be.

The claim that historical events and conditions are unique has, of course, often been made, especially by idealist philosophers of history. And it has been attacked as either incorrect or unimportant by most of the covering law theorists who have been mentioned so far. In the form in which they attack it, the claim often arises out of a metaphysical view of the world as composed of radically dissimilar particulars. The view is not

easy to state clearly, and it sometimes tricks its exponents into uttering tautologies of the form: 'Everything is the way it is, and not otherwise.' A more acceptable way of putting it would be to say that any actual thing or occurrence you care to select for study is unique in the sense that there is nothing else exactly like it. According to many philosophers who use the argument, this fact raises no insuperable difficulty for scientific inquiry, since the sciences are concerned with abstractions—mere ideal constructions. But history is different in that it seeks to describe and explain what actually happened in all its concrete detail. It therefore follows *a priori* that since laws govern classes or types of things, and historical events are unique, it is not possible for the historian to explain his subject-matter by means of covering laws. If he is to understand it at all, it will have to be by some kind of special insight into particular connexions.

In dealing with this argument, it is not necessary to deny that historical events *are* unique in the sense indicated. Hempel himself, putting it another and perhaps more illuminating way, admits that we can study various aspects or characteristics of anything, and that there is no limit to the number of them we can insist on taking into account. Because of this, a complete description (theoretically speaking) is impossible, and, *a fortiori*, "it is impossible to explain an individual event in the sense of accounting for *all* its characteristics by means of universal hypotheses . . .".[1] Hempel thus converts the idealist argument into a dilemma: either we cannot account for all the characteristics of a thing in explaining it, or we cannot explain it at all because we insist on taking, or trying to take, all of them into account. The covering law theorist naturally prefers to accept the first horn.

Gardiner pushes the criticism of the idealist argument a stage farther. He points out that although the number of aspects of a thing are in theory limitless, we do, in practice, manage without too much difficulty to classify events and things as falling into types or kinds, in spite of the supposedly

[1] Op. cit., p. 461.

irreducible differences between them. And the historian does this as well as the scientist or plain man, as his use of *language* shows; for he uses general terms like 'revolution' and 'conquest', which he could not do if he took the absolute uniqueness view seriously. "The Norman Conquest", Gardiner observes, "was unique in the sense that it occurred at a particular time and place, but it was not unique in the sense that events like it, the invasion of one country by another, for instance, have not occurred on several occasions throughout history."[1] Calling it a conquest at all registers our awareness of this likeness. The historian may say that he concentrates on his events in their 'unique individuality', but we must not conclude from this that such uniqueness "excludes the possibility of their being generalized about in any way".

This argument, which is a popular one among covering law theorists,[2] is sound as far as it goes. But it is important to recognize the limited degree to which it supports the full-blooded counter-claim, and the extent to which it may lead to misunderstandings of the structure of typical explanations in history. For although the classification of a case is a necessary preliminary to bringing it under a general law, it is not itself that 'bringing under law'. Showing that there is no metaphysical barrier to bringing historical events under laws is not the same as showing that the laws are in fact used, or that they are in practice available, or that they must function in the covering law way. Gardiner's argument here is entirely negative; it merely rebuts an ill-advised objection to his thesis. It is possible, of course, that no covering law theorist has thought that such an argument from the use of universal classificatory terms in itself establishes the covering law claim, but the impression given is often to the contrary. In Gardiner's discussion of the Norman Conquest, for instance, it seems to be suggested that the explicability of the Conquest is dependent on there having been other "invasions of one

[1] Op. cit., p. 43.

[2] Versions of it can be found in Hempel, op. cit., p. 461; Mandelbaum, 'Causal Analysis in History', *Journal of the History of Ideas*, 1942, pp. 31–32; M. Cohen, 'Causation and its Application to History', ibid., p. 21.

country by another", and (should we conclude?) a covering explanatory generalization elicited from the course which they all ran.

Furthermore, although covering law theorists are right to insist that, even if an event is, strictly speaking, absolutely unique, it cannot be explained *as* absolutely unique (where this means explaining *all* of its indefinite number of features), to regard this as disposing of the uniqueness claim is to miss a legitimate interpretation of it, and thereby to miss an important peculiarity of historical inquiry. For (as Gardiner himself admits) we can interpret 'unique' in a relative rather than absolute sense: the sense in which we ordinarily call persons and things unique, meaning that they are peculiar in certain respects. Historical events and conditions are often unique simply in the sense of being different from others with *which it would be natural to group them under a classification term*—and different in ways which interest historians when they come to give their explanations.

Let me illustrate my point. The French Revolution is *a* revolution; that is, it is sufficiently like the English and Russian Revolutions to make it worth our while for some purposes—including those of a science of revolutions—to ignore the differences between them and concentrate upon the similarities by virtue of which we call them all revolutions. Nevertheless, we know very well that they differ in significant ways, and in calling them all revolutions we do not intend to preclude this possibility. It is my contention that the historian, when he sets out to explain the French Revolution is just *not interested* in explaining it as *a* revolution—as an astronomer might be interested in explaining a certain eclipse as an instance of eclipses; he is almost invariably concerned with it as *different* from other members of its class. Indeed, he might even say that his main concern will be to explain the French Revolution's taking a course unlike any other; that is to say, he will explain it as unique in the sense distinguished above. As long as the historian sticks to the problem he has set himself, he cannot appeal to a covering generalization derived from general

knowledge of revolutions. For the most such a law could do is explain the French Revolution *qua revolution*, whereas the historian will almost certainly want to take its peculiarities into account as well.

Hempel emphasizes the fact that *neither* science nor history can "grasp the unique individuality of its object", and he reminds us that in *both* of these fields investigators nevertheless classify what they explain. But to leave it at that fails to bring out important differences in the way scientists and historians commonly use their classification words. For once a scientist can say that what he is going to explain is 'a so-and-so', he is in a position to bring it under law—to explain it as an instance or a case. But when an historian calls his object of study 'a so-and-so', whether his classificatory term is drawn from a social science or from ordinary language, his problem situation is quite different. Indeed, it would only be a slight exaggeration to say that the historian is *never* content to explain what he studies at the level of generality indicated by his classificatory word. A complex classificatory term like 'French Revolution' only *indicates* what is to be explained while its analysis by the historian proceeds. The linguistic machinery by which he manages to maintain this janus-faced attitude toward his object of study is his use of the definite article. Of course the scientist also uses the definite article. But there is no logical parallel between, for example, the naturalist's expression 'the whale', or the economist's 'the business cycle', and the historian's 'the French Revolution'. In economic science, when an explanation of the business cycle is projected, it is assumed that aspects of the cycle entering into the explanation will be recurring ones only. The assumption in the historical case would be quite the contrary.

It is thus misleading to say without qualification that the historian's use of classificatory words supports the thesis that if historical events are to be explicable they must be recurring phenomena.[1] For although it is true that, since historical

[1] That history is concerned with recurring phenomena or routines has also, of course, been denied on other grounds. E. H. Carr, in *The New Society*

events can be classified, they are recurring phenomena in the sense that a number of them can be described by means of a single classificatory term, to admit this is not to admit that the explanation of any of them *depends* on their being classified at a level which represents them as recurring phenomena falling under some law. And, as I have shown, this is just what covering law theorists often either say or imply.

It is important to distinguish my argument here from Gardiner's contention that historical terms, e.g. 'revolution', because they are drawn from ordinary language rather than from the precise terminology of a formal science, are likely to be vague, and hence open to further analysis. For even if such a term *were* vague, it would not be *because* of this that an historian would take account of the peculiarities of anything he classified under it—peculiarities which would find no mention in the definition of the term. For in using *any* descriptive term, the historian would ordinarily consider himself bound to take account of features of an actual case other than those which warranted the classificatory judgement.

I should like to make it clear, too, that I am not, in this connexion, claiming that the *complexity* of the historian's subject-matter raises practical difficulties for explanation on the covering law model. Such complexity does, no doubt, create a presumption that it will be difficult to recognize recurrences in history. But an object of study can be complex without being unique—as is the case, for instance, in some of the organic sciences. That the French Revolution is complex does not prevent its being explained as typical; it does not prevent its being regarded as an 'instance' of a law of revolutions. What prevents this is what Oakeshott calls a *presupposition* of historical inquiry. As Oakeshott puts it, to treat the French Revolution as an instance of anything is to abandon historical inquiry for scientific. "The moment historical facts

(London, 1951), observes: "In history the presumption is not that the same thing will happen again but that the same thing will not happen again" (p. 6); but his reason for saying this is that human beings, having both free will and some knowledge of what happened before, deliberately *avoid* repeating the actions of their predecessors.

are regarded as instances of general laws", he maintains, "history is dismissed."[1] Properly understood, this dictum appears to me to be both true and important; for what it brings to our attention is the *characteristic* approach of historians to their subject-matter.

6. *The Role of Historical Judgement*

I have argued that even though a particular explanation has a covert universality about it, this universality is not such as to warrant our accepting covering law theory as it is usually presented. And I have tried to show the sense in which the historian's explanation may be given of, and in terms of, events and conditions which are unique.

But covering law theorists will probably feel that their main contention has still not been given proper consideration. Our examination of the covering law claim has, it is true, shown that the historian can *assert* a particular explanation without committing himself to a covering law of any methodological interest; but what of the further question of how he can *defend* what he thus asserts? The argument from meaning may have failed to show that the historian's explanation 'requires' a covering empirical law in any sense with important practical consequences; but what of the *argument from challenge*, which was mentioned and put aside at an earlier stage of the discussion? If the historian wished to convince a sceptic that it was really because of what he mentions in his explanation that the event under examination took place, would he not have to produce evidence for believing that *whenever* such conditions occur, events of this sort result? And if he could not, would he not have to admit that his original explanation, if not 'pseudo', was at any rate dogmatic? In our discussion so far, the onus of proof has been placed upon the logician. But should we not have placed it the other way around?

Like most covering law theorists, Gardiner maintains that a particular explanatory statement must, or must ultimately, be

[1] *Experience and Its Modes*, p. 154.

defended by referring to "the generalization which warrants its utterance". Yet, as he goes on candidly to admit, an historian would seldom *in practice* set about defending his explanation in this way. Indeed, he seems to me to gauge the historian's reaction to challenge quite correctly when he says that he would regard what he explains as "the outcome of a particular complex of factors". If it was the explanation of Louis XIV's unpopularity in terms of his policies that was in question, the historian would therefore defend his original conclusion by filling in further details of the particular situation under review. Indeed, if pressed, he might bring in as 'supporting considerations' all those positive and negative conditions which, in our discussion of the argument from meaning, we imagined the logician adding to the historian's explanation in order to 'complete' it. No doubt a point might be reached at which it was no longer worth making reference to further features of the situation; and at that point the argument would rest. But at this, and every other, stage of his defence, the historian's appeal would be, not to a covering law, but to his opponent's *judgement* that unpopularity would result from such a set of conditions. As Trevelyan puts it, in the course of an explanatory account of the years preceding the English Civil War, the historian's problem is to "*weigh* the prospects of revolt".[1]

That judgement of particular cases, without knowledge of covering laws, actually takes place in history, perhaps few exponents of the model would want to deny. The doctrine of implicit law is really an attempt to convince historians that such judgement ought to be replaced, or be replaceable under fire, by deduction from empirically validated laws. What the exponent of the model will be reluctant to allow is that any defence of the historian's explanation short of appeal to a covering law could really certify it as fully warranted—as rationally acceptable. Yet in view of the fact that when the

[1] *The English Revolution*, London, 1938, p. 93. My italics. (It should be clear that I do not employ the term 'judgement' here in the technical sense developed by idealist logicians.)

historian's explanation specifies events or states of affairs which are unique it would be *pointless* to look for a covering empirical generalization, the alternative would seem to be to maintain that in such cases the historian falls *incorrigibly* into 'pseudo' explanation. And this conclusion would be no more welcome to those who wish to make history more 'scientific'.

Perhaps covering law theorists will insist that, once again, the apparent difficulty arises out of a too crude interpretation of the model's claims. For although it is natural to assume, from a great deal of what covering law theorists say, that, if an explanation is to stand scrutiny, a *single* law must be found to cover it, it is sometimes said only that the explicandum must be shown to be logically deducible from the explicans. And it is conceivable that this condition could be satisfied by citing, not one covering law, but a *number* of non-covering ones. Indeed, covering law theorists have sometimes explicitly stated their claims in terms of a plurality of laws. Thus Hempel distinguishes genuine from pseudo explanation by its "use of universal empirical hypotheses"; and Gardiner, at one point, observes that "it is usually the case that not one, but many, generalizations . . . must be used to guide the historian in his quest".[1] Would the formulation of the model in terms of such a plurality of laws undermine the argument which has so far been developed against its simpler, more popular forms?

If the more complicated version of the model is to convey the full covering law thesis, the set of realistic but non-covering laws must, of course, perform the same logical function as the unrealistic but covering one: they must make inference from the conditions designated as complete explanation logically tight. There are two ways in which it might be thought possible to satisfy this condition. One of them is suggested by the following analysis by Hempel of an explanation of a familiar physical event:

> Let the event to be explained consist in the cracking of an automobile radiator during a cold night. The sentences of group (1) may state the following initial and boundary conditions: The car was left in the street all night. Its radiator, which consists of iron, was completely filled with water, and the lid was screwed on tightly. The temperature during the night dropped from 39° F. in the evening to 25° F. in the morning; the air pressure was normal. The bursting pressure of the radiator material is so and so much.—Group (2) would contain empirical laws such as the following: Below 32° F., under normal atmospheric pressure, water freezes. Below 39·2° F., the pressure of a mass of water increases with decreasing temperature, if the volume remains constant or decreases; when the water freezes, the pressure again increases. Finally, this group would have to include a quantitative law concerning the change of pressure of water as a function of its temperature and volume.
>
> From statements of these two kinds, the conclusion that the radiator cracked during the night can be deduced by logical reasoning; an explanation of the considered event has been established.[1]

[1] Op. cit., pp. 98–99.

Such an explanation does not consist of subsumption of the event under a 'law of cracking radiators'; it consists first of an analysis of the gross event into a number of components, and the deduction stepwise of the final result from statements of initial conditions and a number of general laws. The historical parallel in, say, the explanation of the French Revolution would presumably involve, first, an analysis of the event into components like the meeting of the States General, the swearing of the Tennis Court Oath, the trial of the king, &c., and also, perhaps, 'components' which are not themselves events, e.g. the nationalist fervour of the new republic, the cleavage between middle class assemblymen and the Parisian proletariat—in short, whatever the historian feels obliged to mention in his description of what is to be explained. The second step would be the accounting for each component in the original covering law way. When the components were all law-covered, then the Revolution would be rendered predictable—not as a whole, but piecemeal; and it would, at the same time, be fully explained.

That such a piecemeal approach is closer to the historian's usual procedure than a holistic one is unquestionably true; and the revised presentation of the covering law claim is therefore an improvement. It cuts out the suggestion of having to hunt

[1] Op. cit., p. 460.

for parallels, at any rate at the gross level—the level indicated by the historian's classificatory term 'revolution'. But recognizing the complexity—even the uniqueness—of the explained event in this way does not, in itself, render the claim of the covering law theorist acceptable. For the problem of uniqueness may recur for every attempt to subsume a component event (or aspect, or feature) of the gross event under law. In connexion with the independent subsumption of each of these there may develop a dialectic between logician and historian of the kind which we have already examined. It is, of course, always possible that *some* of the details analysed out for explanation may be recognized as routines, and thus as falling under a law. But it is surely unplausible to say that all must be; and it is simply false to say that, in typical historical cases, all in fact will be.

The uniqueness of the historian's explicans thus presents more of a problem for the covering law theorist than the uniqueness of his explicandum. For to a large extent, the uniqueness of what is to be explained is a matter for decision; it is traceable to the historian's interests, his 'approach' to his subject matter, his 'presuppositions'. But the uniqueness of what is offered as explanation is something which the historian discovers—something which he generally cannot ignore.

Yet it may be thought that even this does not present insuperable difficulties for the covering law claim in its more complex version. For there is another way in which a plurality of laws, rather than a single one, might be thought to perform the covering function—a way suggested by Gardiner's remark that "historians offer several causes for an event of any degree of magnitude or complexity".[1] This remark follows a warning that "it is rarely true that [the historian] reached his conclusion by presupposing one simple law. . ."; and the suggestion would appear to be that in explaining an event like the French Revolution, or a state of affairs like the unpopularity of Louis XIV, a general law will be 'appealed to' in the citing of each of a number of explanatory conditions (Gardiner calls them

[1] Op. cit., p. 98.

'causes') *as* a condition. The contention presumably is that the only reason there could be for saying that something *is* a condition is knowledge of a law linking events of that type with events like the one to be explained, although *ex hypothesi* what is explained cannot be deduced from any single condition and law. The covering law claim would now be, however, that a satisfactory explanation would have to specify conditions and laws such that from the *conjunction* of statements listing both conditions and laws the occurrence of what is explained could be deduced.

What does such an account leave out? The missing element is surely a 'law' or 'rule' which would inform the historian when such a group of 'predisposing' conditions becomes sufficient. Laws which allow him to regard each of a number of conditions as 'favouring' the occurrence of what is to be explained cannot simply be assumed to constitute a covering conjunction allowing the explicandum to be deduced from the explicans. No doubt they may, in some cases, allow the conclusion that the revolution or unpopularity could reasonably have been predicted. But such a conclusion would be reached by an exercise of the historian's judgement in the particular case, of the kind we have already considered. Collating a number of conditions, including supporting laws, is not applying a further *covering* law, perhaps in a vague way. It is doing something quite different and much more difficult.[1]

It is worth emphasizing, in this connexion, that the distinction between concluding that something was *certain* to happen, and concluding that it was only *probable* does not coincide with the distinction between *deducing* in accordance with a covering law (or laws) and *judging* in the light of supporting laws. The historian might judge, for instance, that the English Civil War was inevitable in the light of the particular conditions and general considerations mentioned in explaining it—although no covering law or covering conjunction of

[1] This would appear to be the kind of problem Mandelbaum has in mind when he contrasts subsumption under law with 'a full causal explanation'. His point is misunderstood and attacked by Gardiner (op. cit., p. 84) and Hempel (op. cit., p. 461, n. 1).

laws could be appealed to. On the other hand, he might deduce, from a covering 'probability hypothesis', that a civil war was only probable in 1641. If this distinction is recognized, logicians may be less likely to insist, in support of the doctrine of implicit law, that although plausible *universal* laws cannot be extracted out of typical explanatory statements in history, the latter may nevertheless be thought of as applying *non*-universal laws. For in cases where the historian concludes that what happened was only probable, if he used laws at all, his argument would be of the form: 'In the light of $C_1 \ldots C_n$, and if C_1 then E_1 (&c.), probably E.' It is an evasion of the historian's usual problem to schematize it as: 'In the light of C, and if C then probably E, probably E.'

The only explanation I can offer of covering law theorists' failure to take seriously the peculiarities of the historian's typical problem—the weighing of a set of miscellaneous 'factors', which cannot be reduced to deduction from general laws—is a certain guiding prejudice: a desire to represent reasoning of all kinds in simple, formal terms. This prejudice displays itself in an interesting way in Gardiner's discussion of the way a practical man, a general, decides what line of action to adopt—a discussion which may appear to accord with the argument of the present chapter, but from which covering law conclusions are nevertheless drawn.[1]

"Generals", Gardiner observes, "appreciate a situation before initiating a policy"; a particular decision is said to be justified if reasons can be produced which "considered together and *ceteris paribus* strongly *suggest* or *support* the conclusion that the course of action . . . will be successful. . .". We should not expect that such reasons will exhibit "the elements of the situation as values of precisely formulated invariant laws"—for this would be a "misunderstanding of the logic of practical choice". And "the historian, like the general or statesman, tends to *assess* rather than to *conclude*". "A postulated historical explanation is not, as a rule, justified (or challenged) by demonstrating that a given law implied by

[1] Op. cit., pp. 94–95.

it does (or does not) hold; far less by showing such a law to follow (or not to follow) from an accepted theory or hypothesis, or to be confirmed (or falsified) by experiment; nor again by pointing out that the case under consideration does (or does not) satisfy in the required respects the conditions exactly specified in the formulation of the law."

How then *is* it justified? This question, in spite of what has been said about the parallel from military decision, drives Gardiner to the conclusion that the factors included in the historian's explanation must "be seen to satisfy the antecedent of a general hypothetical"; for unless they do so, "how then is the force of the 'because' to be accounted for . . . ?"[1] The Humean assumption that nothing but 'regularity' can justify a 'because' is thus made from the beginning, and it is too strong to be shaken by information about the way historical arguments actually go. Gardiner does introduce the notion of 'judgement'; but he cannot bring himself entirely to abandon the view that judgement of a particular case is disreputable without the logical *support* of covering empirical laws —laws which 'warrant' the explanation. If the historian does not use a precise 'rule', then a vague one *must* be found; if no universal law is available, then a qualified one *must* have been assumed. The alternative which is too much to accept is that, in any ordinary sense of the word, the historian may use *no law at all.*

[1] Op. cit., pp. 97–98.