Phil. Soc. Sci. 13 (1983) 401-24

On Theory of History and Its Context of Discovery*†

MARTIN STUART-FOX, *History, University of Queensland*

> It is from our boldest theories, *including those which are erroneous*, that we learn most."
> —Karl Popper, *Objective Knowledge* (p. 186).

I

Historians and philosophers have for long debated whether history is or is not a science. Under the influence of positivism undue emphasis came to be placed upon the nature of historical explanation as the principal criterion for assessing the scientific status of history. Because historical explanations referred to general laws usually derived from other disciplines, or to generalizations from common sense, the theoretical content of history came to be underestimated. Insufficient account was taken of the fact that history as a discipline had developed a highly sophisticated, rational, self-corrigible methodology capable of generating an evolving body of internally coherent knowledge through a constant interplay between empirical evidence of past events and hypothetical reconstructions of them. That all such reconstructions necessitated the introduction of theory into the writing of history was not properly realized.

Historical reconstructions may be accounts of unique occurrences, but this does not make them any the less theory-impregnated. The patterns of interacting causes advanced as explanations of sequences of historical events are theoretical inferences from evidence in just the way that the mathemtical formulae of physics are theoretical expressions of material relations in the natural world. Theories are accounts of how the world works. Whether the empirical evidence under examination is the traces of sub-atomic particles, or the traces of past human thought and action, the relationships involved are only intelligible if conceived in theoretical terms.[1]

If it is accepted that history is a science in the sense of possessing a self-corrigible methodology whose findings are theoretically expressed,

* *Received* 26.9.80

† I should like to express my gratitude to Professor Peter Munz for commenting upon an earlier draft of this paper.

1 This is the case even where explanations depend simply on the assent we can give, on the basis of prior understanding, to particular relationships in historical narratives. Cf. Peter Munz, *The Shapes of Time*, Middletown, Conn. 1977, pp. 39-61.

it might be expected that its theoretical content, like that of other sciences, would be open to summation at progressively higher levels culminating in an integrative conception of the full course of the human past. But history, at least as it is practised by non-Marxists, notably lacks any broad hypothesis through which separate historical reconstructions might be conceptually integrated.

The importance of Darwinian theory for the natural sciences provides an indication of what might be achieved by the formulation of a comprehensive and scientifically acceptable theory of history. The adaptation of species through natural selection provided that unifying concept necessary to integrate the multiplicity of observed biological facts. In so doing it provided a 'paradigm'[2] in the light of which the biological sciences could progress in theoretical content, as has been amply demonstrated, for example, by the growth of the modern discipline of genetics. It is just such an integrative hypothesis that the sciences of man at present lack. History, as the most comprehensive of the social sciences, cannot continue to evade this challenge.

That history lacks an integrative general hypothesis is a statement that no Marxist would accept, however, for Marxist theory of history does claim to provide just such an hypothesis. So too do other 'speculative philosophies of history', such as those of Hegel or Toynbee. Yet none has achieved anything like general recognition from practising historians. Marxist theory is in a state of crisis, displaying all the signs of imminent collapse as an acceptable historical paradigm for scholars not constricted by political considerations.[3] An entirely fresh approach to the question of whether it is possible to make intelligible the process of historical change is necessary for a number of reasons. A comprehensive hypothesis theoretically unifying the full course of human history would provide the kind of conceptual framework at present lacking in non-Marxist historical studies. Such an hypothesis is essential to confirm history as that science of man that brings together in broad synthesis our knowledge of who we are by showing us what we have been. Only thus will it be possible to establish the social relevance of history in a time of rapid social change.

This paper therefore sets out to do two things:

2 Despite variations in usage, and Kuhn's own second thoughts, this term is sufficiently widely accepted and too useful to be dispensed with. See, however, Margaret Masterman, "The Nature of a Paradigm', in I. Lakatos and A. Musgrave (eds.), *Criticism and the Growth of Knowledge*, Cambridge 1970, pp. 59-89 and Thomas S. Kuhn, 'Second Thoughts on Paradigms', in F. Suppe (ed.), *The Structure of Scientific Theories*, Urbana, Ill. 1974, pp. 459-99.

3 This is evident from the increasing number of *ad hoc* additions made by modern Marxists to protect the core of Marxist theory. Cf., for example, the extended discussion of recent modifications of Marxist theory in E. P. Thomson, *The Poverty of Theory*, London 1978.

(i) To differentiate attempts to formulate hypotheses accounting for historical change from speculative attempts to discover a 'meaning' in history; and
(ii) to establish the legitimacy of the former endeavour; and, by examining the context of discovery of a theory of history, to suggest the most likely form such a theory might take.

II

The positivist distinction between 'speculative' and 'analytical' philosophy of history has been made to rest upon differences in meaning of the word 'history' as referring on the one hand to 'the totality of past human actions' (*res gestae*) and on the other to 'the narrative or account that we construct of them' (*historia rerum gestarum*).[4] Philosophy of history may accordingly either concern itself with 'the actual course of historical events', or with 'the process of historical thinking'.[5] This is a distinction that has come under critical attack.[6] Let it suffice to point out that the methodology of the historian straddles this artificial divide: the historian must work from the traces of actual past events as he comes to know them to a communicable reconstruction of how he conceives those events to have taken place. If a critical philosophy of history is to probe the nature of historical knowledge, it cannot limit itself to examining what the historian produces without taking into account how he came to know it.[7] Nor does speculative philosophy of history concern itself solely with history as the sequence of past events. Any conclusions reached about the sense or meaning or direction of the past as a whole must be so expressed as to be communicable. Thus any critical assessment of a speculative philosophy of history must focus upon the same relation between events and narrative accounts of them that attracts analytical philosophers of history. Though this is sufficient to throw into doubt the speculative-analytical distinction and the positivist assumptions on which it is based, the distinction may be criticized on other grounds. In particular it is possible to dispute the claim that speculative philosophy of history entails a search for 'meaning' in a sense quite different from that which any historian imparts to the past in providing causal explanations of events. This is a claim that has been stressed by analytical philosophers. Thus Mandelbaum writes that speculative philosophies of history 'represent the search for an ultimate message

4 W. H. Walsh, *Introduction to Philosophy of History*, 3rd rev. ed. London 1967, p. 16.
5 Ibid.
6 For example by Haskell Fain, *Between Philosophy and History: The Resurrection of Speculative Philosophy of History within the Analytic Tradition*, Princeton 1970. See also Munz, *The Shapes of Time*.
7 This point is made most strongly by Leon J. Goldstein, *Historical Knowing*, Austin, Tex. 1976.

which can be found in the historical process as a whole'.[8] And Danto maintains that

> Philosophies of history make use of a concept of interpretation... namely a certain concept of 'meaning'. That is to say, they undertake to discover what, in a special and historically appropriate sense of the term, is the 'meaning' of this event or that.[9]

Meaning so characterized serves to order the vast multiplicity of past events, but in a non-causal sense derived from some pre-conceived structure that is imposed upon these events. In other words, speculative meanings given to the past are not empirically based: they are dependent upon value judgments in the present, or visions of the future, instead of upon theoretically grounded accounts of the connections between past events.[10]

Reasons for the marked emphasis accorded to 'meaning' in recent analyses of attempts to conceive the past as a whole must be sought in the metaphysical assumptions of positivism. For a speculative search for meaning has not been the stated method of those who have advanced theories of the past. Hegel,[11] Marx[12] and Toynbee,[13] to name but three,

8 Maurice Mandelbaum, *The Problem of Historical Knowledge: An Answer to Relativism*, New York 1967, pp. 305-306.

9 Arthur C. Danto, *Analytical Philosophy of History*, Cambridge 1965, p. 7. See also Karl Lowith, according to whom a speculative philosophy of history is 'a systematic interpretation of universal history in accordance with a principle by which historical events and successions are unified and directed towards an ultimate meaning'. Karl Lowith, *Meaning in History*, Chicago 1949, p. 1.

10 I realize that this begs a number of questions: notably concerning the problem of value judgments in history, and the implication this has for the relationship between history as it is practised by historians and theory of history. These points deserve fuller treatment than they are given here, but see below pp. 410-11.

11 Thus Hegel was convinced that the study of world history would demonstrate 'the rationally necessary course of the World Spirit', but maintained that 'history itself must be taken as it is; we have to proceed historically, empirically'. G. W. F. Hegel, *Reason in History: A General Introduction to the Philosophy in History*, tr. Robert S. Hartman, Indianapolis 1953, p. 12.

12 Marx sought 'the way out of the wilderness of Hegelian idealism to real man in the material world'. Robert C. Tucker, *Philosophy and Myth in Karl Marx*, 2nd ed., Cambridge 1972, p. 95. The forces which operate upon men and societies do so, according to Marx, on the material plane, not in the airy realms of Absolute Spirit. These forces could be objectively examined, empirically investigated, for they were to be found in history itself. See M. M. Bober, *Karl Marx's Interpretation of History*, 2nd ed., Cambridge, Mass. 1962).

13 Numerous critics have taken Toynbee to task for failing to 'let the facts speak for themselves' and forcing events into a preconceived framework. Such criticism has been levelled by both philosophers and historians, see, e.g., William Dray, 'Toynbee's Search for Historical Laws', *History and Theory*, 1, 1960-61, 3ff.; William H. McNeill, 'Some Basic Assumptions of Toynbee's *A Study of History*', in Edward T. Gorgan (ed.), *The Intent of Toynbee's History*, Chicago 1961, pp. 39ff.; and Peter Geyl, 'Toynbee's System of Civilizations', *Journal of the History of Ideas*, 9, 1948, 93-124. Toynbee, however, always insisted his approach to the past was empirical. See A. J.

all believed that their approach to the past was essentially empirical. By the emphasis they have placed upon 'meaning' as integral to attempts to conceive of the past as a whole, positivist philosophers have tended to disregard the empirical content of causal hypotheses that attempt to explain the full course of human history. I will argue, however, that no senses of meaning other than that implied in causal connections are necessary to the formulation of an hypothesis that seeks to render historical change intelligible.

Meaning may attach to a bearer of meaning in a number of ways. Hill distinguishes four principal categories: intentional and dispositional meaning, both of which require the communication of what is meant from an agent to a receiver; and implicative and causal meaning in which what is meant derives from the nature of the bearer.[14] The first two categories can be ignored; it is unnecessary to postulate an extra-historical agent, god or demon in explaining the process of historical events; and the intentions of men, even those who consciously direct their lives in order to effect a specific historical impact, cannot count as imparting a meaning to history as a whole. Of the second two categories, an implicative meaning is strictly one which follows logically from the nature of the bearer within a given context. But a looser sense of implication than logical entailment is usual in drawing a meaning from the past, one in which the pattern of events implies that we should (rather than logically must) draw certain conclusions of meaning. Such implications can be drawn from any written history, but it is no part of the methodology of historiography to make any such meaning explicit. The theory of evolution could be invested with meaning by interpreting its outcome as the design of God, or as man destined to 'appear', but Darwin cannot be held responsible for such conclusions. Nor is implicative meaning necessary to a view of the past as a whole.

Causal meaning, like implicative meaning, does not require an agent to intend a meaning: it is inferred from the causal connections of the bearer of the meaning. Such connections in history *explain* historical events. A causal explanation is one advanced to make an event or sequence of events intelligible, and therefore meaningful; for causal connections introduce into the flux of the past a network of fixed relations, and so an element of order. This 'natural' meaning is therefore a *necessary* component of any causal explanation of the past, either in part or approached as a whole. All other meaning in history is 'conventional', and as such is not necessary to a scientific understanding of the past.

Toynbee, *A Study of History*, 10 vols. London 1935-61, vol. 1, p. 147; vol. 5, p. 1; and particularly vol. 12, pp.243-50 where Toynbee discusses his understanding of the term 'empirical'.

14 This typology is taken from Thomas English Hill, *The Concept of Meaning*, New York 1971, pp. 26-45.

The distinction between conventional and natural meanings is not one which in practice is always clear-cut.[15] For example, with reference to theory of history it might be argued that the meaning which attaches to a causal explanation of the full course of man's past will be accepted as natural only until such time as the theoretical provisions upon which it rests come under the kind of sustained criticism which leads to theory replacement. It may be then that what were formerly regarded as 'natural' connections will increasingly come to be seen as to a degree conventional, and therefore as speculative. However, to recognize that our understanding of the way in which our minds interact with the world may in time become more sophisticated does not mean that therefore all meaning in history should be seen as speculative; for this would be to make the mistake the positivists did, a mistake which stems in the last analysis from an insufficient appreciation of how knowledge evolves.[16]

A further reason why the meaning that attaches to history as a whole has come to be seen as speculative has to do with the projective nature of conventional meaning. Since conventional meaning is arbitrary the bearer of meaning must be a meaningless substrate: it can have no natural meaning. Things-in-themselves, as bearers of conventional meaning, are meaningless.[17] Applied to the past this leads to the assumption that, as implicative meaning is merely conventional, the events of the past are in themselves meaningless. Even if natural meaning is recognized as pertaining to the causal relations between events, because historical causes are temporarily limited no natural meaning attaches to the overall progression of human history.

But if history as a whole is meaningless, there is nothing to prevent meaning from being arbitrarily projected upon it as a result of evaluative judgment. In the words of Karl Popper: 'although history has no meaning, we can give it a meaning'.[18] But who is then to say which of various

15 For a discussion of this point, see Bernard E. Rollin, *Natural and Conventional Meaning: An Examination of the Distinction*, The Hague 1976, passim, but especially pp. 85-105.

16 That we are now better aware of how knowledge evolves has largely been due to the work of Popper and Kuhn, and those philosophers of science, especially Imre Lakatos, who attempted to bridge the differences between them. See in particular Thomas S. Kuhn, *The Structure of Scientific Revolution*, 2nd ed., Chicago 1970; Karl R. Popper, *Objective Knowledge: An Evolutionary Approach*, Oxford 1972; and Imre Lakatos, 'Falsification and the Methodology of Scientific Research Programmes' in Lakatos and Musgrave (eds.), *Criticism and the Growth of Knowledge*, pp. 91-196.

17 But as Gene Blocker points out: 'If meaninglessness is the recognition of the interpreted, or projective nature of meaning, then meaninglessness in one sense at least, is simply the recognition of the nature of meaning'. Gene Blocker, *The Meaning of Meaninglessness*, The Hague 1974, p. xi.

18 Karl R. Popper, *The Open Society and Its Enemies*, 5th ed., London 1966, vol. 2, p. 278. Meaning according to Popper, is projected in the 'point of view', or 'focus of historical interest' of the historian. It is a function of the 'historical interpretation' consciously adopted. Karl R. Popper, *The Poverty of Historicism*, 2nd ed., London 1961, p. 151.

competing meanings should be accepted? By what criteria are judgments of meaning to be critically assessed? Our only recourse to confine the arbitrariness of meaning is to exclude all conventional meaning from our understanding of the past. Only if meaning in the past as a whole can be limited to the natural meaning implicit in causal relationships can it be critically determined through application of an historical methodology. This would not exclude further interpretation, i.e., the projection of some conventional meaning, but it would require any such meaning to be consistent with causal meaning, and it would be evident where unwarranted additions were being made.

But how can causal meaning apply to the past as a whole if, as pointed out above, historical causes are temporally limited? If the only natural meaning in history attaches to such historical causes, meaning is only discoverable in those segments of past time over which specific causes operate. Links between segments may be provided by other causes, but there is no overriding causal meaning—unless, and this is something I shall argue for in the next section of this paper, it is possible to discover a universal causal mechanism of historical change operating throughout past time. Such a mechanism would provide the simplest form of natural meaning applicable to the full course of the historical process.

This conclusion is exceptional only in so far as it runs against the arguments of those positivist philosophers of history who maintain that meaning deriving from the demonstration of a universal causal mechanism operating throughout history is *not* necessary to any speculative philosophy of history that deals with the past as a whole. Perhaps the clearest exposition of this positivist position has been given by Gruner in his paper on the concept of speculative philosophy of history.[19]

Not only does he concentrate almost exclusively upon the aspect of meaning as characterizing speculative philosophy of history, but he also explicitly discounts the relevance of causal mechanism as providing the kind of meaning he considers essential.

Concerning the question 'has history any meaning?', Gruner distinguishes three components of 'meaning'—pattern, purpose, and value—all of which he claims are not only different, but independent of each other. By *purpose* Gruner has in mind some future state, the desire for which may act as a guiding determinant in the historical process. Its effect is thus teleological. *Value*, he suggests, must be understood in positive terms. The misery and pain of history should be seen at least as purifying or educational, as teaching men in some way. Pain and misery cannot, taken at face value, constitute the sole (and therefore negative) value of history. *Pattern*, finally, 'entails a certain consistency, an

19 Rolf Gruner, 'The Concept of Speculative Philosophy of History', *Metaphilosophy*, 3, 1972, 283-300.

"inner logic" according to which temporal phenomena follow each other in a certain order',[20] the extrapolation of which into the future, will reveal the full significance of the human past.

Gruner maintains the logical independence of these three senses of meaning, and contends that any speculative philosophy of history must either affirm or deny at least one of them. In other words, no comprehensive view of the past as a whole can refuse to take a stand on all three. But if only one of the three senses of meaning is necessary to a view of the past as a whole, it is possible to reject at least two. Purpose and value are both clearly conventional in that they rely upon evaluative judgments and do not derive from causal relations. Neither therefore is essential to a speculative philosophy of history. This Gruner admits, provided pattern is evident. But Gruner's concept of pattern is somewhat hazy.

If the pattern of history is 'the shape or form the course of history takes',[21] then it is difficult to see how history could not have a pattern. Even if events are said to have an 'inner logic' which results in 'a certain order' (which may or may not, we are informed, be repetitive) nothing is added that is not implicit in any causal explanation of historical events. Pattern in this weaker causal sense results from the work of any practising historian. But when Gruner goes on to maintain that one who has the 'key' to the pattern can recognize what 'history *in the end* will look like as a whole',[22] it is clear that he has more in mind. Pattern in this strong sense permits the prediction of the future course of social change, for the pattern is determined, like that of a carpet. Pattern in this sense functions as a developmental law, and such laws, as I shall argue below, are inapplicable to historical change. But pattern in Gruner's strong sense is *not* necessary to any hypothesis treating the past as a whole if pattern in the weaker sense of a causally related ordering of events *is* present. This is sufficient to provide the 'certain order' that Gruner requires, and we must conclude therefore that the only meaning *necessary* to a view of history as a whole is that implicit in a causal explanation applying throughout the course of historical change.

It would seem reasonable, therefore, to hold that attempts to formulate an hypothesis defining causal connections holding throughout the historical past should focus upon those mechanisms underlying such connections. Yet Gruner argues that the identification of a causal mechanism is *not* a necessary component of an account of the historical process as a whole.[23]

The core of Gruner's objection to mechanism is that it contributes nothing to meaning. It is, he says, neither necessary nor sufficient for the

20 Ibid., p. 295.
21 Ibid.
22 Ibid., pp. 295-96.
23 Ibid., p. 292.

sense of meaning that he considers essential in a speculative philosophy of history. His arguments against mechanism therefore rest upon his arguments for meaning, but as I have pointed out already the identification of causal connections (and of the mechanisms underlying them) does impart meaning to events, if only in the weak sense of pattern as order. Apart from this, Gruner's argument against mechanism is twofold. He insists that since a causal, or pseudo-causal, statement, e.g., of the form 'all historical change is due to economic causes', is without any temporal restriction, it is therefore not an historical statement and should not find a place in a philosophy of history. This is a truly extraordinary argument. Are only ethical statements to be allowed to appear in theories of ethics, only biological statements in biological theories? And in any case a statement beginning 'all historical change...' surely only refers to change in human history and is therefore temporally limited to the human past. Also Gruner's argument can be turned against himself, for if he argues that meaning in the sense of value, purpose, or pattern is to be found throughout history (and not just operating at one stage in the process) a statement to this effect will necessarily be couched in the same general and unrestricted form that Gruner argues is unhistorical.

Gruner's second argument is to the effect that in the statement 'all historical change is due to economic causes', the word 'historical' can be replaced by another term, e.g., 'all social change is due to economic causes', and therefore 'the specific historical dimension' is not essential.[24] But the same applies to sentences about the meaning of history. For the sentence 'all meaning in history derives from man himself' could be substituted 'all meaning in life derives from man himself'. Neither of Gruner's arguments therefore carry any weight in denying that causal mechanisms operating throughout the past can play any part in theories of history. Nor do Gruner's arguments touch the case I made above that the minimal condition necessary for a study of history to derive an intelligible order from the past is for the causal connections between events to be evident.

In his arguments against mechanism Gruner admittedly represents something of an exception among analytical philosophers. Although most have played down the empirical content of speculative philosophies of history, they have been forced to allow for the inclusion of mechanism for the obvious reason that most attempts to view history as a whole do in fact include some conception of how historical change occurs[25]—even if this is couched in such vague terms as Toynbee's

24 Ibid.

25 See, e.g., William Dray, *Philosophy of History*, Englewood Cliffs 1964, p. 64. But cf. Walsh's argument that in so far as the Marxist view of history has as its 'main purpose' the putting forward of a 'theory of historical interpretation and causation', it should not be classed as speculative philosophy of history at all. Walsh, *Introduction to Philoso-*

'challenge and response'. But though most philosophies of history have included some idea of mechanism it is probably fair to say that their primary concern has been with stages of historical development, and with the sequence of such stages. The effect of a change in emphasis to mechanism in the construction of philosophies of history would have the effect, however, of reducing the importance of such stages. Rather than being the described 'facts' that any explanatory philosophy of history would be called upon to explain, stages in the evolution of civilizations or societies would be explicable in terms of the interaction of the causal mechanisms of social change and the changing conditions, material and social, in the context of which those mechanisms operate.

A number of consequences follow from the above discussion. The first is that under the influence of positivism the study of the past as a whole has been misconceived. By relegating all such endeavours to the limbo of speculative philosophy of history in a land of doubtful meanings somewhere between historiography on the one hand and the philosophical investigation of historiography (legitimate analytical philosophy of history), on the other, theoretical attempts to make intelligible the process and course of historical change were divorced both from history as past time and from history as it is written. By demonstrating that a theory of historical change need concern itself with meaning in no additional sense than does any written history, the divide that had been artificially created between study of the part and the whole is bridged: the relation between the two is evident. The second consequence is that the way is now open for the development of a methodology for the scientific study of the full course of historical change. Such an enterprise would have been well-nigh impossible had meaning in any of Gruner's strong senses of the term been essential to it. The meaning deriving from the demonstration of causal connections presents no such difficulties, for it is upon the sense of meaning implicit in the notion of causation that the significance and intelligible order of an historical narrative depend. Thus parallels can be drawn between the methodology of history and that of a study of the course of historical change. In the case of the latter, intelligible order must also rest upon the causal connections perceived to hold between events. A theory of historical change would therefore have to make explicit those causal factors operating throughout the course of human history sufficient to demonstrate an intelligible order in the whole. Those factors, or mechanisms, would be open to the same kind of critical empirical verification as that applied in assessing any written history.

phy of History, pp. 27-28. Mandelbaum maintains that attempts 'to discover the laws or principles of historical development' are not philosophy of history, but 'general sociology'. Mandelbaum, *The Problem of Historical Knowledge*, p. 306, note 1. Cf. also Maurice Mandelbaum, *The Anatomy of Historical Knowledge*, Baltimore and London 1977, pp. 4-7, 14.

To sum up, therefore: I have attempted to clear the way for the theoretical study of history as a whole in which speculative content is reduced to a minimum (the minimum that is present in any scientific hypothesis until it meets with general critical acceptance) and in which empirically testable content is increased to a maximum. I have argued that this can best be achieved if students of history turn their attention primarily to those mechanisms underlying historical change that have acted throughout the course of human history. This pursuit I shall differentiate from traditional speculative philosophy of history and its proclaimed concern with meaning by calling it *theory of history*. By theory of history, therefore, I refer to the formulation of any hypothesis (or hypotheses) which, by theoretically describing those causal mechanisms operating throughout the history of human societies, effectively provides a degree of conceptual order sufficient to make our human past intelligible in some way. In the theory of history so defined, meaning does not, as so often in past speculative philosophies of history, dictate the relationship of past events in order to impose some preconceived intelligibility upon them: it is dependent instead upon the empirical verification of causal mechanisms.

III

Having separated the empirical aspects of speculative philosophy of history from attempts to project a meaning upon the past, we can turn now to discuss the form that a theory of history might take. Such a theory, it was concluded above, must attempt to explain sequences of past events in terms of the causal relations between them. In other words a theory of history would have to demonstrate some causal mechanism, or mechanisms, operating throughout the full course of our human past. Is there any way in which the search for such a theory might be advanced? Or is the only course open to the theorist of history to read more and more histories in the hope that connections will suddenly become clear? Can the conditions under which a theory of history might be discovered be shaped in some way so as to increase the likelihood of success? In other words, is it possible to say anything about the 'context of discovery' of a theory of history? I believe it is.

Few philosophers of science have defended the possibility of logically analyzing the context of discovery of a scientific theory. According to most, the origin of theories is a closed book where no methodological rules apply.[26] Theories are creative acts whose provenance is unknown, or at least not open to logical analysis since they lie in the domain of individual psychology. Only when a theory has been advanced can it be critically assessed—the 'context of justification'. One philosopher who turned his attention to the context of discovery was Norwood Russell

26 E.g., Karl R. Popper, *The Logic of Scientific Discovery*, London 1959, pp. 31-32.

Hanson.[27] Hanson argued that the choice of an appropriate hypothesis could be 'a reasonable affair'. By this he meant that it is possible logically to advance reasons for suggesting a particular *kind* of hypothesis to account for a given set of data. Hanson claimed that 'what makes it reasonable to anticipate that an hypothesis will be of a certain type is analogical in character',[28] and that the reasons for supporting such an analogy are logical ones. Thus, whereas the pre-existence of an hypothesis (H) already advanced and accepted is in a sense a matter of historical chance, good reasons can be advanced for suggesting any hypothesis (H^1) advanced to explain a set of data similar in some way to that explained by H will be of a type analogous to H. In other words Hanson believed it possible to differentiate the reasons for suggesting a type of hypothesis from those for accepting a specific hypothesis. Reasons for accepting an hypothesis refer to the specific facts against which it must be measured. Reasons for suggesting a type of hypothesis, however, can refer only to a *class* of empirical observations. Further, the ultimate test of any hypothesis lies in its ability to predict novel facts which can be verified by observation. But since such predictions can only be made on the basis of a fully articulated theory, they are never available as reasons for suggesting a type of theory. Clearly, therefore, reasons for postulating an hypothesis can never be as comprehensive or conclusive as those which can be advanced for accepting it. It is therefore not possible to do more than advance reasons for believing that a set of data will be better explained by one kind of hypothesis than by another. But this is all I want to do. My analysis of the context of discovery of a theory of history will be undertaken in order to determine what *kind* of theory is most likely to explain the process of historical change.

A further point needs to be made. Whereas the logic of verification leading to acceptance of a theory requires primarily reference to empirical data (a theory is empirically falsified when its predictions are not confirmed), the logic of theory discovery draws primarily upon the structure of previously accepted theories, especially, as I shall indicate below, those in adjacent fields of knowledge. This means that whereas any specific theory advanced must rely for its acceptance upon empirical verification, the actual form and structure of an analogous theory will be an historical phenomenon, dependent upon the present state of knowledge. In other words, as Feyerabend has pointed out in his comments on Hanson's position, that a certain hypothesis , or even a set of hypotheses, has already been accepted is no more than a socio-psychological fact that indicates that certain beliefs are now being

27 Norwood Russell Hanson, 'Is There a Logic of Scientific Discovery?' in Baruch A. Brody (ed.), *Readings in the Philosophy of Science*, Englewood Cliffs 1970, pp. 620-33.

28 Ibid., p. 624..

held.[29] Therefore it must be stressed that an analysis of the context of discovery provides no more than reasons for believing that a particular kind of theory of history represents the most plausible conjecture available, given the present state of our knowledge. It cannot provide either a specific theory or even a definitive theory type, for its reasoning depends upon analogies drawn with other theories which themselves are open to future falsification.

But rather than invalidating all attempts to analyze the context of discovery of a theory of history, the fact that the present state of our theoretical understanding of the world constitutes an historical accident is exactly what makes the endeavour worthwhile. We cannot escape the constrictions of time. The conditions that promote the search for new and more accurate, or comprehensive, or instrumentally effective, or research-productive theories (depending upon one's metatheoretic view of the nature of theories) only arise in a given historical context. A theorist of history can only view the world in terms of modes of thought he has learned through education and experience. This 'world-view', historically conditioned as it is, must be set in the context of previous ways in which the past has been conceived. Recognition of the historicity of any theory of history thus forms part of the evolution of our historical understanding. In addition it points up the historical requirement that a theory of history must be compatible with all well established existing scientific theories. A theory of history which postulates a form of divine intervention which contravenes laws of physics and chemistry cannot be accorded critical acceptance.

It is essential, therefore, for the theorist of history to be conversant with the theory content of other disciplines as a first step in investigating the context of discovery for a theory of history. The laws of both the physical and biological sciences would have to be accepted, especially where these bear directly upon historical change. This is not to suggest, however, that any such law could be extended to account for historical change. Laws in science apply to a specific material content at a specific level of complexity. All they can do is to direct attention to aspects of environment in so far as these may influence the development of human societies. Any relationship perceived will require its own theoretical formulation.

Can the theory content of other disciplines therefore offer no insight to the theorist of history? This would be an extreme conclusion. There are, it seems to me, two classes of neighbouring disciplines which might be of interest to the theorist of history: those containing a theory which could stand in a reductive relationship to any new theory advanced; and those

29 Paul Feyerabend, 'Comments on Hanson's "Is There a Logic of Scientific Discovery?"', in Herbert Fiegl and Grover Maxwell (eds.), *Current Issues in the Philosophy of Science*, New York 1961, pp. 37-38.

providing possible models for an analogous new theory. I shall term these relationships *reductive* and *analogous*, and discuss each in turn. A reductive relationship may hold between disciplines concerned with the investigation of phenomena organized at different levels of complexity.[30] If disciplines are so related it may prove possible to apply a reductionist methodology to explain phenomena at a more complex level of organization in terms of theoretical insights applying to phenomena at a less complex level. Thus it has proved possible to reduce theories of chemical combination and composition to physical theories of atomic structure. In saying this I do not for a moment want to suggest that such reductions are a matter of course, or that no residual problems remain. Attempts to reduce biology to chemistry have registered both astonishing successes, particularly in the reduction of the mechanisms of genetic inheritance to the chemistry of macromolecules, and have left over puzzling 'residues' whose solution does not appear possible using the very reductionist techniques that isolated them. This lack of complete success should not, however, detract from the fact that a reductionist research programme has been highly productive of useful explanatory theories that have greatly increased our understanding of biological organisms.[31]

Which discipline, or disciplines, if any, stand in a reductive relationship to history? In answering this question two distinctions must be drawn. The first is between theory *in* history and theory *of* history; the second, following from the first, is between the kind of history that interests an *historian* and the kind of history that interests a *theorist* of history. Theory of history treats the full course of historical change; a theory of history must be applicable throughout human history. Theory *in* history refers to the use by historians of the theoretical insights developed by other disciplines, together with theories of comparative history put forward by historians to account for the similarities evident between kinds of events (e.g., theories accounting for the course followed by revolutions, or determining the success or failure of federations, etc.). It follows from this distinction that whereas an historian may be interested in anything that happened in the past, from art and technology to politics and society, for its own sake, a theorist of history will be interested in each only in so far as it relates to the broad processes of socio-cultural development; and whereas the historian may concern

30 Complexity here refers to the way in which matter is put together. The following levels of complexity can be differentiated: atomic, molecluar, organismic (the complexity of life), conscious (that greater organismic complexity necessary for conscious thought), and socio-cultural (the interaction of conscious individuals).

31 This point has been forcefully made in K. R. Popper, 'Scientific Reduction and the Essential Incompleteness of All Science', in Francisco Jose Ayala and Theodosius Dobzhansky (eds.), *Studies in the Philosophy of Biology*, London 1974, p. 269, though Popper is well aware of the problems and 'puzzles' that may result. Ibid., p. 270.

himself with social movements, the development of institutions, or the lives of individuals, each again for its own sake, the theorist of history is interested in each only as it plays a part in, or provides a specific instance of the dynamics of historical change.[32]

In the light of these distinctions I shall rephrase the question which discipline stands in a reductive relationship to history, and ask instead which discipline might stand in such a relationship to that kind of history of interest to the theorist of history? This simplifies the discussion, for what we are now interested in is solely the process of historical change. We may begin by determining which disciplines are organized at a single level of complexity below that of the interaction of individuals with each other and with social groups and institutions as agents of historical change. Sociology will not do, for in attempting to develop theoretical insights into the structure and function of societies, and the way in which individuals and social groups interact, sociology is concerned with phenomena at the same level of complexity as those which interest the theorist of history. So too for anthropology. Only psychology among the social sciences operates at a lower level of complexity than the group of disciplines comprising history-sociology-anthropology, i.e., in attempting to explain individual behaviour in terms of mental states and processes.

There is thus a potential reductive relationship between theory of history and psychology that should be borne in mind by the theorist of history. In line with other cases of theory reduction this would require the elaboration of theoretical linkages, some of which might become evident from attempts, admittedly only partially successful to date, to explain historical events by reference to the psychology of individual actors.[33] It is even not beyond the bounds of possibility that eventually a theory of history might be elaborated by building upon psychological laws. After all, had the structure of the atom been elucidated before chemical compounds were observed to interact, presumably laws of chemical combination could have been determined from atomic theory.

However, this has not been the usual sequence of events. The method of analysis attempts to understand wholes through the interaction of their parts, to reduce events at higher levels of complexity to those at lower levels. Man has observed and mused upon the macrostructures of his world before attempting to determine its microstructures. And so it is likely to be with history. Our consciousness of the past is determined by

32 It should be clear, therefore, that the distinction I am drawing here differs from those advanced either by Jan Romein, 'Theoretical History', *Journal of the History of Ideas*, 9, 1948, 53-64, or by Othmar F. Anderle, 'A Plea for Theoretical History', *History and Theory*, 4, 1964, 27-56.

33 While I would not for a moment argue for methodological individualism to the exclusion of holistic explanations of social events, psychohistory, despite its various failings, does appear to be a potentially fruitful area for research.

the sequence of historical events whether on a world, or national, or local and limited scale. Theory of history cannot wait until psychologists plumb the last secrets of the human mind. Causal connections may be postulated to account for historical change, even though any psychological mechanisms underlying them may not yet be fully understood. However, it is psychology, as standing in a reductive relationship to theory of history, that offers the best likelihood of accounting for any causal mechanism postulated by a theory of history, and any psychological reduction that can be adduced by a theorist of history in support of his proffered hypothesis must strengthen its claims.

The second class of relationships between neighbouring disciplines mentioned above I have called analogous. An analogous relationship holds between disciplines whose subject matter is sufficiently similar in one or more respects to permit a theory in one discipline to serve as a structural model for a theory in the other. Such a relationship may apply between disciplines treating similar levels of complexity, or, though less likely, between those treating different levels. Biochemistry may in some areas stand in an analogous relationship to physiology, though there is a qualitative increase in complexity from organic molecules to tissues and organs. Clearly, however, in the case of analogous disciplines treating a similar level of complexity, theories are more likely to be immediately applicable. Disciplines treating different levels of complexity may, under different circumstances, stand in both a reductive and an analogous relationship to each other. The applicability of analogous theory types in such cases will depend heavily upon structural similarities in subject matter.

On the face of it, it would appear that an analogy can be drawn from anywhere. So it can, but the probability that it will prove applicable depends directly upon the degree of similarity between things being compared. For a theory analogous to another theory to be able to explain a set of observations, its data must possess certain similarities to the data explained by the original theory. These similarities need not always be due to an extension of subject matter, e.g., from chemistry to biochemistry: they might, for example, lie in the structure of internal relations. But in most cases where analogous theories have effectively been applied, an extension of *related* subject matter underlies this success. For example, analogous theories to those developed in the interpretation of the meaning of texts have been extended to cover the meanings of cultural assemblages in anthropology, but texts are themselves one product of culture. Adjacent disciplines therefore provide a useful potential source for analogous theories which no analysis of the context of discovery of a theory of history should neglect.

What disciplines stand in an analogous relationship to history as it interests a theorist of history? The first and most obvious candidates

would appear to be sociology and anthropology. To either a theorist of history might turn in search of a theory to explain the process of historical change, for both deal with subject matter at a similar level of complexity. In fact history, sociology and anthropology might be considered aspects of a single 'science of man-in-society'. The theories of one might be expected, therefore, to apply directly to another. However, an important difference between history on the one hand and sociology and anthropology on the other lies in the different relative significance accorded time as a variable. This distinction is not absolute: it does not preclude the cross use of theory between history and sociology. But for *theory of history* the distinction is crucial, for time is central to any understanding of historical change. This would appear to reduce the likelihood that theory of history, as opposed to theory in history, could draw upon atemporal structuralist or functionalist theories of anthropology and sociology as a source of possible theory types from which an analogous theory might be drawn.

There is, however, one area of anthropology which might provide a theory type pertinent to theory of history, and that is the study of culture change. This branch of anthropology is in fact little more than history thinly disguised, for a theory of culture change would also be a theory of history. Let us turn therefore to the discipline to which, for good reasons, most cultural anthropologists have turned for analogies by which to construct their theories of culture change—evolutionary biology.

Evolutionary biology is an analogous discipline to theory of history, in that the internal relations of the subject matter of the former (adaptations of animal populations) parallel those in the latter (adaptations of human societies). There are structural similarities between the relationship between an individual animal and the species to which it belongs and the relationship between a man or woman and the society, or culture, of which he or she is a member. Also there are obvious parallels between the relations of animals and human beings to the respective environments. Finally, in both time is not a reversible variable, but a directional vector whose effect is crucial to an understanding of change as process. There are thus clearly likely to be parallels which could be drawn between the way in which species evolve and cultures or societies change over time. The Darwinian, or better still, the modern synthetic theory of evolution might serve as a source for an analogous theory explaining the course of human history. In fact, given that the effect of time must find expression in any theory purporting to account for the dynamics of historical *change*, it must be concluded that evolutionary theory presents the best exemplar for a theory of history presently available So at least the cultural anthropologists have realized. Furthermore, recent work in the allied disciplines of ethnology and sociobiology has stimulated renewed interest in the applicability of evolutionary theory to human societies.

These are developments which should elicit the keenest interest in the theorist of history.

Some attempts have in fact been made to develop an evolutionary theory of social or cultural change. A useful typology and listing of examples is provided by Donald T. Campbell.[34] Campbell's first types of evolutionary theory suggesting an interaction of culture with continued human biological evolution are little more than inadmissible direct applications of the evolution of natural species to human societies: e.g., through the effect of environment upon organisms. This may be useful in postulating relationships between cranial capacity or bipedal locomotion and tool use, or the evolutionary effectiveness of genetically-grounded altruism, etc., but it is inapplicable to the last few thousand years of man's existence. Such a period is too short for genetic evolution to have had anything like enough effect to produce the historical changes in cultures and societies that have taken place. Obviously new factors are at work which relate to the higher level of complexity introduced by the evolution of consciousness. To fail to take resulting quantitative and qualitative differences in rates and types of change into account is to end up with the absurdities of social Darwinism.

Campbell's second group of theories concern socio-cultural evolution independent of genetic change. These may be divided into theories describing the course of such evolution, and those explaining it as a process. The former are of two main types: unilinear and multilinear progress theories. The model for the first is that of the development of an individual organism from embryo to maturity, on the analogy that all societies progress from primitive to advanced forms, and can be classified accordingly. For the second the model is the formation of biological species: different societies develop at different rates and in different directions in response to different environmental conditions—'progress' is in terms of adaptive adequacy instead of degree of advanced development.

The first of these types draws upon an analogy with a concept of evolution quite unlike that of Darwin: for 'evolution in the theory of natural selection is a meandering process almost entirely shaped by environmental contingencies, rather than insulated from them',[35] as a unilinear theory would require. In effect, therefore, the analogy used in unilinear progress theories of cultural change is inappropriate.

Before going on to examine Campbell's multilinear progress theories, let us pause a moment to take up this problem of inappropriate analogies. Before any theory is advanced, analogous to an existing theory, careful consideration must be given to the appropriateness of the analogy used.

34 Donald T. Campbell, 'Variation and Selective Retention in Socio-Cultural Evolution', in Herbert R. Barringer, George I. Blanksten, and Raymond W. Mack (eds.), *Social Change in Developing Areas*, Cambridge, Mass. 1965, pp. 19-49.

35 Ibid., p. 22.

Such consideration is a necessary part of the analysis of the context of discovery of any theory. As suggested above, an analogous theory is most likely to be appropriate when the subject matter with which it deals forms an extension of that of the original theory. Failing that, sets of relations must be identified as equivalent in some way: parts to the whole, or parts to each other. The more remote the source of the analogy and the more tenuous the similarities upon which it is based, the more likely will the analogy prove to be inappropriate, and the theory need to be rejected.

Two examples taken from theory of history, the theories of Toynbee and Marx, will illustrate the kind of difficulties which can arise when inappropriate analogies are used in theory construction. It is clear from the account Toynbee has provided of the context of discovery of his theory that the analogy he used, instead of being firmly based upon an analysis of types of theory which might be applicable, derived from little more than a vague and unformulated hunch. The genesis of Toynbee's theory lay in his perception of certain similarities between the relations World War One and the Peloponnesian War had to the civilizations in which they occurred, similarities which theoretically expressed might apply to other civilizations. As Toynbee described it:

> Whatever chronology might say, Thucydides' world and my world had now proved to be philosophically contemporary. And if this were the true relation between the Graeco-Roman and the Western civilizations, might not the relation between all the civilizations known to us turn out to be the same?[36]

This led Toynbee to postulate what he called 'the philosophical contemporaneity of all civilizations', a metaphysical principle whose meaning is not at all clear, but whose implication is that the process of development in all civilizations is structurally identical. The model for this structure Toynbee took from Oswald Spengler's *Untergang des Abendlandes*, drawing upon the analogy made there between the life of an organism and the 'life' of a civilization, the very analogy we have rejected above as inappropriate. It does not matter that the various stages through which Toynbee's civilizations are said to pass do not exactly parallel stages in the life of an organism, the underlying analogy is apparent.

Nowhere does Toynbee argue explicitly for the validity of this basic analogy. Yet this is what underlies his conviction that each civilization must complete a pre-ordained cycle of events. An explanation of that cycle is dependent upon identifying corresponding stages in the history of each civilization, a virtually impossible task. This is not the only difficulty that Toynbee faces. The life-cycle model proves inapplicable for other reasons. 'Births' and 'deaths' cannot be pinpointed in time;

36 Arnold J. Toynbee, *Civilization on Trial*, London 1948, p. 8.

civilizations do not function like discreet organisms for cross-influences affect 'growth'. Also the mechanism of challenge-and-response is too weak, too nebulous, to account for the progression from stage to stage.

There is yet another difficulty with Toynbee's theory in that it attempts to account for a classification of civilizations, and for sequences within each. The urge to draw up such lists and attempt to explain them is understandable. After all, a glance at world history is enough to show that some civilizations have disappeared and others arisen from their ashes; some have outlasted others, and some appear in a healthier state than others at present. But the problems involved in accounting for a given sequence or classification of cultures or civilizations are considerable. To begin with, no classification has yet been commonly agreed upon.[37] Did classical civilization give rise to European civilization, or was Graeco-Roman civilization followed in turn by Medieval Christian and modern Western civilization? In addition, sequences cannot be taken as discrete lines of transmission. Civilizations influence each other synchronically as well as diachronically, and there are inevitable contradictions involved in any attempt to categorize an evolving system.[38] The importance of cultural contacts in stimulating historical change vitiates any claim, such as Toynbee makes, to have discovered the same sequence of stages in a number of civilizations, each of which serves to instantiate an hypothesis seeking to explain that sequence. Furthermore, any attempt to take such contacts into account can only result in a series of unique chronological developments which cannot be explained by any historical law.[39]

A further example of the use of an inappropriate analogy is provided by Marxist theory of history. Marx took the Hegelian dialectic of Spirit and turned it upside down. 'Life is not determined by consciousness, but consciousness by life'.[40] He contrasted his own materialism, firmly and scientifically based, with Hegelian idealism, the example for Marx of philosophical speculation lost in a realm of abstraction that no longer had any relevance for man in society. And yet despite Marx's criticism of Hegel, it was to Hegel he turned for the theoretical model of his own materialist conception of history, the 'matrix' of his own thought.[41] That he should have done so is understandable for he drew upon the leading philosophical theory of his age. The power of Hegel's dialectic and his

37 Toynbee's classification is perhaps the best known, but there have been others. See Roger W. Wescott, 'The Enumeration of Civilization', *History and Theory*, 9, 1970, 59-85.

38 Cf. Matthew Melko, 'The Interaction of Civilizations: An Essay', *Cahiers d'histoire mondiale*, 11, 1969, 559-77.

39 I would accept Popper's argument in *The Poverty of Historicism*, p. 117. Cf. also Munz, *The Shapes of Time*, pp. 287-89, 348, note 47.

40 Karl Marx, *The German Ideology*, Parts I and II, ed. R. Pascal, New York 1939, p. 15.

41 Cf. Tucker, *Philosophy and Myth in Karl Marx*, p. 126.

philosophy of history permeated the intellectual atmosphere of nineteenth-century German thought. Marx drew an analogy between the dialectic of Spirit and the socio-economic changes he sought to explain and promote; in the process he adapted a philosophical theory to what he considered was an empirical investigation. In so doing he imported into his theory of history the metaphysical assumptions underlying the Hegelian model which Marxism has been burdened with ever since.

What grounds did Marx have for assuming that a metaphysical theory put forward to account for the unfolding of progressive self-knowledge of an Absolute Spirit could be applied to a process of material change? The analogy of course lies in the *development* of both, an unfolding progression, spiritual and conscious for Hegel, material and socio-economic for Marx. The step Marx wanted to take was from philosophy to science, but it is exactly such a leap that is logically open to question, even given the material basis of thought!

Marx, like Toynbee, attempted to explain a sequence of social changes occurring in a number of separate societies or civilizations. But Marx was far more aware than Toynbee of the importance of an effective mechanism to generate such a sequence. For Marx this mechanism had to do with the class conflict that results from the contradictions that develop between changing modes of production and the social relations dependent upon them. However, the dialectical resolution of these contradictions does not always follow. In effect the mechanism is too gross to account for the varieites of historical change. This was inevitable given Marx's inappropriate use of an analogy derived from the broad abstractions of Hegelian philosophy.

What should be clear from our analysis of these two theories of Toynbee and Marx is that any attempt to formulate a theory of history to account for a taxonomy of civilizations or a sequence of developmental stages within them is misconceived. In fact, any analogy which gives ries to a 'phylogenetic' theory of history is inappropriate. A distinction must be drawn between 'phylogenetic' and 'mechanistic' theories of history along the lines of the distinction in biology between 'phylogenies' as 'the historical paths taken by evolving groups of organisms'[42] and the general diversity of biological evolution which Darwin attempted to account for through natural selection.

The unacceptability of phylogenetic theories of history is sufficient reason to reject multilinear progress theories of change in so far as these

42 Michael Ruse, *The Philosophy of Biology*, London 1973, p. 67. This is the distinction Ruse stresses between theory of evolution and phylogeny: 'A theory of evolution tells us about the mechanism of evolution; a phylogenetic description tells us about the course of evolution', *Scientia*, 104, 1969, 347. Cf. also the distinction drawn by Campbell between 'theories describing the course of evolution and theories focusing on social processes that lie behind social evolution'. Donald T. Campbell, 'Variation and Selective Retention in Socio-Cultural Evolution', p. 20.

attempt to explain sequences or stages of historical development followed by all societies, cultures or civilizations. Even though such theories draw upon an analogy based upon the structural similarities between sub-specific populations and societies, such an application is illegitimate because analogues of a mechanistic theory are being extended to explain phylogenies of a kind that the type theory cannot account for. However, if an analogical theory is more strictly applied to account for the *process* of socio-cultural change rather than its course, we are on firmer ground, for such change might be able to be explained by universal mechanisms analogous to those postulated by the synthetic theory of evolution.

At the same time, however, the specific mechanistic provisions of evolutionary theory should not be too literally applied. We cannot go to the opposite extreme. The 'variation and selective retention' model as applied to socio-cultural evolution provides an example of the attempt to apply theoretical mechanisms too closely without adequate analysis of whether those mechanisms are appropriate. The evolution of consciousness has placed man on a higher level of complexity. A new evolutionary threshold has been crossed. The inheritance of information (ideas) making for more adequate adaptation to (and of) the environment, unlike that physically coded in the genes, is unlikely to follow Mendelian laws. Different mechanisms are at work, resulting in new relationships to environment. A detailed criticism of theories of cultural change which postulate a mechanism analogous to natural selection must, however, await another occasion.

Despite the proviso that analogies with specific mechanistic provisions should not be pressed too far, an evolutionary theory analogous to the synthetic theory of biological evolution would appear to offer the most likely type of theory by which to account for the process of historical change. The analogy in this case is based upon the broad structural similarities evident between man as a biological species subdivided into social groups, each evolving culturally under specific environmental conditions (physical, economic and social), and animal genera subdivided into ecologically distinct species and subspecies groupings. In its favour, it should be pointed out that this analogy draws not upon an abstraction like that of Marx (the dialectical conception of progression), nor upon a strained similarity like that of Toynbee (civilizations as organisms) but is firmly based upon empirical grounds: *Homo sapiens* as a biological species, societies as populations of organisms.

I have shown that the *kind* of hypothesis most likely to form the basis for a theory of history is one which draws upon carefully grounded analogies. Thus the search for a theory of history must logically begin from an investigation into the nature of what such a theory is called upon to explain. History, as the record of the socio-cultural development of

mankind, is marked by an increase both in inter-subjective, and thus socially heritable, knowledge, and in the elaboration of organized relations between individuals. Presumably a theory of history would have to account for the way in which the sum of individual actions taken in increased awareness of the nature of man's environment and their probable impact upon it results in historical change.

In the last analysis a theory of history must seek to explain how change occurs in human societies; not, initially at least, to account for any overall direction that change might seem to take. No assumption can be made that historical change does have direction, and even if despite the widespread notion of 'progress', some quality or content of human societies shows a linear increase or tendency, this does not impart an inevitable 'direction' to the changes incorporating such increases. The possibility of 'reversals' occurring must always be recognized. But these are problems to be taken up in the course of more detailed analysis leading to formulation of an evolutionary theory of history.

IV

In this paper I have argued that to attempt to formulate a theory of history in the form of an hypothesis explaining historical change operating throughout our human past is a legitimate endeavour. This I have done by distinguishing between theory of history and speculative philosophy of history on the grounds that whereas the latter seeks to impose a 'meaning' on the past as an integrating interpretative principle, the former advances a causal hypothesis which limits any meaning to be found in the past to that derived from the causal connections identified to explain it. In addition I have suggested that a careful analysis of the context of discovery of a theory of history indicates that the most likely type of theory which might be used to account for historical change is one analogous to the modern synthetic theory of evolution; one that, instead of trying to explain developmental stages, seeks to explain some mechanism of historical change. That is, given our present theoretical understanding of the changing contours of life on earth, a broadening of our understanding of the history of man is likely to be best achieved by conceiving that history in evolutionary terms.

The precise formulation of a mechanistic, evolutionary theory of history is not, however, something which can be deduced from an analysis of its context of discovery. Such an analysis can only take us so far: an actual theory of history must await a further creative breakthrough. What I hope the above discussion may have achieved is the relocation of both history and theory of history in our conceptual scheme of relations between intellectual disciplines from the peripheral position they occupy in the positivist scheme to a central position at the

juncture of the natural and social sciences. This relocation is essential to overcome the distortions associated with an uncritically accepted objectivism in both the social and natural sciences.[43] It is important more narrowly for history in that it establishes more firmly its scientific credentials, and for the theory of history in that it makes it evident that this enterprise concerning the process of change in human societies should be considered as a natural extension of evolutionary biology, the study of change in animal populations. Once history is conceived as that extension of organic evolution that emerges with the peculiarly human quality of consciousness, the possibility exists of drawing analogies between evolutionary biology and history as socio-cultural change.

Finally the formulation of a theory of history along such lines would provide historians with a new and potentially productive paradigm within which to pursue their discipline. Not only that, but theory of history would emerge as a conceptual synthesis uniting all the sciences of man.

43 Cf. the new recognition both of the interior dimension of mind in the social sciences (the importance of meaning and interpretation), and of the role of 'metaphysics' in theory construction in the natural sciences. Cf. C. A. Hooker, 'Philosophy and Meta-Philosophy of Science: Empiricism, Popperianism and Realism', *Synthese*, 32, 1975, 177-231; and C. A. Hooker, 'On Global Theories', *Philosophy of Science*, 42, 1975, 152-79.