

Popper's Views on Natural and Social
 Science
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15. CRITIQUE OF HISTORICIST VIEWS

A third use of the phrase is found in several nineteenth century positivists for whom the philosophy of history was the discovery of general laws governing the course of the events which it was history's business to record.

R.G. Collingwood

The main content of the two books which Popper wrote on the methodology of the social sciences is a comprehensive critique of what he called 'historicism' and the associated doctrine of holism. By that he meant 'an approach to the social sciences which assumes that historical prediction is their principal aim, and that it is attainable by discovering the "rhythms", or the "patterns", the "laws" or the "trends" that underlie the evolution of history'.¹ To a large extent this view had been widely adopted when Popper wrote. It had even been shared by those who sought to apply the methods of physics to social phenomena and by those who denied their applicability to society. In both cases, he thought, there has been a basic misunderstanding of the methods of physics, and one with serious consequences for the progress of social sciences.

Views that social phenomena cannot be analysed by the methods used in physics, so that social sciences need a distinctive method, he calls 'the anti-naturalistic doctrines of historicism'. On the negative side, they include denials of the possibility, or usefulness, in the social sciences, of general laws, controlled experiment, quantitative explanation, exact prediction, or even objective analysis.

On the positive side, there are claims that the complexity of social phenomena and the importance of novelty in social development make it necessary to adopt a 'holistic' approach by seeing society as much more than the aggregate of its members and by appreciating the analogy between social structures and biological phenomena rather than physical phenomena. There is, too, a further claim that social analysis has to aim, not so much at causal explanation, as at intuitive understanding of the purposes and meanings of social events, of their genesis, consequences and significance for social life as a whole. Such understanding

¹ *The Poverty of Historicism*, p. 3.

is to be helped by some kind of analysis of social trends, or by careful analogy with past situations of a similar kind.

Pro-naturalistic doctrines, on the other hand, were much influenced by the spectacular success of Newtonian physics, especially in predicting accurately astronomical phenomena. Great stress, accordingly, was put on social prediction, although it was recognized that the difficulties in making definite or exact predictions because of the complexity of social phenomena, the impossibility of subjecting them to controlled experiments, and the limitations on quantifying meaningful sociological concepts. These difficulties, it was held, preclude detailed or exact prediction so that social science has to aim at large-scale and long-term forecasts which will be somewhat vague but compensate for that by having great scope and deep significance. The 'observational base' for these predictions must be historical records, so that social science becomes theoretical history, akin perhaps to physical dynamics. Just as physical predictions are based on physical laws, so historical predictions must be based on historical laws, laws which apply to the whole of human history and which determine transitions from one historical period to another.

The foregoing summary is based on the first two chapters of *The Poverty of Historicism*, which is sparing in references to historicist writers, partly because Popper regards historicism as a rather vague set of doctrines which he has had to synthesize and strengthen in order to criticize effectively. *The Open Society*, on the other hand, is largely a study of some very influential historicists,—Plato, Aristotle, Hegel and Marx.

The first volume of this book is devoted to Plato alone, perhaps because the influence of his ideas on Western thought became extensive through the classical type of education given to European clerics and gentlemen after the Renaissance. Plato had depicted historical change as continuous social decay, and sought to arrest it by means of a republic ruled by wise guardians who had been specially trained to foster and preserve conservative harmony between classes, rigidly stratified on the basis of social function and non-hereditary.

Aristotle developed a theory of *essences* from Plato's theory of ideas, and made essences identical with *final causes*, the end or purpose which is to be realized by change. In that way he substituted a dynamic optimism—a belief in progress—for Plato's pessimism about change, although Aristotle left it to others to apply his dynamic optimism to history.

It was so applied by Hegel, whom Popper regards as 'the father

of modern historicism and totalitarianism'. Collingwood, however, found that Hegel's ideas are an amalgam of those previously expressed by Herder, Kant, Schiller, Fichte and Schelling.² Like Aristotle, Hegel taught that change tended to manifest essence but, unlike Plato and Aristotle, held that change is all-pervading; essences themselves undergo change. They become self-developing, that is, towards an 'absolute idea' which is, as Hegel put it, 'a self-realizing and self-realized final cause-in-itself'. Yet such progress is not uniform; it is 'dialectical' involving thesis, antithesis and synthesis, a triad which is repeated at ever higher levels. Thus oriental despotism yielded to Greek and Roman aristocracies and these, after various changes, to Germanic monarchy.

For Hegel, historical development was a matter of successive national dominations achieved by warfare, each realizing a higher stage of Spirit, the essence of which is freedom. But not ordinary freedom—not democracy, personal liberty nor equality before the law. It is rather absolute monarchy which history has brought to embody both reason and that general will which Rousseau had the discernment to see as being distinct from the democratic pretension of a will-of-all.

Marx, like other German students of philosophy in his day, was strongly influenced by Hegel's historicism. But he made great changes to it, substituting development of economic life for development of Spirit, class wars for national wars, and the final cause of a communist society for that of a Prussian state. He was, of course, one of Popper's pro-naturalist historicists, the widely acclaimed founder, with Engels, of 'scientific socialism'.

Historicist speculation, before Marx, is best described as belonging to 'the philosophy of history', although this term was not used until Voltaire invented it to designate critical historical analysis. Hegel took up the term, as did other writers of the late 18th century, and widened it to designate something like universal history which stopped short of prediction because future events could not be part of history.

It was Marx, and the Positivists, who extended historicist explanation of the past to prediction of the future on the basis of supposed historical laws.³ There were, however, wide differences in identifying such laws. Menger noted, besides, Marx's dialectical materialism, Vico's cyclical theory of national histories,

² *The Idea of History*, pp. 113–14.

³ See Collingwood, *op. cit.*, p. 1 and pp. 119–20.

Herder's idea of human development, Turgot's idea of constant progress, Michelet's idea of progressive realization of the concept of freedom, Lessing's idea of improvement in human education, Schelling's idea of increasing harmonization of freedom and necessity through the state, and Guizot's idea of French civilization as the type for all human civilizations.⁴

Popper's attack on the anti-naturalistic doctrines of historicism may now be considered. These deny the possibility of finding universal laws for social phenomena, invariant over time and place, and insist that, if social laws can be found, they will apply only to a particular period or region. Popper argued that, contrary to what historicists assert, there is no *basic* difference in this respect between social science and physics. Physical laws are necessarily formulated as universal statements because if they were held to be subject to change then change could never be explained by laws and so would have to be held miraculous. Nevertheless the universal validity of natural laws cannot be ensured; the physical universe is itself a changing one and we can sample only a relatively small part of it. Perhaps these laws hold only in a part of the universe that has weak gravitational fields or during a particular phase of the universe's expansion. If, moreover, we limit consideration to the earth and to historical time, the variation of a magnetic compass from a line of longitude changes as we travel, and the apparently regular alternation of day and night breaks down when we cross the Arctic Circle. Yet physics is able to explain these differences. Historicists may thus overrate the significance of spectacular differences between social situations, and under-rate the possibilities of scientific theorizing. Newton's law of inertia does not hold for any moving body in any part of the known universe because no part of it is completely free from gravitational and other forces, yet the law is important for any explanation of motion. Similarly, there does not seem to be any indubitable reason to suppose that it is impossible to frame social theories which would apply to all social periods⁵. But, as we shall see in section 22 below, Popper has come to doubt whether there are universal laws in economics, and hence in any of the social sciences.

Holism is more strongly attacked, or rather the historicist version of it. Popper has no objection to the *selective* study of regularities of structure which organize some phenomena into 'wholes' that

have different properties from those of their constituent parts; e.g. organisms, electric fields, machines, musical works or some psychological experiences such as the *Gestalt* school studied. But the proposal, made by Mannheim, for the *unselective* study of all the properties or aspects of a social epoch, including all the relations between its constituent events, is quite different and, indeed, impossible. All observation and description must be selective so that wholes, in Mannheim's sense, can never be the objects of knowledge, and this holistic method is an empty programme. 'Not one example of a scientific description of a whole, concrete social situation is ever cited. And it cannot be cited, since in every case it would always be easy to point out aspects which have been neglected, aspects that may be important in some context or other.'⁶

The pro-naturalist belief in historical laws gained much support because of a misconception that Darwinian theory had exposed a law of evolution for biological phenomena. Yet this idea is much older, going back to Plato's theory of progressive decay, and appearing during the early eighteenth century in Vico's theory of cyclical development. Comte and Mill had also spoken of 'laws of succession' for social as well as for natural phenomena before Darwin published his results. Popper points out the mistake in thinking that there can be a 'law of evolution' for either biological or social phenomena. Life on earth is a unique historical process, proceeding in accordance with many natural laws, but is itself a unique development. We have only one instance of it and, even if we are bold enough to conjecture a universal law from this one instance, we could obviously not test that law.

It would not, therefore, be a scientific law. We can, of course, sometimes find history repeating itself in certain respects, and historical parallels are sometimes instructive. But such repetitions and comparisons involve very different circumstances, which may well exert an important influence on future developments and so prevent anything like exact repetition or parallelism continuing.

An historicist escape from this damaging conclusion is to assert that, even if an evolutionary process is unique, we may discern in it a trend, and test for this trend against future experience. Perhaps so, but Popper insists that trends are existential statements and cannot therefore be laws. A trend must relate to a particular period of time and to a particular place. It is thus a

⁴ *Investigations into the Method of the Social Sciences*, pp. 121-4.

⁵ *The Poverty of Historicism*, pp. 100-02.

⁶ *idem* p. 7.

description, not a universal law, and we cannot, as every statistician knows, use a trend as a reliable basis for predictions because conditions that have determined the trend may suddenly and radically change.

Nor are there laws of succession. Granted that every actual succession of events is governed by scientific laws, no sequence of these events proceeds in accordance with any single scientific law or set of such laws (apart from natural periodicities like the movement of a pendulum). The weather at any place over one week can no doubt be fully explained by natural laws and associated initial conditions, but there is no way of determining any particular combination of these conditions for predicting the weather over any future week.

Popper thus holds that 'Mill and his fellow historicists *overlook the dependence of trends on initial conditions*. They operate with trends as if they were unconditional like laws . . . And if they at all consider a "reduction" of their tendencies to "laws", they believe that these tendencies can be immediately derived from universal laws alone, such as the laws of psychology (or perhaps dialectical materialism)'. For this reason they make the unconditional predictions of prophets instead of the conditional predictions of scientists⁷.

These arguments show that historicism is, at best, a barren method but fall short of conclusive refutation. After the publication of the articles which became *The Poverty of Historicism*, however, Popper was able to show that, for strictly logical reasons, it is quite impossible to predict the future course of society. The proof begins with the convincing statement that the course of history is strongly influenced by the growth of knowledge and proceeds to the demonstration that we cannot predict, by rational methods, the future growth of knowledge and so the course of history.

This demonstration is given in sections 20–22 of the *Postscript* volume, *The Open Universe*, which was not published until 1982, twenty-five years after *The Poverty of Historicism*. There, as was shown in § 13, it is argued that the most important elements of new knowledge will be new scientific theories, and that these cannot be predicted from existing theories; for if they could be, they would not be new.

Even, moreover, if we suppose, like some Marxists, that we could be in such complete possession of historical truth that our theories will never need amendment, still less supersession by

⁷ *idem*, p. 128.

new ones, we still could not predict our own future predictions. That is demonstrated by a complicated argument, not reproduced here, that no scientific predictor, whether human or electronic, furnished with all true scientific theories and with all relevant logic and mathematics, could predict the results of its own calculations or predictions before they have been already made, and so became retrodictions. Being purely logical, this result holds for predictors of any complexity, including any number of interacting computers or sections of the Royal Society.

It may be of interest to notice a similar argument by Koestler, applied not to a society but to an individual. A computer that knew everything about the individual could not predict what he would do next because for that purpose it would need a complete model of the individual, including the process of constructing such a model, and so on *ad infinitum*.⁸

There are, of course, dissenting views about Popper's analysis of historicism as well as the concordant views noted above. Donagan thinks that Popper is wrong in saying there are no laws of succession in natural science apart from natural periodicities, such as the movements of planets. He points out that biologists can make exact enough statements about the stages of development of a human embryo. He also thinks it conceivable that historicists might go beyond trends towards universal laws in explaining change. For we can imagine initial conditions such that, in combination with Newton's laws of motion, the planets' orbits were contracting on the sun as one focus; we could then deduce this trend as a universal law for planetary systems that had these initial conditions⁹. Popper admitted the force of these criticisms, but appreciated Donagan's agreement with Isaiah Berlin that he had 'actually destroyed historicism'¹⁰.

Donagan had made the further criticism that Popper's synthetic account of historicism had been misleading in adding intuitive understanding and essentialism to the central doctrine; Marx had not held either view and not many historicists had held both.

Lessnoff makes a similar criticism in regard to Mill¹¹. Mill, he argues, never asserted a historical prophecy so that his historicism was only 'programmatically'. But he went on to quote Mill's

⁸ Koestler and Smythies, editors, *Beyond Reductionism*, p. 220.

⁹ 'Popper's Examination of Historicism', in *The Philosophy of Karl Popper*.

¹⁰ *idem*, p. 1172.

¹¹ 'The Political Philosophy of Karl Popper', *The British Journal of Political Science*, 1980.

statement that social progress depends on 'the law of the successive transformations of human opinions', such a law being discoverable although not yet discovered. This criticism, therefore, has little point.

16. HOLISTIC PLANNING

Monarchical institutions have thrown an odium upon despotism; let us beware lest democratic republics should restore oppression, and should render it less odious and less degrading in the eyes of the many by making it still more onerous to the few.

Alexis de Tocqueville

Although holism is an empty theoretical programme it has had a strong influence on notions of social planning. Consistently with their view that social phenomena can be understood only as a whole, holists maintain that society can be changed or reformed only as a whole. This idea, too, goes back to Plato who, seeing change only as decay, wished to prevent it by a wholesale transformation of socio-political conditions.

An important, if indirect, stimulus was given to the idea of holistic planning by Descartes whose emphasis on reason as a guiding principle undermined an older idea of natural law as resulting from custom and tradition. It is not, then, surprising that the French Enlightenment and the French Revolution led to a variety of proposals for wholesale social change, usually along the socialist lines advocated by such theorists as Saint Simon, Fourier and Proudhon.

Proposals of this sort were still being vigorously debated when Marx came to Paris, and were severely condemned by him and Engels as 'Utopian Socialism' in their *Communist Manifesto*. These founders of dialectical materialism believed that social change must result from inexorable historical laws, not from the plans of reformers, however rational or radical. Such plans could only distract the working class from its historical task of revolution. Nevertheless wholesale or collectivist economic planning was instituted in Soviet Russia, whether by historical necessity or by Stalinist dictatorship. The same kind of planning was adopted in, or imposed on, countries which later came under communist rule. It has also been advocated by socialists in other countries after the Russian Revolution, and partly tried in some of them, including Fascist Italy and Nazi Germany, both of which pretended to a kind of national socialism.

Very soon after the First World War ended, there was vigorous discussion of economic planning in both Germany and Austria,

notable proponents being Lederer, Heimann and Rathenau in Germany, and Bauer and Neurath in Austria. Critics of their socialist ideas included Weber and Mises in these two countries, and Brutzkus in Russia during the transient period after its revolution when free discussion was possible there.

As a youth in Vienna, who was attracted to the communist party but soon left it, Popper would have been interested in the issue. He reluctantly ceased to believe in socialism only when he became convinced that it was incompatible with personal freedom or democracy, and hence most unlikely to realize a professed aim of equality which he strongly favoured¹. He did not, however, accept the demand of Mises, Hayek and other Austrian economists for a capitalist system of completely free markets, nor their sweeping condemnation of state activity in the economic sphere, because he saw needs for social reform, and believed this could be, and had been, achieved through some kind of experimental action by governments, trade unions or other groups. Nor, being mainly concerned with political implications, did he discuss these thinkers' important critique of economic calculation in a collectivist society.

What he condemned in *The Poverty of Historicism* was wholesale or Utopian planning as distinct from 'piecemeal social engineering' (which is to be discussed in § 18). His condemnation was both practical and moral. On the practical side, he pointed out that there is no scientific basis for holistic planning. It is a far bigger and much more complicated problem than any physical engineering one, but far more lacking in requisite experimental knowledge. Social science is too under-developed to provide anything like a reliable blueprint for social reconstruction, so that the intended aims of planners are likely to be thwarted by large, unforeseen and undesired consequences of the changes which result from attempts to execute their plans. For that reason alone, there would have to be piecemeal improvisation on an increasing scale, and so increasing divergence from the original social blueprint. Marx and Engels were right in describing this kind of planning as utopian because there is no scientific basis whatever for it.

Advocates of holistic planning may agree about the deficiencies of sociological knowledge, but they can argue that the only way to acquire it, in a practical sense, is to embark upon experiments in holistic planning. Popper has two objections to such a view.

¹ *Unended Quest*, p. 36.

One is that holistic planning is *not* the only way of gaining practical knowledge about society or social reform. Much knowledge already exists and develops in the experience of economic agents, even if this is organized only in an indirect way through the operation of markets. Over and above that, there are all the piecemeal reforms made by democratic governments which have so greatly changed the laissez-faire system described, and condemned, by Marx.

Admittedly such individual knowledge is acquired in a pre-scientific way, and such reforms have practical rather than scientific aims. But markets both coordinate individuals' knowledge and develop it in a trial and error way. And there is no reason to suppose that firms and governments cannot improve upon crude trial and error by more systematic collection and analysis of relevant material. That they have been trying to do so is evident by the growth of research units and advisory bodies for both large firms and government departments. Pre-scientific and scientific knowledge cannot, in fact, be sharply distinguished. Both rely upon trial and error, and they grow by learning from mistakes. Our pre-scientific knowledge becomes more scientific as we become more prepared to to risk trials and the more we look for, and the more critically we consider, inevitable mistakes. In politics this means acknowledging and taking responsibility for mistakes, trying to learn from them, and trying to use what we learn to avoid repeating them.

Popper's other objection to this defence of holistic planning is that experiments with it are unlikely to add much to our practical knowledge of society. They are experiments only in the sense of being risky, not in the scientific sense of being a means of gaining knowledge through comparing anticipated with actual results. If, however, everything is to be attempted at once, it must become impossible to determine which particular measure is responsible for any of the results. That would be so even if conscientious attempts were made to evaluate reforms. But such attempts are likely to be incomplete and fleeting. A comprehensive social blueprint requires a definite set of social values and there are bound to be different views about the extent to which they should be realized, and over the best means of realizing them. Large-scale social reconstruction, moreover, must disturb many people over a considerable period and so cause great strains and tensions. For both reasons there will be criticism, complaint and opposition to the execution of the plan and, if it is to get the intended results, criticism, complaint and opposition will

have to be controlled or suppressed. This suppression not only undermines democracy, it obscures the effects of planning on the welfare of individuals, who were supposed to benefit from planning, and so makes it difficult to judge these effects. Scientific criticism of the plan thus becomes very restricted, if not impossible, and the plan's contribution to scientific knowledge about society becomes as doubtful as its effects on human welfare.

At this point of his critique Popper takes up Hayek's argument that, although political power may be centralized, it is quite impossible that social knowledge can be because this is distributed over so many individual minds. The consequence is that the holistic planner must try to simplify his problems by moulding individual minds, through education and propaganda, to accept stereotyped beliefs and interests. Attempts of this kind are destructive of free thought, especially critical thought, and so of social knowledge. They have, moreover, the perverse consequence of changing an original aim of reconstructing social arrangements in order to provide better for people's needs into one of moulding people in order to meet the needs of planning.

That would be the case even on the credulous assumption of benevolent planners. But it is highly doubtful whether planners, if inclined to be benevolent when they were first given or took the political power to attempt planning, could remain so even if they wanted to. The tensions and difficulties of social reconstruction would work the other way, and the corrupting nature of power has also to be reckoned with. The only bulwark against tyranny is the democratic right to dismiss governments by voting them out of office, but democracy is, for the above reasons, incompatible with holistic planning.

Lessnoff thinks that there is a problem here, one which can be solved only by giving some role to induction². In *Objective Knowledge*³, Popper had written that it would be rational to base practical action on the best tested theory. That would obviously be a reason for preferring piecemeal to holistic social planning. Lessnoff objects that it is not a sufficient reason for expecting better results from piecemeal planning unless we also accept an inductivist belief that good past results give a rational expectation of good future results.

He did not, however, notice Popper's further statement that

² 'The Political Philosophy of Karl Popper', in *The British Journal of Political Science*, 1980.

³ op. cit. pp. 21-22.

'in spite of the "rationality" of choosing the best-tested theory as a basis of action, this choice is *not* "rational" in the sense that it is based upon *good reasons* for expecting that it will in practice be successful choice: *there can be no good reasons* in this sense, and that is precisely Hume's result'⁴. The rationality of choosing the best tested theory is that it is the one which has best survived critical examination. More important, the rationality of a piecemeal approach is that, unlike holistic planning, it exposes such theories to further critical examination and revision.

Popper's critique of holistic planning was written before Soviet power spread over Eastern Europe, and communists took power in China, North Korea and Vietnam. It was another four decades before the disastrous results, political and economic, of communist planning became so plainly revealed in all these countries that measures began to be taken for its reversal, partial though they have so far been. Popper's writings would, of course, had little if any direct influence on those making these changes but they must have contributed, with the writings of other critics of holistic planning, such as Hayek, to some widespread understanding of its baneful consequences. At any rate, these developments are in line with what he foresaw and so can be regarded as corroborating his analysis.

⁴ op. cit. p. 22.

17. SITUATIONAL LOGIC

I would be quite nonplussed if I were asked to cite any economic proposition other than of purely formal significance, which might be adduced as a scientific result recognized by everyone.

Knut Wicksell

Ever since Newton's brilliant success in explaining physical phenomena there have been attempts to discover basic laws for social phenomena. Saint Simon, the inspirer of early European socialism, went so far in his enthusiasm as to propose that all sciences, social as well as natural, should seek their basis in Newton's law of gravitation, the supreme principle which God had imposed on the universe. His collaborator and follower, Comte, generally regarded as the founder of sociology, looked rather to biology for 'static' laws of coexistence and 'dynamic' laws of succession in his new science. This idea had great influence in France and also in Germany where it was taken up by the Young Hegelians, so much so that Hayek regarded Comte as having been about as important as Hegel for modern historicism¹.

Comte also influenced some English thinkers, notably Carlyle and J.S. Mill, who had previously been impressed by some of Saint Simon's ideas. But Mill, rejecting the collectivism which was so marked a feature of these Frenchmen's ideas, sought to base social laws, not upon physics or biology, but upon psychology as the basis 'on which all the moral and political sciences ultimately rest'².

This view, no doubt, owed much to his father's *Analysis of the Phenomena of the Human Mind*, a pioneer work in psychology, much influenced by the cognitive psychology of Locke and Hume. A similar view had been expressed in Germany by Fries and Benecke, and was labelled 'psychologism' by Husserl, (who did not agree with it). Neither Comte nor Mill succeeded in finding laws of coexistence or succession. As Hayek points out, Comte gave a scant exposition of the static part of his positive system and, in the dynamic part, did little more than re-assert that

civilization progressed through stages of theology, metaphysics and positive science without explaining this progression³. And Mill, after expounding his scientific views in *A System of Logic*, made hardly any use of them in his *Principles of Political Economy*. His psychologism is reflected there in a partial recognition of demand as an influence on the value of a good, but not enough to make him break loose from Ricardo's labour theory of value. It certainly did not lead him, in spite of some training in the differential calculus, to the marginal utility theory of value.

Menger, an independent discoverer of this marginal utility theory and the founder of the Austrian subjectivist school of economics, was far from holding that psychology, or anything else, could furnish historical laws of economic development; that, he said, 'would be a one-sided monstrosity'⁴. He and his followers rather emphasized the importance and purposive character of individual activity, its dependence on subjective valuations, knowledge and expectations, and the central problem of the unintended consequences of individual actions.

Popper, notwithstanding his decisive rejection of historicism and collectivism, takes for his critique of psychologism⁵, an epigram of Marx's: 'it is not the consciousness of man that determines his existence—rather it is his social existence that determines his consciousness'. He praises Marx for recognizing the autonomy of sociology—its independence from psychology; for Marx made the development of objective conditions of production his basic socio-economic determinant, irrespective of the mental processes or moral characters of individual capitalists or workers.

Although Popper very much approves the methodological individualism which lies behind Mill's view, he has three main arguments against his psychologism. The first is that, if social institutions are to be explained by what Mill called 'the actions and passions of human beings', we would have to explain the beginnings of society in terms of pre-social human nature. That is absurd, if we consider that man's pre-human ancestors had some kind of social organization so that society would have existed before 'human nature' had become developed. Language, moreover, is itself a social institution, and so presupposes some kind of society. The second argument is that human actions often

¹ *The Counter-Revolution in Science*, p. 220.

² *Autobiography*, Ch. VI.

³ *op. cit.*, pp. 342–44.

⁴ *Investigations into the Method of the Social Sciences*, p. 121.

⁵ In Chapter 14 of *The Open Society and Its Enemies*.

have unforeseen consequences which cannot be explained simply in terms of individual motives and desires. (And, as Menger had emphasized, following Montesquieu, Burke and Mandeville, social institutions have largely developed without conscious planning or direction.) The third argument relates to Popper's important idea of *situational logic*. He holds that our social actions are very largely explicable in terms of the situations in which we are placed, objective situations which involve both a physical environment of natural, human or capital resources and a social environment of traditions, customs or institutions. Psychological considerations may enter into the explanation of these actions but cannot be anything like the whole of it and will often be only a comparatively trivial part as, for example, in explaining the development and consequences of a famine. It is, moreover, impossible to cover all individual psychological influences in any analysis of a social situation.

Popper is content to reduce psychological considerations to the simplification of a *rationality principle*, 'the principle of acting appropriately to the situation; clearly an almost empty principle'⁶. He stresses that it has little to do with any psychological assertion that people always act rationally. Rather it is a consequence of his *methodological postulate* that we should, as far as possible, try to explain social phenomena in terms of the objective features of a situation, features which include the objective aspects of human aims and expectations, not the ways in which these are diversely generated in individual minds.

This rationality principle is not, then, to be regarded as an empirical or testable hypothesis. Nor is it to be regarded as *a priori* valid as some Austrian economists, notably Mises, would have asserted. For, being only an approximation, it cannot be universally valid, and so must be false. Often, however, it may be sufficiently near to the truth for providing a good explanation.

⁶ David Miller, editor, *A Pocket Popper*, Section 29. Ludwig Lachmann gives a similar account in his explanation of Austrian methodology which explains human actions in terms of individuals' plans. 'We are here concerned', he says, 'with purposes, not with motives, with plans, not with the psychic processes which give rise to them, with the acts of our conscious minds, not with what lies behind them. As soon as our thoughts have assumed the firm outlines of a plan and we have taken the decision to carry it out over a definite period in future time, we have reached a point outside the realm of psychology, a point which we can use either as the starting point or the final goal of our enquiry. . . . In neither case are we trespassing on the domain of psychology.' 'Methodological Individualism' in *Roads to Freedom* (1969), edited by Erich Streissler, p. 94.

He gives a number of reasons for adopting this methodological postulate.

- (i) Models of an objective social situation are more informative and testable than is the rationality principle; it is almost empty and false so that testing it would not tell us anything new.
- (ii) Theories can be tested only as a whole, and a test involves choice between alternative theories; most social theories of any merit would have this rationality principle in common, implicitly if not explicitly.
- (iii) Attempts at replacing the principle seem to lead to complete arbitrariness in modelling social situations.
- (iv) Adoption of the postulate can lead to deeper analysis of what is relevant in a social situation or structure.

The word 'model' has reappeared here in exactly the same sense as in § 9 of Part One, where it was described as a *representation of typical initial conditions and of typical relations between these conditions*. It was noted that physics, and other natural sciences, had made considerable use of such models to explain or predict a kind of event when universal laws and exact initial conditions were lacking for the explanation or prediction of a singular event. The kind of event could be explained when the model was supplied with some 'driving force', even if this itself could be only sketchily explained. That is why Popper offers his almost empty rationality principle. It is a general substitute for the universal laws which social science, unlike natural science, has had such difficulty in finding.

Social models are discussed in § 23, but they may be given an interim illustration here by sketching an elementary aspect of marginal utility economics, the theory which, Popper says, suggested to him the idea of situational analysis. Consider the situation of consumers with given preferences for goods or services, given market prices for these goods or services, given incomes and predetermined decisions about the proportions of their incomes that are to be taxed, saved or borrowed. Call what they have left to spend on consumption disposable resources. Consumers are assumed to have the aim of reaching their highest realizable levels of individual utility, and to act rationally in achieving this aim by making appropriate allocations of their disposable resources between purchases of the available goods and services. On the further assumption that any additional unit of a good or service is less preferred,—confers less utility than any that preceded it in an individual's consumption,—it is held that marginal utility declines. From this assumption it is deduced that

the purchases of any good or service increase as its money price falls relatively to the money prices of other goods and services. (A fuller version of this theory attempts explanation of saving and borrowing, and also of the exceptional case of an 'inferior good', whose purchases may decrease as its relative price falls.)

It is true that Popper, in affirming 'the unity of method' between natural science and social science, did assert that there are universal social laws, and offered some examples.⁷ It must be said, however, that although his examples have the form of universal laws they are rather vapid and their truth is doubtful. One example is: 'you cannot introduce agricultural tariffs and at the same time reduce the cost of living', and another: 'you cannot introduce a political reform without strengthening the opposing forces, to a degree roughly in ratio to the scope of the reform'. But it is quite conceivable that an agricultural tariff is used to reduce other tariffs which affect the cost of living to a greater extent. It also seems plausible to describe the political changes which Lee Kwan Yu made in Singapore as a revolution, and to claim that he did effectively suppress opposing forces. Nor is it a way out for a Popperian to qualify, for example, his first law by invoking a clause of the *ceteris paribus* type; for elsewhere Popper insists that such a clause must never 'be added to a theory since it would destroy its testability'.⁸ Disturbing influences, that is, should be identified and assumptions about their constancy stated in the initial conditions.

More convincing, perhaps, but rather vague, is another example which he gives; 'wherever the freedom of thought, and the communication of thought, is effectively protected by legal institutions and institutions ensuring the publicity of discussion, there will be scientific progress'.⁹ But the conditions listed may be sufficient rather than necessary, and there is no assertion of anything like a quantitative connection. Has there been less scientific progress in communist Russia than in democratic New Zealand?

Popper, in any case, would now share the scepticism about social laws expressed by Wicksell in the quotation which heads this section, and by Hayek who has said: 'although we possess theories of social structure, I rather doubt whether we know any 'laws' which social phenomena obey'¹⁰. Nor are they alone in

⁷ *The Poverty of Historicism*, Section 29 and pp. 62-63.

⁸ *Realism and the Aim of Science*, p. 288.

⁹ *The Open Society*, Chapter 13, note 13.

¹⁰ *Studies in Philosophy, Politics and Economics*, p. 42.

expressing such scepticism; for two other Nobel prizewinners in economics have said much the same thing. Hicks has emphasized that 'economics is in time, and therefore in history, in a way which science is not'¹¹; and Samuelson, commenting on the 'treacherousness' of economic laws, has said that 'if these be laws Mother Nature is a criminal'¹².

The lack of universal laws, invariant over space and time, does not itself mean that social phenomena cannot be given scientific explanation. A scientific theory is a tentative, criticizable and testable explanation of the relations between empirical phenomena, and we have seen that a model can serve this purpose, given some driving force which need not itself be explained if we have to accept rougher explanations than those which scientific laws make possible.

Social models are necessarily rough approximations to truth because, even if theoretically polished or technically sophisticated, they are schematic oversimplifications of objective social situations. We could not represent anything like the full complexity of such a situation by a model, and so have to attempt a selection of its more relevant and general features for mapping. For this reason, and also because the rationality principle is only an approximation, Popper points out that tests of social models are usually neither clear-cut nor easy to obtain. There will often be difficulties in deciding whether a discrepancy is due to the roughness of a model or to a mistake in its construction. Nevertheless, Popper thinks, that rival models may help us to choose appropriate tests between them, and that historical research can help in this respect. If discrepancies are large we should, of course, try to improve the model. Ideally such improvement would lead to small and non-systematic discrepancies between theoretical and actual outcomes because any large or systematic discrepancy would point to some relevant explanatory feature having been missed from the model.

There is a further difficulty arising from the changeability of social conditions. Physics, like economics, has used models. But in physics, Popper says, it has been possible, in many cases, to reduce the parameters of equations to a small number of natural constants. 'This is not so in economics; here our parameters are themselves in the most important cases, quickly changing variables. This clearly reduces the significance, interpretability, and

¹¹ 'Is Economics a Science?', *Interdisciplinary Science Review*, 1984, pp. 213-14.

¹² *Collected Scientific Papers*, p. 1539.

testability of measurement.¹³ That is why historical research can help. The mere fact of change need not be important; what matters is whether change has affected the model's explanatory power.

The idea of situational logic came to Popper, as we saw, from marginal utility economics which Menger had helped to pioneer. It is not surprising that others who were influenced by Menger's school had a somewhat similar idea. This is particularly evident in the work of Max Weber, the great sociologist, who also found economics a guide for social theory. He saw that, although Menger's school stressed subjective phenomena, Wieser was wrong in describing its method as psychological; it had nothing to do with experimental psychology but was rather 'pragmatic' in the sense of using the categories of ends and means¹⁴. This points to some agreement with Popper's rationality principle, but there is stronger evidence for this in Weber's famous theory of 'ideal types' which, although essentialist, foreshadows situational logic¹⁵.

There is a loose parallel, too, between Popper's rationality principle and Weber's *Verstehen* method of intuitive understanding. For example, in *The Poverty of Historicism*, Popper acknowledges that we have a more direct knowledge of 'the inside of the human atom' than we have of the physical atom and that we use this knowledge to frame hypotheses, although strongly insisting that these cannot be trusted and so have to be tested¹⁶. He goes on to say that the 'element of rationality' in human conduct makes it possible to construct approximative social models which can be less complicated than physical models¹⁷. But in *The Open Society* he refers to Weber's method and, although appreciating his dismissal of appeals to self-evidence, questions whether the method is peculiar to social science because natural scientists may also develop a 'feel' for the phenomena that they are studying¹⁸.

Weber, and the economists Marshall and Pareto, had much influence on Talcott Parsons in developing his rather opaque accounts of 'voluntary social action' and of 'structural-functional

¹³ *The Poverty of Historicism*, p. 143. Popper acknowledges that he got this idea from Lionel Robbins' article, 'Live and Dead Issues in the Methodology of Economics', published in *Economica*, 1938.

¹⁴ See L.M. Lachman, *Capital, Expectations and the Market Process*, p. 53.

¹⁵ See Weber's 'The Interpretative Understanding of Social Action', in May Broadbeck, editor, *Readings in the Philosophy of the Social Sciences*, p. 23.

¹⁶ *The Poverty of Historicism*, p. 138.

¹⁷ *idem*, pp. 140-41.

¹⁸ *op. cit.* Note 44[2] to Ch. 11.

theory', which have some resemblances to situational logic. Hayek also developed something like it from the ideas of Menger and Mises, although in a way that was more polemical than constructive¹⁹.

Some of Popper's philosophical colleagues—Agassi, Jarvie, Watkins and Wisdom—have also discussed situational logic in a supportive way, although, as Jarvie says, 'either in a polemical context or very briefly'²⁰. Jarvie himself points out that Popper's analysis of Plato's law of decay, and of Marx's theory of class struggle, in *The Open Society*, can be interpreted as early applications of the method of situational logic. He also cites examples of situational analysis in non-economic fields; Moynihan's work on Negro riots, Davis' work on prostitution and Evans-Pritchard's work on Azande witchcraft²¹.

There have also been critics of this important method. A recent one is Hands who wrote an article, 'Karl Popper and Economic Methodology'²². His first criticism is a curious logical argument. According to Popper, situational logic was inspired by the example of marginal utility economics, Darwinism is also an example of situational logic, and the growth of scientific knowledge is akin to Darwinism; are, then, Darwinism and the growth of knowledge applications of the method of marginal utility theory? This question would not, perhaps, have been asked if Hands had appreciated what Popper says about models. Models describe, not unique, but *typical* situations, as in marginal utility economics. Evolution is a *unique* development and so hardly susceptible to analysis by a model. Science has used models but has gone beyond them, in many fields, by invoking *universal laws*, and such laws are not available to economics.

But most of Hands' doubts relate to the rationality principle. He asks whether it is necessary, and whether it is not metaphysical. His question about necessity arises from the seeming paradox that this principle is said to be needed for situational analysis in social science but is not available to natural science, and this would contradict Popper's claim for a unity of scientific method. In making this charge Hands ignores many examples of situational logic in biological evolution, some of which are noted in § 17. In any case, the basis of this unity of natural and social science is, for Popper, the general method of conjectures and

¹⁹ *The Counter-Revolution in Science*, Part I.

²⁰ I.C. Jarvie, *Concepts and Society*, p. 179 n 2.

²¹ *idem*, Ch. 1.

²² *Economics and Philosophy*, 1985.

refutation, which applies both to the causal explanations of natural science and to the situational explanations of social science. Theoretical models, moreover, can be used in both types of science. All that is different is the use of the rationality principle to drive the situational models of social science instead of the many laws, causal or probabilistic, which can be invoked to drive the models of natural science.

Mention may be made, too, of Caldwell's claim that there is a conflict between Popper's two principles of falsificationism and situational logic.²³ Science is distinguished from metaphysics by the criterion of falsifiability; situational logic depends on the rationality principle but this, Popper says, is not falsifiable; must it then be metaphysical and also theories which rely on it? Watkins has interpreted the principle a 'confirmable and influential metaphysics', confirmable by introspection. Caldwell thinks there are two other alternative interpretations. If it is to replace in social models Newton's laws in physical models, can it be regarded as a kind of universal law itself? That cannot be the case if the principle is unfalsifiable. Alternatively the principle may be regarded as a methodological principle which is used because it has so far proved useful. But this is an inductivist argument and Popper opposes inductivism. Boland has long argued that falsificationism is inadequate for choosing between theories and has stressed instead the value of Popper's critical rationalism which is anti-justificationist and anti-inductivist. Caldwell's preferred solution of these dilemmas is pluralistic. By invoking also critical rationalism, he would allow the use of both falsificationism and the rationality principle in their appropriate contexts. The principle would then be defended on the ground that a situational model can be most severely and fruitfully criticized by looking to its objective features whenever it appears to be falsified.

This defence, of course, is one of the grounds given by Popper for using the rationality principle, another being to avoid the arbitrariness in theorizing that results from the alternative use of psychologism. It is true that Popper gives no discussion of the relation of this principle to falsificationism beyond saying that it is a methodological principle and as such is not susceptible

²³ 'Clarifying Popper, *The Journal of Economic Literature*, March 1991. His exposition suffers from a common confusion between the logic of scientific discovery and the practice of scientists. Thus he asks; 'If falsificationism is so alien to the practice of economists, why not reject it altogether?' His answer is that 'falsification captures a recognizable part of scientific activity, even within economics'. (p. 28).

to direct empirical testing. We can test a particular model which uses the principle but this would not be a test of the principle because a better model would also use the principle. Brief though these statements are, they would seem to indicate clearly enough that the principle is to be regarded neither as a universal law nor as inductively justified but as a methodological principle which advises us to look to the objective aspects of a situation in trying to explain it.