

## *Prediction and Prophecy in the Social Sciences\**

Karl R. Popper

1.

The topic of my address is “Prediction and Prophecy in the Social Sciences.” My intention is to criticize the doctrine that it is the task of the social sciences to propound historical prophecies, and that historical prophecies are needed if we wish to conduct politics in a rational way. I shall call this doctrine “historicism.” I consider historicism to be the relic of an ancient superstition, even though the people who believe in it are usually convinced that it is a very new, progressive, revolutionary, and scientific theory.

The tenets of historicism—that it is the task of the social sciences to propound historical prophecies, and that these historical prophecies are needed for any rational theory—are topical today because they form a very important part of that philosophy which likes to call itself by the name of “Scientific Socialism” or “Marxism.” My analysis of the role of prediction and prophecy could therefore be described as a criticism of the historical method of Marxism. But in fact it does not confine itself to that economic variant of historicism which characterizes Marxism, for it aims at criticising the historicist doctrine in general. Nevertheless, I have decided to speak as if Marxism were my main or my only object of attack, since I wish to avoid the accusation that I am attacking Marxism surreptitiously under the name of “historicism.” But I should be glad if you would remember that whenever I mention Marxism, I always have in mind a number of other philosophies of history also; for I am trying to criticise a certain historical method which has been believed to be valid by many philosophers, ancient and modern, whose political views were vastly different from those of Marx.

---

\* From, Patrick Gardiner, ed. *Theories of History*. (New York: The Free Press, 1959), 276-285.

As a critic of Marxism, I shall try to interpret my task in a liberal spirit. I shall feel free not only to criticise Marxism but also to defend certain of its contentions; and I shall feel free to simplify its doctrines radically.

One of the points in which I feel sympathy with Marxists is their insistence that the social problems of our time are urgent, and that philosophers ought to face the issues; that we should not be content to interpret the world but should help to change it. I am very much in sympathy with this attitude, and the choice, by the present assembly, of the theme “Man and Society,” shows that the need for discussing these problems is widely recognized. The mortal danger into which mankind has floundered—no doubt the gravest danger in its history—must not be ignored by philosophers

But what kind of contribution can philosophers make—not just as men, not just as citizens, but as philosophers? Some Marxists insist that the problems are too urgent for further contemplation, and that we ought to take sides at once. But if—as philosophers—we can make any contribution at all then, surely, we must refuse to be rushed into blindly accepting ready-made conclusions, however great the urgency of the hour; as philosophers we can do no better than bring rational criticism to bear on the problems that face us, and on the solutions advocated by the various parties. To be more specific, I believe that the best I can do as philosopher is to approach the problems armed with the weapons of a *critic of methods*. This is what I propose to do.

## 2.

I may, by way of introduction, say why I have chosen this particular subject. I am a rationalist, and by this I mean that I believe in discussion, and argument. I also believe in the possibility as well as the desirability of applying science to problems arising in the social field. But believing as I do in social science, I can only look with apprehension upon social pseudoscience.

Many of my fellow-rationalists are Marxists; in England, for example, a considerable number of excellent physicists and biologists emphasize their allegiance to the Marxist doctrine. They are attracted to Marxism by its claim (a) that it is a science, (b) that it is progressive, (c) that it adopts the methods of

prediction which the natural sciences practice. Of course, everything depends upon this third claim. I shall therefore try to show that this claim is not justified, and that the kind of prophecies which Marxism offers are in their logical character more akin to those of the Old Testament than to those of modern physics.

### 3.

I shall begin with a brief statement and criticism of the historical method of the alleged science of Marxism. I shall have to oversimplify matters; this is unavoidable. But my oversimplifications may serve the purpose of bringing the decisive points into focus.

The central ideas of the historicist method, and more especially of Marxism, seem to be these:

a. It is a fact that we can prophesy solar eclipses with a high degree of precision, and for a long time ahead. Why should we not be able to predict revolutions? Had a social scientist in 1780 known half as much about society as the old Babylonian astrologists know about astronomy, then he should have been able to predict the French Revolution.

The fundamental idea that it should be possible to predict revolutions just as it is possible to predict solar eclipses gives rise to the following view of the task of the social sciences:

b. The task of the social sciences is fundamentally the same as that of the natural sciences—to make predictions, and, more especially, historical predictions, that is to say, predictions about the social and political development of mankind.

c. Once these predictions are available, the task of politics can be determined. It is to lessen the “birthpangs” (as Marx calls them) unavoidably connected with the political developments which have been predicted as impending.

These simple ideas, especially the one claiming that it is the task of the social sciences to make historical predictions, such as predictions of social revolutions, I shall call the *historicist doctrine of the social sciences*. The idea that it is the task of politics to lessen the birthpangs of impending political developments I shall call the *historicist doctrine of politics*. Both these doctrines may be considered as parts of a wider philosophical scheme which may be called historicism—the view that the

story of mankind has a plot, and that if we can succeed in unravelling this plot, we shall hold the key to the future.

## 4.

I have briefly outlined two historicist doctrines concerning the task of the social sciences and of politics. I have described these doctrines as Marxist. But they are not peculiar to Marxism. On the contrary, they are among the oldest doctrines in the world. In Marx's own time they were held, in exactly the form described, not only by Marx who inherited them from Hegel, but by John Stuart Mill who inherited them from Comte. And they were held in ancient times by Plato, and before him by Heraclitus and Hesiod. They seem to be of oriental origin; indeed, the Jewish idea of the chosen people is a typical historicist idea—that history has a plot whose author is Jahwe, and the plot can be partly unravelled by the prophets. These ideas express one of the oldest dreams of mankind—the dream of prophecy, the idea that we can know what the future has in store for us, and that we can profit from such knowledge by adjusting our policy to it.

This age-old idea was sustained by the fact that prophecies of eclipses and of the movements of the planets were successful. The close connection between historicist doctrine and astronomical knowledge is clearly exhibited in the idea of astrology.

These historical points have, of course, no bearing on the question whether or not the historicist doctrine concerning the task of the social sciences is tenable. This question belongs to the methodology of the social sciences.

## 5.

The historicist doctrine which teaches that it is the task of the social sciences to predict historical developments is, I believe, untenable.

Admittedly all theoretical sciences are predicting sciences. Admittedly there are social sciences which are theoretical. But do these admissions imply—as the historicists believe—that the task of the social sciences is historical prophecy? It looks like it: but this impression disappears once we make a clear distinction between what I shall call "*scientific prediction*" on the one side and "*unconditional*

*historical prophecies*” on the other. Historicism fails to make this important distinction.

Ordinary predictions in science are conditional. They assert that certain changes (say, of the temperature of water in a kettle) will be accompanied by other changes (say, the boiling of the water). Or to take a simple example from a social science: Just as we can learn from a physicist that under certain physical conditions a boiler will explode, so we can learn from the economist that under certain social conditions, such as shortage of commodities, controlled prices, and, say, the absence of an effective punitive system, a black market will develop.

Unconditional scientific predictions can sometimes be derived from these conditional scientific predictions, together with historical statements which assert that the conditions in question are fulfilled. (From these premises we can obtain the unconditional prediction by the *modus ponens*). If a physician has diagnosed scarlet fever then he may, with the help of the conditional predictions of his science make the unconditional prediction that his patient will develop a rash of a certain kind. But it is possible, of course, to make such unconditional prophecies without any such justification in a theoretical science, or—in other words—in scientific conditional predictions. They may be based, for example, on a dream—and, by some accident they may even come true.

My contentions are two.

The first is that the historicist does not, as a matter of fact, derive his historical prophecies from conditional scientific predictions. The second (from which the first follows) is that he cannot possibly do so because long term prophecies can be derived from scientific conditional predictions only if they apply to systems which can be described as well isolated, stationary, and recurrent. These systems are very rare in nature; and modern society is surely not one of them.

Let me develop this point a little more fully. Eclipse prophecies, and indeed prophecies based on the regularity of the seasons (perhaps the oldest natural laws consciously understood by man) are possible only because our solar system is a stationary and repetitive system; and this is so because of the accident that it is isolated from the influence of other mechanical systems by immense regions of empty space and is therefore relatively free of interferences from outside. Contrary

to popular belief the analysis of such repetitive systems is not typical of natural science. These repetitive systems are special cases where scientific prediction becomes particularly impressive—but that is all. Apart from this very exceptional case, the solar system, recurrent or cyclic systems are known especially in the field of biology. The life cycles of organisms are part of a semi-stationary or very slowly changing biological chain of events. Scientific predictions about life cycles of organisms can be made in so far as we abstract from the slow evolutionary changes, that is to say, in so far as we treat the biological system in question as stationary.

No basis can therefore be found in examples such as these for the contention that we can apply the method of long-term unconditional prophecy to human history. Society is changing, developing. Its development is not, in the main, a repetitive one. True, in so far as it is repetitive, we may perhaps make certain prophecies. For example, there is undoubtedly some repetitiveness in the manner in which new religions arise, or new tyrannies; and a student of history may find that he can foresee such developments to a limited degree by comparing them with earlier instances, i.e., by studying the conditions under which they arise. But this application of the method of conditional prediction does not take us very far. For the most striking aspects of historical development are non-repetitive. Conditions are changing, and situations arise (for example, in consequence of new scientific discoveries) which are very different from anything that ever happened before. The fact that we can prophesy eclipses does not therefore, provide a valid reason for expecting that we may predict revolutions.

These considerations hold not only for the evolution of man, but also for the evolution of life in general. There exists no law of evolution, only the historical fact that plants and animals change, or more precisely, that they have changed. The idea of a law which determines the direction and the character of evolution is a typical 19th century mistake, arising out of the general tendency to ascribe to the “Natural Law” the functions traditionally ascribed to God.

6.

The realization that the social sciences cannot prophesy future historical developments has led some modern writers to despair of reason, and to advocate

political irrationalism. Identifying predictive power with practical usefulness, they denounce the social sciences as useless. In an attempt to analyse the possibility of forecasting historical developments, one of these modern irrationalists writes: “The same element of uncertainty from which the natural sciences suffer affects the social sciences, only more so. Because of its quantitative extension, it affects here not only theoretical structure but also *practical usefulness*.”<sup>1</sup>

But there is no need as yet to despair of reason. Only those who do not distinguish between ordinary prediction and historical prophecy, in other words, only historicists (disappointed historicists) are likely to draw such desperate conclusions. The main usefulness of the physical sciences does not lie in the prediction of eclipses; and similarly, the practical usefulness of the social sciences does not depend on their power to prophesy historical or political developments. Only a disappointed historicist, that is to say, one who believes in the historicist doctrine of the task of the social sciences as a matter of course will be driven into despair of reason by the realization that the social sciences cannot prophesy: and he may even be driven into hatred of reason.

## 7.

What, then, is the task of the social sciences, and how can they be useful?

In order to answer this question, I shall first briefly mention two naive theories of society which must be disposed of before we can understand the function of the social sciences.

The first is the theory that the social sciences study the behaviour of social wholes, such as groups, nations, classes, societies, civilizations, etc. These social wholes are conceived as the empirical objects which the social sciences study in the same way in which biology studies animals or plants.

This view must be rejected as naive. It completely overlooks the fact that these so-called social wholes are very largely postulates of popular social theories rather than empirical objects; and that while there are, admittedly, such empirical objects

---

<sup>1</sup> H. Morgenthau, *Scientific Man and Power Politics*, London, 1947, p. 122, italics mine. As indicated in my next paragraph, Morgenthau’s anti-rationalism can be understood as resulting from the disillusionment of a historicist who cannot conceive of any other but an historicist rationalism.

as the crowd of people here assembled, it is quite untrue that names like “the middle-class” stand for any such empirical groups. What they stand for is a kind of ideal object whose existence depends upon theoretical assumptions. Accordingly, the belief in the empirical existence of social wholes or collectives, which may be described as *naive collectivism* has to be replaced by the demand that social phenomena, including collectives, should be analysed in terms of individuals and their actions and relations.

But this demand may easily give rise to another mistaken view, the second and more important of the two views to be disposed of. It may be described as the *conspiracy theory of society*. It is the view that whatever happens in society—including things which people as a rule dislike, such as war, unemployment, poverty, shortages—are the results of direct design by some powerful individuals or groups. This view is very widespread, although it is, I have no doubt, a somewhat primitive kind of superstition. It is older than historicism (which may even be said to be a derivative of the conspiracy theory); and in its modern form, it is the typical result of the secularization of religious superstitions. The belief in the Homeric gods whose conspiracies were responsible for the vicissitudes of the Trojan War is gone. But the place of the gods on Homer’s Olympus is now taken by the Learned Elders of Zion, or by the monopolists, or the capitalists, or the imperialists.

Against the Conspiracy Theory of Society, I do not, of course, assert that conspiracies never happen. But I assert two things. First, they are not very frequent, and do not change the character of social life. Assuming that conspiracies were to cease, we should still be faced with fundamentally the same problems which have always faced us. Secondly, I assert that conspiracies are very rarely successful. The results achieved differ widely, as a rule, from the results aimed at. (Consider the Nazi conspiracy).

## 8.

Why do the results achieved by a conspiracy as a rule differ widely from the results aimed at? Because this is what usually happens in social life, conspiracy or no conspiracy. And this remark gives us an opportunity to formulate the *main task*

*of the theoretical social sciences. It is to trace the unintended social repercussions of intentional human actions.* I may give a simple example. If a man wishes urgently to buy a house in a certain district, we can safely assume that he does not wish to raise the market price of houses in that district. But the very fact that he appears on the market as a buyer will tend to raise market prices. And analogous remarks hold for the seller. Or to take an example from a very different field, if a man decides to insure his life, he is unlikely to have the intention of encouraging other people to invest their money in insurance shares. But he will do so nevertheless.

We see here clearly that not all consequences of our actions are intended consequences; and accordingly, that the conspiracy theory of society cannot be true because it amounts to the assertion that all events, even those which at first sight do not seem to be intended by anybody, are the intended results of the actions of people who are interested in these results.

It should be mentioned in this connection that Karl Marx himself was one of the first to emphasize the importance, for the social sciences, of these unintended consequences. In his more mature utterances; he says that we are all caught in the net of the social system. The capitalist is not a demoniac conspirator, but a man who is forced by circumstances to act as he does; he is no more responsible for the state of affairs than the proletarian.

This view of Marx's has been abandoned—perhaps for propagandist reasons, perhaps because people did not understand it—and a Vulgar Marxist Conspiracy theory has very largely replaced it. It is a come-down—the come-down from Marx to Goebbels. But it is clear that the adoption of the conspiracy theory can hardly be avoided by those who believe that they know how to make heaven on earth. The only explanation for their failure to produce heaven are the evil intentions of the devil who has a vested interest in hell.

## 9.

The view that it is the task of the theoretical sciences to discover the unintended consequences of our actions brings these sciences very close to the experimental natural sciences. The analogy cannot here be developed in detail, but it may be

remarked that both lead us to the formulation of practical technological rules stating *what we cannot do*.

The second law of thermodynamics can be expressed as the technological warning, “You cannot build a machine which is 100 per cent efficient.” A similar rule of the social sciences would be, “you cannot, without increasing productivity, raise the real income of the working population.” An example of a promising hypothesis in this field which is by no means generally accepted—or, in other words, a problem that is still open—is the following: “You cannot have a full employment policy without inflation.” These examples may show the way in which the social sciences are practically important. They do not allow us to make historical prophecies, but they may give us an idea of what can, and what cannot, be done in the political field.

We have seen that the historicist doctrine is untenable, but this fact does not lead us to lose faith in science or in reason. On the contrary, we now see that it gives rise to a clearer insight into the role of science in social life. Its practical role is the modest one of helping us to understand even the more remote consequences of possible actions; in other words, to choose our actions more wisely.

## 10.

The elimination of the historicist doctrine destroys Marxism completely as far as its scientific pretensions go. But it does not yet destroy the more technical or political claims of Marxism—that only a social revolution, a complete re-casting of our social system, can produce social conditions fit for men to live in.

I shall not discuss here the problem of the humanitarian aims of Marxism. I find that there is a very great deal in these aims which I can accept. The hope of reducing misery and violence, and of increasing freedom, is one, I believe, which inspired Marx and many of his followers; it is a hope which inspires most of us.

But I am convinced that these aims cannot be realized by revolutionary methods. On the contrary, I am convinced that revolutionary methods can only make things worse—that they will increase unnecessary suffering; that they will lead to more and more violence; and that they must destroy freedom.

This becomes clear when we realize that a revolution always destroys the institutional and traditional framework of society. With it, it must endanger the very set of values for the realization of which it has been undertaken. Indeed, a set of values can have social significance only in so far as there exists a social tradition which upholds them. This is true of the aims of a revolution as much as of any other values.

But if you begin to revolutionize society and to eradicate its traditions, you cannot stop this process if and when you please. In a revolution, everything is questioned, including the aims of the well-meaning revolutionaries; aims which grow from, and which were necessarily a part of, the society which the revolution destroys.

Some people say that they do not mind this; that it is their greatest wish to clean the canvas thoroughly—to create a social *tabula rasa*, and to begin afresh by painting on it a brand new social system. But they should not be surprised if they find that once they destroy tradition, civilization disappears with it. They will find that mankind have returned to the position in which Adam and Eve began,—or, using less biblical language, that they have returned to the beasts. All that these revolutionary progressivists will then be able to do is to begin the slow process of human evolution again (and so to arrive in a few thousand years perhaps at another capitalist period, which will lead them to another sweeping revolution, followed by another return to the beasts, and so on, for ever and ever). In other words, there is no earthly reason why a society whose traditional set of values has been destroyed should, of its own accord, become a better society—unless you believe in political miracles,<sup>2</sup> or hope that once the conspiracy of the devilish capitalists is broken up, society will naturally tend to become beautiful and good.

Marxists, of course, will not admit this. But the Marxist view, that is to say, the view that the social revolution will lead to a better world, is only understandable on the *historicist assumptions* of Marxism. If you know, on the basis of historical prophecy, what the result of the social revolution must be, and if you know that the result is all that we hope for, then, but only then, can you consider the revolution with its untold suffering as a means to the end of untold happiness. But with the

elimination of the historicist doctrine, the theory of revolution becomes completely untenable.

The view that it will be the task of the revolution to rid us of the capitalist conspiracy, and with it, of opposition to social reform, although widely held, is untenable, even if we assume for a moment that such a conspiracy exists. For a revolution is liable to replace old masters by new ones, and who guarantees that the new ones will be better? The theory of revolution overlooks the most important aspect of social life—that what we need is not so much good men as good institutions. Even the best man may be corrupted by power but institutions which permit the ruled to exert some effective control over the rulers will force even bad rulers to do what the ruled consider to be in their interests. Or to put it another way, we should like to have good rulers, but historical experience shows us that we are not likely to get them. This is why it is of such importance to design institutions which prevent even bad rulers from causing too much damage.

There are only two kinds of governmental institutions, those which provide for a change of the government without bloodshed and those which do not. But if the government cannot be changed without bloodshed, it cannot, in most cases, be removed at all. We need not quarrel about words, and about such pseudo problems as the true or essential meaning of the word “democracy.” You can choose whatever name you like for the two types of government. I personally prefer to call the type of government which can be removed without violence “democracy,” and the other “tyranny.” But, as I said, this is not a quarrel about words, but an important distinction between two types of institutions.

Marxists have been taught to think in terms not of institutions but of classes. Classes, however, never rule, any more than nations. The rulers are always certain persons. And, whatever class they may once have belonged to, once they are rulers they belong to the ruling class.

Marxists nowadays do not think in terms of institutions; they put their faith in certain personalities, or perhaps in the fact that certain persons were once proletarians—a result of their belief in the over-ruling importance of classes and

---

<sup>2</sup> The phrase is due to Julius Kraft.

class loyalties. Rationalists, on the contrary, are more inclined to rely on institutions for controlling men. This is the main difference.

## 11.

But what ought the rulers to do? In opposition to most historicists, I believe that this question is far from vain; it is one which we ought to discuss. For in a democracy, the rulers will be compelled by the threat of dismissal to do what public opinion wants them to do. And public opinion is a thing which all can influence, and especially philosophers. In democracies, the ideas of philosophers have often influenced future developments—with a very considerable time-lag, to be sure. British social policy is now that of Bentham, and of John Stuart Mill who summed up its aim as that of “securing full employment at high wages for the whole labouring population.”<sup>3</sup>

I believe that philosophers should continue to discuss the proper aims of social policy in the light of the experience of the last fifty years. Instead of confining themselves to discussing the “nature” of ethics, or of the greatest good, etc., they should think about such fundamental and difficult ethical and political questions as are raised by the fact that political freedom is impossible without some principle of equality before the law; that, since absolute freedom is impossible, we must, with Kant, demand in its stead an equality with respect to those limitations of freedom which are the unavoidable consequences of social life; and that, on the other hand, the pursuit of equality, especially in its economic sense, much as it is desirable in itself, may become a threat to freedom.

And similarly, they should discuss the fact that the greatest happiness principle of the similarly, can easily be made an excuse for a benevolent dictatorship, and the proposal<sup>4</sup> that we should replace it by a more modest and more realistic principle—the principle that the fight against avoidable misery should be a

---

<sup>3</sup> In his *Autobiography*, 1873, p. 105. My attention has been drawn to this passage by Professor F. A. von Hayek.

<sup>4</sup> I am using the term “proposal” here in the technical sense in which it is advocated by Professor L. J. Russell. (Cp. His paper “Propositions and Proposals, “ in the *Proc. of the Tenth Intern. Congress of Philosophy*, Amsterdam, 1948).

recognized aim of public policy, while the increase of happiness should be left, in the main, to private initiative.

*KARL R. POPPER was born in 1902 in Vienna and studied at the University there from 1919 until 1928. Having published various papers and a book on scientific method, he gave lectures at several philosophic congresses and some English universities. In 1937 he went to Canterbury College, University of New Zealand, as Lecturer and later as Senior Lecturer in Philosophy. In 1945, while still in New Zealand, he was appointed to a Readership in Logic and Scientific Method in the University of London (London School of Economics and Political Science). He was made a D. Litt. of this University in 1948, and promoted to his present position of Professor of Logic and Scientific Method in 1949. He gave the William James Lectures in Philosophy at Harvard University in 1950 and he has also lectured at various other universities in America and in Europe. He is a member of the editorial board of the British Journal for the Philosophy of Science, and was Chairman of the Philosophy of Science Group of the British Society for the History of Science from 1951 to 1953. He has been a member of the International Academy for the Philosophy of Science since 1948, and a member of the Council of the Association for Symbolic Logic since 1951. Popper's best-known works are Logik der Forschung (1935) and The Open Society and Its Enemies (1945). The following article, which has not been published before, is based upon an address delivered to the Plenary Session of the Tenth International Congress of Philosophy, Amsterdam, 1948. A fuller discussion of the problem with which it deals, and of a number of related problems, will be found in Professor Popper's book The Poverty of Historicism (1957).*