

LUDWIG MISES

SOCIAL SCIENCE
AND
NATURAL SCIENCE

Reprinted from
JOURNAL OF SOCIAL PHILOSOPHY & JURISPRUDENCE
Vol. 7, No. 2, April 1942

progress. In the course of this development it has become much more than a theory of market operations within the frame of a society based on private ownership of the means of production. It has for some time been a general theory of human action, of human choice and preference.

II

The elements of social cognition are abstract and not reducible to any concrete images that might be apprehended by the senses. To make them easier to visualize one likes to have recourse to metaphorical language. For some time the biological metaphors were very popular. There were writers who overworked this metaphor to ridiculous extremes. It will suffice to cite the name of Lillienfeld.¹

Today the mechanistic metaphor is much more in use. The theoretical basis for its application is to be found in the positivist view of social science. Positivism blithely waved aside everything which history and economics taught. History, in its eyes, is simply no science; economics a special kind of metaphysics. In place of both, Positivism postulates a social science which has to be built up by the experimental method as ideally applied in Newtonian physics. Economics has to be experimental, mathematical and quantitative. Its task is to measure, because science is measurement. Every statement must be open to verification by facts.

Every proposition of this positivist epistemology is wrong.

The social sciences in general and economics in particular cannot be based on experience in the sense in which this term is used by the natural sciences. Social experience is historical experience. Of course every experience is the experience of something passed. But what distinguishes social experience from that which forms the basis of the natural sciences is that it is always the experience of a complexity of phenomena. The experience to which the natural sciences owe all their success is the experience of the experiment. In the experiments the different elements of change are observed in isolation. The control of the conditions of change provides the experimenter with the means of assigning to each effect its sufficient cause. Without regard to the philosophical problem involved he proceeds to amass "facts." These

¹ Cf. for instance his *La Pathologie Sociale*, Paris, 1896.

facts are the bricks which the scientist uses in constructing his theories. They constitute the only material at his disposal. His theory must not be in contradiction with these facts. They are the ultimate things.

The social sciences cannot make use of experiments. The experience with which they have to deal is the experience of complex phenomena. They are in the same position as acoustics would be if the only material of the scientist were the hearing of a concerto or the noise of a waterfall. It is nowadays fashionable to style the statistical bureaus laboratories. This is misleading. The material which statistics provides is historical, that means the outcome of a complexity of forces. The social sciences never enjoy the advantage of observing the consequences of a change in one element only, other conditions being equal.

It follows that the social sciences can never use experience to verify their statements. Every fact and every experience with which they have to deal is open to various interpretations. Of course, the experience of a complexity of phenomena can never prove or disprove a statement in the way in which an experiment proves or disproves. We do not have any historical experience whose import is judged identically by all people. There is no doubt that up to now in history only nations which have based their social order on private ownership of the means of production have reached a somewhat high stage of welfare and civilization. Nevertheless, nobody would consider this as an incontestable refutation of socialist theories. In the field of the natural sciences there are also differences of opinion concerning the interpretation of complex facts. But here freedom of explanation is limited by the necessity of not contradicting statements satisfactorily verified by experiments. In the interpretation of social facts no such limits exist. Everything could be asserted about them provided that we are not confined within the bounds of principles of whose logical nature we intend to speak later. Here however we already have no mention that every discussion concerning the meaning of historical experience imperceptibly passes over into a discussion of these principles without any further reference to experience. People may begin by discussing the lesson to be learnt from an import duty or from the Russian Soviet system; they will very quickly be discussing the general theory of inter-regional trade or the no less pure theory of socialism and capitalism.

The impossibility of experimenting means concomitantly the impossibility of measurement. The physicist has to deal with magnitudes

and numerical relations, but invariable relations between them. The experiment provides him with a standard which could be used to measure elements which could establish

What the statistician does with prices and supply or between portance only. If he determines the price of potatoes in Atlantis is followed by a fall in the price about what happened or not potatoes in another country as that of elasticity of demand measurement, e.g., specific. Nobody realizes that the behavior of other commodity is variable things in a different way, same individual with changes individuals in classes which remain the conditions which circumstances we have to realize torian and not an experiment constitutes a method of his

In every science the construction of an equation are of a nature of the equation has a practicalness which it includes are. It is possible to introduce specific to mine those unknown. These logical designing; they are a analysis but also the starting where there are no constants are void of practical qualities concerning their form that they are without any practical

But the chief objection to the treatment of economic problems

and numerical relations, because he has the right to assume that certain invariable relations between physical properties subsist. The experiment provides him with the numerical value to be assigned to them. In human behavior there are no such constant relations, there is no standard which could be used as a measure and there are no experiments which could establish uniformities of this type.

What the statistician establishes in studying the relations between prices and supply or between supply and demand is of historical importance only. If he determines that a rise of 10 per cent in the supply of potatoes in Atlantis in the years between 1920 and 1930 was followed by a fall in the price of 8 per cent, he does not say anything about what happened or may happen with a change in the supply of potatoes in another country or at another time. Such measurements as that of elasticity of demand cannot be compared with the physicist's measurement, e.g., specific density or weight of atoms. Of course everybody realizes that the behavior of men concerning potatoes and every other commodity is variable. Different individuals value the same things in a different way, and the valuation changes even with the same individual with changing conditions. We cannot categorize individuals in classes which react in the same way, and we cannot determine the conditions which evoke the same reaction. Under these circumstances we have to realize that the statistical economist is an historian and not an experimenter. For the social sciences, statistics constitutes a method of historical research.

In every science the considerations which result in the formulation of an equation are of a non-mathematical character. The formulation of the equation has a practical importance because the constant relations which it includes are experimentally established and because it is possible to introduce specific known values in the function to determine those unknown. These equations thus lie at the basis of technological designing; they are not only the consummation of the theoretical analysis but also the starting point of practical work. But in economics, where there are no constant relations between magnitudes, the equations are void of practical application. Even if we could dispose of all qualms concerning their formulation we would still have to realize that they are without any practical use.

But the chief objection which must be raised to the mathematical treatment of economic problems comes from another ground: it really

does not deal with the actual operations of human actions but with a fictitious concept that the economist builds up for instrumental purposes. This is the concept of static equilibrium.

For the sake of grasping the consequences of change and the nature of profit in a market economy the economist constructs a fictitious system in which there is no change. Today is like yesterday and tomorrow will be like today. There is no uncertainty about the future, and activity therefore does not involve risk. But for the allowance to be made for interest, the sum of the prices of the complementary factors of production exactly equals the price of the product, which means that there is no room left for profit. But this fictitious concept is not only unrealizable in actual life; it cannot even be consistently carried to its ultimate conclusions. The individuals in this fictitious world would not act, they would not have to make choices, they would just vegetate. It is true that economics, exactly because it cannot make experiments, is bound to apply this and other fictitious concepts of a similar type. But its use should be restricted to the purposes which it is designed to serve. The purpose of the concept of static equilibrium is the study of the nature of the relations between costs and prices and thereby of profits. Outside of this it is inapplicable, and occupation with it vain.

Now all that mathematics can do in the field of economic studies is to describe static equilibrium. The equations and the indifference curves deal with a fictitious state of things, which never exists anywhere. What they afford is a mathematical expression of the definition of static equilibrium. Because mathematical economists start from the prejudice that economics has to be treated in mathematical terms they consider the study of static equilibrium as the whole of economics. The purely instrumental character of this concept has been overshadowed by this preoccupation.

Of course, mathematics cannot tell us anything about the way by which this static equilibrium could be reached. The mathematical determination of the difference between any actual state and the equilibrium state is not a substitute for the method by which the logical or non-mathematical economists let us conceive the nature of those human actions which necessarily would bring about equilibrium provided that no further change occurs in the data.

Occupation with static equilibrium is a misguided evasion of the

study of the main economic equilibrium concept should be for the solution of one problem: the elaboration of static equilibrium.

The case is similar with the price of a commodity as a function of the curve of demand and the curve of supply. If we do not know anything *a posteriori* the prices, we can determine them *a priori*, but we do not know the past. The representation is more than a didactic means of teaching, it is easily comprehensible.

The mathematical economist as a measurement of value we have to say that prices are the amount of money not equivalent to the cost the buyer values the commodity values it lower than the cost this fact and to assume in valuation. When either equivalent of the commodity we may say every transaction

Physicists consider the have no knowledge of wh of a falling stone. But the of the stone in experiment laws of falling. From the build up their theories pro from the concrete to the

Economics deals with
with commodities, econo
power to experiment with
ourselves, a knowledge of

study of the main economic problems. The pragmatic value of this equilibrium concept should not be underrated, but it is an instrument for the solution of one problem only. In any case the mathematical elaboration of static equilibrium is mere by-play in economics.

The case is similar with the use of curves. We may represent the price of a commodity as the point of intersection of two curves, the curve of demand and the curve of supply. But we have to realize that we do not know anything about the shape of these curves. We know *a posteriori* the prices, which we assume to be the points of intersection, but we do not know the form of the curve either in advance or for the past. The representation of the curves is therefore nothing more than a didactic means of rendering the theory graphic and hence more easily comprehensible.

The mathematical economist is prone to consider the price either as a measurement of value or as equivalent to the commodity. To this we have to say that prices are not measured in money but that they are the amount of money exchanged for a commodity. The price is not equivalent to the commodity. A purchase takes place only when the buyer values the commodity higher than the price, and the seller values it lower than the price. Nobody has the right to abstract from this fact and to assume an equivalence where there is a difference in valuation. When either one of the parties considers the price as the equivalent of the commodity no transaction takes place. In this sense we may say every transaction is for both parties a "bargain."

III

Physicists consider the objects of their study from without. They have no knowledge of what is going on in the interior, in the "soul," of a falling stone. But they have the opportunity to observe the falling of the stone in experiments and thereby to discover what they call the laws of falling. From the results of such experimental knowledge they build up their theories proceeding from the special to the more general, from the concrete to the more abstract.

Economics deals with human actions, not as it is sometimes said, with commodities, economic quantities or prices. We do not have the power to experiment with human actions. But we have, being human ourselves, a knowledge of what goes on within acting men. We know

something about the meaning which acting men attach to their actions. We know why men wish to change the conditions of their lives. We know something about that uneasiness which is the ultimate incentive of the changes which they bring about. A perfectly satisfied man or a man who although unsatisfied did not see any means of improvement would not act at all.

Thus the economist is, as Cairnes says, at the outset of his researches already in possession of the ultimate principles governing the phenomena which form the subject of his study, whereas mankind has no direct knowledge of ultimate physical principles. Herein lies the radical difference between the social sciences (moral sciences, *Geisteswissenschaften*) and the natural sciences. What makes natural science possible is the power to experiment; what makes social science possible is the power to grasp or to comprehend the meaning of human action.

We have to distinguish two quite different kinds of this comprehension of the meaning of action: we conceive and we understand.

We conceive the meaning of an action, that is to say, we take an action to be such. We see in the action the endeavor to reach a goal by the use of means. In conceiving the meaning of an action we consider it as a purposeful endeavor to reach some goal, but we do not regard the quality of the ends proposed and of the means applied. We conceive activity as such, its logical (praxeological) qualities and categories. All that we do in this conceiving is by deductive analysis to bring to light everything which is contained in the first principle of action and to apply it to different kinds of thinkable conditions. This study is the object of the theoretical science of human action (praxeology) and in particular of its hitherto most developed branch, economics (economic theory).

Economics therefore is not based on or derived (abstracted) from experience. It is a deductive system, starting from the insight into the principles of human reason and conduct. As a matter of fact all our experience in the field of human action is based on and conditioned by the circumstance that we have this insight in our mind. Without this *a priori* knowledge and the theorems derived from it we could not at all realize what is going on in human activity. Our experience of human action and social life is predicated on praxeological and economic theory.

It is important to be aware of the fact that this procedure and method

are not peculiar only to scientific but to ordinary daily apprehensions of principles and the deductions from them of a professional economist but of a layman. The latter is not less scrupulous in examining facts or problems. The layman's view is different from that of the scientist in that he is less scrupulous in examining facts and therefore sometimes makes any discussion on current economic turns very soon towards a conclusion without any reference to experience. To say the Soviet system without falling back on the prices, that means the general fact—let us set aside the question whether such a thing—is open to difficulties which require elucidation by theoretical analysis.

Economics is not only not based on experience but is able to verify its theorems by deductive analysis of a complex phenomenon, in different ways. The same can be claimed as confirmations of the theory.

It is instructive to compare the procedure in the social sciences with that in the natural sciences. In books on economics which contain chapters in which an attempt is made to verify the theory by an appeal to the facts, the economist takes. He starts from facts and tries to show that his theory is using them. If a state of affairs not yet described by the theory is of a kind of experiment would be to be verified if the result could be verified radically and significantly in the social sciences.

To confront economic theory with facts is to explain in a superficial way the facts to the people so that they seem to

are not peculiar only to scientific investigation but are the mode of ordinary daily apprehension of social facts. These aprioristic principles and the deductions from them are applied not only by the professional economist but by everybody who deals with economic facts or problems. The layman does not proceed in a way significantly different from that of the scientist; only he sometimes is less critical, less scrupulous in examining every step in the chain of his deductions and therefore sometimes more subject to error. One need only observe any discussion on current economic problems to realize that its course turns very soon towards a consideration of abstract principles without any reference to experience. You cannot, for instance, discuss the Soviet system without falling back on the general principles both of capitalism and socialism. You cannot discuss a wage and hours bill without falling back on the theory of wages, profits, interests and prices, that means the general theory of a market society. The "pure fact"—let us set aside the epistemological question whether there is such a thing—is open to different interpretations. These interpretations require elucidation by theoretical insight.

Economics is not only not derived from experience, it is even impossible to verify its theorems by appeal to experience. Every experience of a complex phenomenon, we must repeat, can be and is explained in different ways. The same facts, the same statistical figures are claimed as confirmations of contradictory theories.

It is instructive to compare the technique of dealing with experience in the social sciences with that in the natural sciences. We have many books on economics which, after having developed a theory, annex chapters in which an attempt is made to verify the theory developed by an appeal to the facts. This is not the way which the natural scientist takes. He starts from facts experimentally established and builds up his theory in using them. If his theory allows a deduction that predicts a state of affairs not yet discovered in experiments he describes what kind of experiment would be crucial for his theory; the theory seems to be verified if the result conforms to the prediction. This is something radically and significantly different from the approach taken by the social sciences.

To confront economic theory with reality we do not have to try to explain in a superficial way facts interpreted differently by other people so that they seem to verify our theory. This dubious procedure

is not the way in which reasonable discussion can take place. What we have to do is this: we have to inquire whether the special conditions of action which we have implied in our reasoning correspond to those we find in the segment of reality under consideration. A theory of money (or rather of indirect exchange) is correct or not without reference to the question of whether the actual economic system under examination employs indirect exchange or only barter.

The method applied in these theoretical aprioristic considerations is the method of speculative constructions. The economist—and likewise the layman in his economic reasoning—builds up an image of a non-existent state of things. The material for this construction is drawn from an insight into the conditions of human action. Whether the state of affairs which these speculative constructions depict corresponds or could correspond to reality is irrelevant for their instrumental efficiency. Even unrealizable constructions can render valuable service in giving us the opportunity to conceive what makes them unrealizable and in what respect they differ from reality. The speculative construction of a socialist community is indispensable for economic reasoning notwithstanding the question of whether such a society could or could not be realized.

One of the best known and most frequently applied speculative constructions is that of a state of static equilibrium mentioned above. We are fully aware that this state can never be realized. But we cannot study the implications of changes without considering a changeless world. No modern economist will deny that the application of this speculative concept has rendered invaluable service in elucidating the character of entrepreneur's profits and losses and the relation between costs and prices.

All our economic reasoning operates with these speculative concepts. It is true that the method has its dangers; it easily leads itself to errors. But we have to use it because it is the only method available. Of course, we have to be very careful in using it.

To the obvious question, how a purely logical deduction from aprioristic principles can tell us anything about reality, we have to reply that both human thought and human action stem from the same root in that they are both products of the human mind. Correct results from our aprioristic reasoning are therefore not only logically irrefutable, but at the same time applicable with all their apodictic to reality

provided that the assumption way to refuse a conclusion contains a logical fallacy. obtained apply to reality. The stration that the assumptions part in the reality which v

The relation between his experience is historical is th thing past—and economic d erally assumed. Economic d on the contrary the indispens Economic history can neid economic theory. It is on the possible for us to conceive i

But to orient ourselves in more than merely conceive acting man and the purely ceive the categories of act besides to understand (vera

This understanding of th of historical research. The as possible by the use of all sciences of human action— part, economics—and by th farther. He has to study th case in question. *Individua* the historian, it is exactly d or traced back to other entit The purpose of specific u disciplines is to grasp the n process. It establishes the fixes the valuations, the al in a word, the total philosop which they envisaged the c puts us into the milieu of

provided that the assumptions involved are given in reality. The only way to refuse a conclusion of economics is to demonstrate that it contains a logical fallacy. It is another question whether the results obtained apply to reality. This again can be decided only by the demonstration that the assumptions involved have or do not have any counterpart in the reality which we wish to explain.

The relation between historical experience—for every economic experience is historical in the sense that it is the experience of something past—and economic theory is therefore different from that generally assumed. Economic theory is not derived from experience. It is on the contrary the indispensable tool for the grasp of economic history. Economic history can neither prove nor disprove the teachings of economic theory. It is on the contrary economic theory which makes it possible for us to conceive the economic facts of the past.

IV

But to orient ourselves in the world of human actions we need to do more than merely conceive the meaning of human action. Both the acting man and the purely observing historian have not only to conceive the categories of action as economic theory does; they have besides to understand (*verstehen*) the meaning of human choice.

This understanding of the meaning of action is the specific method of historical research. The historian has to establish the facts as far as possible by the use of all the means provided both by the theoretical sciences of human action—praxeology and its hitherto most developed part, economics—and by the natural sciences. But then he has to go farther. He has to study the individual and unique conditions of the case in question. *Individuum est ineffabile*. Individuality is given to the historian, it is exactly that which cannot be exhaustively explained or traced back to other entities. In this sense individuality is irrational. The purpose of specific understanding as applied by the historical disciplines is to grasp the meaning of individuality by a psychological process. It establishes the fact that we face something individual. It fixes the valuations, the aims, the theories, the beliefs and the errors, in a word, the total philosophy of the acting individuals and the way in which they envisaged the conditions under which they had to act. It puts us into the milieu of the action. Of course this specific under-

standing cannot be separated from the philosophy of the interpreter. That degree of scientific objectivity which can be reached in the natural sciences and in the aprioristic sciences of logic and praxeology can never be attained by the moral or historical sciences (*Geisteswissenschaften*) in the field of the specific understanding. You can understand in different ways. History can be written from different points of view. The historians may agree in everything that can be established in a rational way and nevertheless widely disagree in their interpretations. History therefore has always to be rewritten. New philosophies demand a new representation of the past.

The specific understanding of the historical sciences is not an act of pure rationality. It is the recognition that reason has exhausted all its resources and that we can do nothing more than to try as well as we may to give an explanation of something irrational which is resistant to exhaustive and unique description. These are the tasks which the understanding has to fulfill. It is, notwithstanding, a logical tool and should be used as such. It should never be abused for the purpose of smuggling into the historical work obscurantism, mysticism and similar elements. It is not a free charter for nonsense.

It is necessary to emphasize this point because it sometimes happens that the abuses of a certain type of historicism are justified by an appeal to a wrongly interpreted "understanding." The reasoning of logic, praxeology and of the natural sciences can under no circumstances be invalidated by the understanding. However strong the evidence supplied by the historical sources may be, and however understandable a fact may be from the point of view of theories contemporaneous with it, if it does not fit into our rationale, we cannot accept it. The existence of witches and the practice of witchcraft are abundantly attested by legal proceedings; yet we will not accept it. Judgments of many tribunals are on record asserting that people have depreciated a country's currency by upsetting the balance of payments; yet we will not believe that such actions have such effects.

It is not the task of history to reproduce the past. An attempt to do so would be vain and would require a duplication not humanly possible. History is a representation of the past in terms of concepts. The specific concepts of historical research are type concepts. These types of the historical method can be built up only by the use of the specific understanding and they are meaningful only in the frame of the under-

standing to which they owe concept which is logically purpose of understanding, if all the elements united in feature. Classes do not exist the mind which in observing. It is another question what and based on sound consideration given data. There is for instance which includes not only the Spanish system of General Horthy and some other system way and that it can be contrasted includes the Russian Bolshevik Hungary and of the short 5 classification and the infer last twenty years divided in is the right way to understand to question. You can understand different way by using other and Totalitarianism, and the Western Capitalist system. Bolshevism and what the system you apply the first or the mode in which you see the classification to be used, a standing.

The type-concepts of the *Geisteswissenschaften* are not statistical classification are not subject renders it impossible to contrast type-concepts (in German distinguish them from the of the biological ones) original concepts used for the contrast. For instance: The concept to signify a specific function future. In this respect every

standing to which they owe their existence. Therefore not every type-concept which is logically valid can be considered as useful for the purpose of understanding. A classification is valid in a logical sense if all the elements united in one class are characterized by a common feature. Classes do not exist in actuality, they are always a product of the mind which in observing things discovers likenesses and differences. It is another question whether a classification which is logically valid and based on sound considerations can be used for the explanation of given data. There is for instance no doubt that a type or class "Fascism" which includes not only Italian Fascism but also German Nazism, the Spanish system of General Franco, the Hungarian system of Admiral Horthy and some other systems can be constructed in a logically valid way and that it can be contrasted to a type called "Bolshevism," which includes the Russian Bolshevism and the system of Bela Kun in Hungary and of the short Soviet episode of Munich. But whether this classification and the inference from it which sees the world of the last twenty years divided into the two parties, Fascists and Bolsheviks, is the right way to understand present-day political conditions is open to question. You can understand this period of history in a quite different way by using other types. You may distinguish Democracy and Totalitarianism, and then let the type Democracy include the Western Capitalist system and the type Totalitarianism include both Bolshevism and what the other classification terms Fascism. Whether you apply the first or the second typification depends on the whole mode in which you see things. The understanding decides upon the classification to be used, and not the classification upon the understanding.

The type-concepts of the historical or moral sciences (*Geisteswissenschaften*) are not statistical averages. Most of the features used for classification are not subject to numerical determination, and this alone renders it impossible to construct them as statistical averages. These type-concepts (in German one uses the term *Ideal-Typus* in order to distinguish them from the type-concepts of other sciences, especially of the biological ones) ought not to be confused with the praxeological concepts used for the conceiving of the categories of human action. For instance: The concept "entrepreneur" is used in economic theory to signify a specific function, that is the provision for an uncertain future. In this respect everybody has to some extent to be considered

as an entrepreneur. Of course, it is not the task of this classification in economic theory to distinguish men, but to distinguish functions and to explain sources of profit or loss. Entrepreneur in this sense is the personification of the function which results in profit or loss. In economic history and in dealing with current economic problems the term "entrepreneur" signifies a class of men who are engaged in business but who may in many other respects differ so much that the general term entrepreneur seems to be meaningless and is used only with a special qualification, for instance big (medium-sized, small) business, "Wall Street," armaments business, German business, etc. The type entrepreneur as used in history and politics can never have the conceptual exactitude which the praxeological concept entrepreneur has. You never meet in life men who are nothing else than the personification of one function only.²

V

The preceding remarks justify the conclusion that there is a radical difference between the methods of the social sciences and those of the natural sciences. The social sciences owe their progress to the use of their particular methods and have to go further along the lines which the special character of their object require. They do not have to adopt the methods of the natural sciences.

It is a fallacy to recommend to the social sciences the use of mathematics and to believe that they could in this way be made more "exact." The application of mathematics does not render physics more exact or more certain. Let us quote Einstein's remark: "As far as mathematical propositions refer to reality they are not certain and as far as they are certain they do not refer to reality." It is different with praxeological propositions. These refer with all their exactitude and certainty to the reality of human action. The explanation of this phenomenon lies in the fact that both—the science of human action and human action itself—have a common root, i.e., human reason. It would be a mistake to assume that the quantitative approach could render them more exact. Every numerical expression is inexact because of the inherent limitations of human powers of measurement. For the rest we

²For the sake of completeness we have to remark that there is a third use of the term entrepreneur in law which has to be carefully distinguished from the two mentioned above.

have to refer to what has character of quantitative character.

The reformers who wish the methods of the natural efforts by pointing to the deny that the social sciences being perfect. Every economic But two considerations are satisfactory state of social with an alleged inadequacy the teachings of economics blame the discipline for the day be necessary to reform not take its direction along The objections of these are

National Bureau of Economic Research

have to refer to what has been said above on the purely historical character of quantitative expressions in the field of the social sciences.

The reformers who wish to improve the social sciences by adopting the methods of the natural sciences sometimes try to justify their efforts by pointing to the backward state of the former. Nobody will deny that the social sciences and especially economics are far from being perfect. Every economist knows how much remains to be done. But two considerations must be kept in mind. First: The present unsatisfactory state of social and economic conditions has nothing to do with an alleged inadequacy in economic theory. If people do not use the teachings of economics as a guide for their policies they cannot blame the discipline for their own failure. Secondly: If it may some day be necessary to reform economic theory radically this change will not take its direction along the lines suggested by the present critics. The objections of these are thoroughly refuted forever.

National Bureau of Economic Research