Capital, Expectations, and the Market Process

Essays on the Theory of the Market Economy

By Ludwig M. Lachmann

Edited with an Introduction by
Walter E. Grinder

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The Science of Human Action

This is Professor Mises's *magnum opus.*[1] It is a *magnum opus* in every sense of the word. Its majestic sweep embraces almost the whole field of economics and touches, at some point or other, on almost every social issue of our time. Not merely the formal-logical apparatus of economic theory, but the social structure of modern industrial society, its achievements, its weaknesses, and, most of all, its ideologies come under the relentless scrutiny of one who again and again confounds the smallminded within the precincts of our science and outside it. Perhaps his most outstanding merit is an intellectual courage which in these days of the cult of the "politically possible" has become all too rare. Throughout the 881 pages of the text the argument is presented with a pungency of style which rivals the clarity and vigour of his thought.

To render justice to a work of this nature on the few pages at our disposal is clearly impossible. All we can hope to do is to select a few topics for discussion.

When ten years ago Professor Knight reviewed the original German version[2] of the book in this journal[3] and found himself faced with the same dilemma, he selected one topic only for discussion, viz., the theory of capital. Quite possibly this is the best way of going about it. Undoubtedly the theory of capital occupies a prominent place in Professor Mises's doctrinal edifice. His theory of the trade cycle as well as his proof of the inadequacy of some recent "models" for a socialist market economy depend largely on his view of capital.

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Yet we shall not follow the method Professor Knight adopted ten years ago. Unable though we are to take the reader on an extensive tour of the palace and to show him every part of the building, it seems to us wrong to confine our inspection to the basement. The wide vistas to be gained from some of the windows on the upper floors are too enchanting for that.

Human Action is, of course, far more than a treatise on the methodology of the social sciences. But its centre of gravity certainly lies in its first seven chapters which are devoted to the discussion of method in the social sciences. We shall therefore have to deal at some length with the issues raised in these chapters.

1.

In the study of human thought on any subject it is a fundamental principle that we cannot succeed in understanding what an author "really means" unless we understand the questions he is trying to answer. And an appraisal of Professor Mises's views on the methodology of the social sciences requires at least some knowledge of the history of the problems he is dealing with. In reading this book we must never forget that it is the work of Max Weber that is being carried on here.

Now, Max Weber's methodological writings had a dual purpose: to convince the historians who, at his time and in the German environment in which he grew up, were apt to claim a methodological monopoly for their "individualising" methods, that the social sciences offered just as much, if not more, scope for generalisation as the natural sciences; and that any historical "explanation" logically presupposes a generalised scheme of cause and effect. But at the same time he strove to uphold the methodological independence of the theoretical social sciences of the natural sciences by stressing the cardinal importance of *means* and *ends* as fundamental categories of human action.

This work has been carried on by others besides Professor Mises. There is Professor Hayek's famous essay on "Scientism and the Study of Society," well known to readers of this journal.[4]

There is the work of Dr. Schütz who has applied Husserl's phenomenology to the logical analysis of the structure of human action.[5] And there is, of course, Professor Robbins's *Essay on the Nature and Significance of Economic Science* (1932; 2nd ed. 1935), which firmly established the definition of our science in terms of scarce means and multiple ends.

It may be objected that this definition of the subject-matter of economics is too wide. At an election, for instance, each voter has one vote but more than one candidate to give it to; yet the problem is not usually regarded as an economic one.

Professor Mises's reply to such objections is that in our search for the causes of the market phenomena we observe, and the explanation of which is the primary task of economists, we have unwittingly strayed into the realm of *Praxeology,* the Science of Human Action. He therefore distinguishes between *Praxeology,* the Science of Human Action, and *Catallactics,* the science which deals with market phenomena (233). The theorems of the latter presuppose the categories of the former. In other words, what Professor Hayek has called "The Pure Logic of Choice" belongs to Praxeology rather than to Catallactics. In this way what we have come to regard as the main body of economics is seen to belong to two related but distinct fields. "Catallactics is the analysis of those actions which are conducted on the basis of monetary calculation. Market exchange and monetary calculation are inseparably linked together" (235).

Professor Mises claims *a priori* validity for the propositions of Praxeology. "Its scope is human action as such, irrespective of all environmental, accidental, and individual circumstances of the concrete acts. Its cognition is purely formal and general without reference to the material content and the particular features of the actual case . . . . Its statements and propositions are not derived from experience. They are, like those of logic and mathematics, *a priori.* They are not subject to verification or falsification on the ground of experience and facts. They are both logically and temporally antecedent to any comprehension of historical facts. They are a necessary requirement of any intellectual grasp of historical events" (32). At the same time

"Praxeology conveys exact and precise knowledge of real things" (39).

These statements raise two fundamental questions: How can Praxeology at one and the same time be *a priori* true, and "convey knowledge of real things"? Secondly, even if no *a priori* validity is claimed for the propositions of Catallactics, is it true that all the fundamental economic theorems that would clearly fall into the field of Praxeology are, like logic and mathematics, *a priori* valid?

As regards our first question, we must remember that the "real things" about which we learn from Praxeology are human actions. They can be studied in two ways: we can study them, as it were, "from outside," by observation and experience, like other phenomena of nature; or we can study them "from inside," that is to say, we interpret them as the products of *plans*, as manifestations of a directing and controlling mind. Looked at in this way all human action has a logical structure. There is therefore such a thing as a Logic of Action closely linked to the logic of our thought. We act by virtue of the fact that we think before. "The real thing which is the subject matter of praxeology, human action, stems from the same source as human reasoning. Action and reason are congeneric and homogeneous; they may even be called two different aspects of the same thing. That reason has the power to make clear through pure ratiocination the essential features of action is a consequence of the fact that action is an offshoot of reason" (39).

Our second question raises a fundamental issue in epistemology. It is not merely a question of whether "means and ends" have the same epistemological status as, for instance, "time and space." Behind it there lurks the even more fundamental question whether we can have any knowledge not ultimately derived from experience.

Fortunately this journal is not the proper place to raise such weighty issues in. *Economica* must not become a battleground for positivists and Neo-Kantians. It seems to us, however, that in this particular case it is possible to side with Professor Mises without taking sides on the wider issue. For we can, and in our opinion must, distinguish between different layers of experience. In economics we are concerned with the action of the adult householder and the business man. Even if we granted that our ability to distinguish between means and ends is the result of some kind of experience, it still remains true that this experience is not the experience gathered from spending one's income or running a business. Professor Mises is certainly right in holding that all such action already *presupposes* the distinction between means and ends.[6] We may therefore say that, whatever the source of knowledge from which the distinction is ultimately derived, means and ends are indeed "logically and temporally antecedent" to the household and business plans which economists study. They may have their root in a layer of (juvenile?) experience, but it is a layer which precedes and underlies the layer with which we are concerned.

2.

Having learnt that Professor Mises regards Praxeology as methodologically similar to logic and mathematics, we might expect him to welcome the use of mathematical methods in economics. In fact, however, this is not so. On the contrary, the section on "Logical Catallactics versus Mathematical Catallactics" in the chapter on Prices, one of the most interesting and perhaps the most characteristic of the book, turns out to be a devastating criticism, not of mathematical economics as such, but at least of the methods currently in use by mathematical economists. Two classes of mathematical economists are the chief target of Professor Mises's onslaught.

There are, firstly, the econometricians trying to make economics a "quantitative science." But "there is no such thing as quantitative economics. All economic quantities we know about are data of economic history. No reasonable man can suppose that the relation between price and supply is in general, or in respect of certain commodities, constant. We know, on the contrary, that . . . the reactions of the same people to the same external events vary, and that it is not possible to assign individuals to classes of men reacting in the same way" (348). Secondly, there is the equilibrium school which refuses to study the Market Process, the central object of economics. "They merely mark out an imaginary situation in which the market process would cease to operate. The mathematical economists disregard the whole theoretical elucidation of the market process and evasively amuse themselves with an auxiliary notion employed in its context and devoid of any sense when used outside of this context" (352).

The reason for this confusion has to be sought in the inability of many economists to grasp the difference between the essential character of the natural sciences and that of the sciences dealing with human action. This difference is brought out in a characteristically Misesque passage:

"In physics we are faced with changes occurring in various sense phenomena. We discover a regularity in the sequence of these changes and these observations lead us to the construction of a science of physics. We know nothing about the ultimate forces actuating these changes. They are for the searching mind ultimately given and defy any further analysis. What we know from observation is the regular concatenation of various observable entities and attributes. It is this mutual interdependence of data that the physicist describes in differential equations.

"In praxeology the first fact we know is that men are purposively intent upon bringing about some changes. It is this fact that integrates the subject matter of praxeology and differentiates it from the subject matter of the natural sciences. We know the forces behind the changes, and this aprioristic knowledge leads us to a cognition of the praxeological processes. The physicist does not know what electricity 'is.' He knows only phenomena attributed to something called electricity. But the economist knows what actuates the market process. It is only thanks to this knowledge that he is in a position to distinguish market phenomena from other phenomena and to describe the market process" (352).

All this the mathematical economist ignores. In making equilibrium the central concept of his system "he merely describes an auxiliary makeshift employed by the logical economists as a limiting notion, the definition of a state of affairs in which there is no longer any action and the market process has come to a standstill. . . . A superficial analogy is spun out too long, that is all" (352).

In all this, to be sure, the word "causal-genetic" never occurs. Yet it is clear what Professor Mises is aiming at. The task of the economist is not merely, as in equilibrium theory, to examine the logical consistency of various modes of action, but to make human action intelligible, to let us understand the nature of the logical structures called 'plans,' to exhibit the successive modes of thought which give rise to successive modes of action. In other words, all true economics is not "functional" but "causal-genetic."[7]

"Logical economics is essentially a theory of processes and changes." And "the problems of process analysis, i.e., the only economic problems that matter, defy any mathematical approach. . . . The main deficiency of mathematical economics is not the fact that it ignores the temporal sequence, but that it ignores the market process. The mathematical method is at a loss to show how from a state of non-equilibrium those actions spring up which tend toward the establishment of equilibrium. . . . The differential equations of mechanics are supposed to describe precisely the motions concerned at any instant of the time travelled through. The economic equations have no reference whatever to conditions as they really are in each instant of the time interval between the state of non-equilibrium and that of equilibrium. . . . A very imperfect and superficial metaphor is not a substitute for the services rendered by logical economics" (353-4).

Two examples of the misinterpretation of economic phenomena resulting from the application of misleading mathematical metaphors are then given: Fisher's exchange equation, "the mathematical economist's futile and misleading attempt to deal with changes in the purchasing power of money"; and Schumpeter's rather unfortunate "dictum according to which consumers in evaluating consumers' goods *ipso facto* also evaluate the means of production which enter into the production of these goods."[8]

3.

We now have to face the central issue of Professor Mises's methodology. "Logical economics is essentially a theory of processes and changes." But is there, can there be, a "Pure Logic of Choice"? In the field of human action we "explain" phenomena as the outcome of the pursuit of plans. Each plan is a logical structure in which means and ends are coordinated by a directing and controlling mind. But the plans of different individuals may be, and as a rule are, inconsistent with each other. Now, it is an undeniable fact that far too many economists are preoccupied with examining the consistency of plans without ever bothering to tell us how in reality men overcome inconsistencies brought to light by failure, how they set out to revise their plans in the light of their experience, favourable or unfavourable.

In other words, there is a tendency in the economic theory currently in fashion to treat knowledge as a datum without explaining how knowledge is transformed as a result of the market process. This tendency is to be deplored. But if the transformation of knowledge is an essential element in the market process, then the latter cannot belong to the province of logical economics, for the acquisition of knowledge is *not* a logical process. How does our author overcome this difficulty?

He has an answer of a kind, and we believe it, on the whole, to be a satisfactory answer. Unfortunately it is nowhere explicitly stated, and the elements of the answer have to be pieced together from passages and ideas scattered throughout the text of 881 pages. The explicit answer, on the other hand, which Professor Mises provides for us cannot be regarded as adequate.

According to our author the logical principle which coordinates the plans of different individuals is the division of labour. "The exchange relation is the fundamental social relation. Interpersonal exchange of goods and services weaves the bond which unites men into society. The societal formula is: *do ut des*" (195).

At first sight this suggestion does not appear very helpful. For the division of labour to serve as the fundamental principle of human interaction it would be necessary for everybody concerned from the beginning to *know* everybody else's needs, resources, and abilities. In a world of processes and changes this is clearly impossible. It would be possible only in that static world Professor Mises disdains. He thus appears to be confronted with this dilemma: his principle for the coordination of social action is immediately applicable only in equilibrium, while a "theory of processes and changes" would first have to explain how men gain that knowledge which enables them to adjust their action to the needs of others, and to make use of their abilities and resources.

Professor Mises's real answer to the dilemma lies in his conception of entrepreneurship and the function of entrepreneurial profits, a conception which is really dynamic and remarkably similar to Schumpeter's. Profits, those temporary margins between today's cost of complementary factor services and tomorrow's product prices, are signposts of entrepreneurial success. In a symbolic form they convey knowledge, but the symbols have to be *interpreted.* In this ability men differ widely; its comparative rarity is the ultimate cause of human inequality. "If all entrepreneurs were to anticipate correctly the future state of the market, there would be neither profits nor losses. . . . An entrepreneur can make a profit only if he anticipates future conditions more correctly than other entrepreneurs" (291).

The market process, to be sure, conveys knowledge through profits realised. But it also promotes the rise of those better equipped than others to wrest economic meaning from the happenings of the market-place, the ups and downs of prices, the fluctuations in stocks, the doings of the politicians, and of those (they will always be few) who know how to learn from the mistakes of others. In other words, the market process is closely linked with what Pareto called "the circulation of élites," perhaps the most important of all social processes. "One should not forget that on the market a process of selection is in continual operation. There prevails an unceasing tendency to weed out the less efficient entrepreneurs, that is, those who fail in their endeavours to anticipate correctly (580). . . . This specific anticipative understanding of the conditions of the uncertain future defies any rules and systematisation (582). . . . The resultant of these endeavours is not only the price structure but no less the social structure, the assignment of definite tasks to the various individuals. The market makes people rich or poor, determines who shall run the big plants and who shall scrub the floors, fixes how many people shall work in the copper mines and how many in the symphony orchestras" (308).

The essence of the matter is that the market process promotes the spreading of knowledge through the promotion of those capable of interpreting market data and of thus transforming them into market knowledge, and the elimination of those who cannot read the signs of the market.

4.

We said already that the theory of capital occupies a prominent place in Professor Mises's doctrinal edifice. We must therefore look at it closely.

Broadly speaking, his theory of capital is more or less identical with that of Professor Hayek in the *Pure Theory of Capital.*[9] Böhm-Bawerk's doctrine is not uncritically accepted. His wage-fund interpretation of the capital stock is rejected; so is the "backward-looking" concept of the period of production. "The length of time expended in the past for the production of capital goods available to-day does not count at all. . . . The 'average period of production' is an empty concept" (486). Moreover, Böhm-Bawerk's "demonstration of the universal validity of time preference is inadequate because it is based on psychological considerations. However, psychology can never demonstrate the validity of a praxeological theorem" (485). While in expounding his theory of the higher productivity of roundabout methods of production he "did not entirely avoid the productivity approach which he himself had so brilliantly refuted" (486).

The essence of Professor Mises's argument can perhaps best be expressed by contrasting it with, e.g., Professor Knight's theory of investment. For the latter a man who saves faces merely the choice between a present segment of a service flow and a permanent income stream. For Professor Mises the man faces a choice between a number of present goods and a large number of future goods all maturing at different points of time. But he has a scale of preference ("time preference") which enables him to decide which combination of future goods he prefers to all others. Capital goods are thus future consumption goods *in statu nascendi,* and their valuation reflects the pattern of time preference between the various combinations of consumption goods of different degrees of futurity. The market rate of interest is the average rate of discount of future against present goods, the net result of these individual time preferences.

The question arises whether a form of economic organisation is possible in which there is a market for consumption goods, but no market for capital goods. Such a system has been advocated by the protagonists of the New Scientific Socialism. They would leave all investment decisions to a Central Planning Board, while output decisions about consumers' goods would be made by individual plant managers provided with "factor-price tables" and left with the general instruction to produce that output quantity for which market price equals marginal cost.

Professor Mises does not find it difficult to dispose of these schemes. He shows that they rest essentially on a misconception of the function of the entrepreneur in a market economy. "The cardinal fallacy implied in this and all kindred proposals is that they look at the economic problem from the perspective of the subaltern clerk whose intellectual horizon does not extend beyond subordinate tasks. They consider the structure of industrial production and the allocation of capital to the various branches and production aggregates as rigid, and do not take into account the necessity of altering this structure in order to adjust it to changes in conditions" (703). To be sure, the entrepreneur "invests," and he produces and sells output. But this is not all. He has another function which we all know but about which little is, as a rule, heard from economists: the "regrouping of capital assets" by buying and selling them, the incessant reshuffling of the combinations of complementary capital goods with which he works and which in their complexity form the ever-changing basis of the capital structure.[10, 11]

5.

Almost forty years ago Professor Mises, through a brilliant interpretation of an idea of Wicksell, became the first exponent of what has come to be known as "The Austrian Theory of the Trade Cycle." In its fully developed form this theory contends that what happens during a boom is not merely that "incomes, output, and employment" rise and approach the "point of full employment," but that the capital structure becomes distorted. In some sectors of the economic system new capital goods are piled up, in others, owing to what Irving Fisher called "the money illusion," existing capital goods are not even being maintained. Under the relentless pressure of credit expansion sooner or later some resources become scarce, and others thus come to lack those *complementary* factors in the expectation of whose availability they had been produced. It is plain that the *heterogeneity of capital resources* of which during the boom some become scarce, some abundant, is of the essence of the matter.

For 15 years this theory has been under a cloud. During most of that time the stage was held by underconsumption theories. To many economists it began to appear unthinkable that economic crises could be caused by anything but "lack of effective demand." Keynesianism in all its forms ruled supreme.

But of late it has been possible to observe a gradual change of heart. Undoubtedly the high tide of Keynesianism is receding. In a mood of eclecticism an increasing number of economists appears to be ready to reconsider the evidence. In this new situation it is perhaps not too extravagant to hope for general, or nearly general, agreement that booms may collapse and depressions come to an end, for all sorts of reasons, that the economic systems of modern industrial societies are far too complex to offer much prospect of "stable progress," and that a theoretical one-model show must needs fail to give an adequate picture of the range of analytical tools required to cope with these baffling complexities.

This changing mood finds a clear expression in Dr. Hicks's recent book on the trade cycle.[12] Underconsumption crises are not impossible,[13] but they are unlikely to be frequent. The most important cause of cyclical downturns Dr. Hicks sees in the existence of the "ceiling," i.e., in the existence of physical obstacles to unlimited expansion of output. Of course, it is far from our mind to suggest that Professor Mises's theory is identical with Dr. Hicks's. Clearly it is not. But there are striking similarities, and the divergences are often more apparent than real. Of this we shall give three examples.

In the first place, Dr. Hicks relies heavily on the Acceleration Principle which Professor Mises scorns. But the essence of the boom is clearly, in both theories, and in open contrast to all underconsumptionist teaching, that entrepreneurs make investment plans the real resources for which do not exist. "The essence of the credit-expansion boom is not over-investment, but investment in wrong lines, i.e., malinvestment" (Mises, 556).

Secondly, Professor Mises, to whom capital resources are essentially heterogeneous, finds it easier to define the nature of malinvestment. "The whole entrepreneurial class is, as it were, in the position of a master-builder whose task is to erect a building out of a limited supply of building materials. If this man overestimates the quantity of the available supply, he drafts a plan for the execution of which the means at his disposal are not sufficient. He oversizes the groundwork and the foundations and only discovers later in the progress of the construction that he lacks the material needed for the completion of the structure. It is obvious that our master-builder's fault was not over-investment, but an inappropriate employment of the means at his disposal" (Mises, p. 557).

Dr. Hicks, on the other hand, throughout the greater part of his book treats capital as homogeneous, and thus, at the critical point, lacks the sharpest-edged tool for making malinvestment explicit. But it is interesting to note that, when in Chapter X he embarks on a "further inspection of the ceiling," his homogeneity assumption breaks down. He not merely contends that "resources needed for making investment goods are becoming scarcer than the resources needed for making consumption goods" (Hicks, 128). Four pages later we are actually told: "We could easily have made a further advance by splitting up these ceilings, and allowing a sectional ceiling for every product." The important point is "that the accumulating real pressure will usually precipitate a downturn before the general shortage has become so acute as to induce a general inflation." In other words, some resources will become scarce while others remain plentiful. This is precisely the situation the Austrian theory was designed to meet.

Thirdly, as regards the position on the morrow of the downturn, Dr. Hicks again relies on multiplier and accelerator, while Professor Mises, spurning such Keynesian devices, preaches the need for readjustment. But again the contrast is more apparent than real. For Dr. Hicks the downturn expresses the tendency of the system to return to the long-run equilibrium level (the danger being that this may be "passed by"). For Professor Mises "readjustment" means more or less the same thing. "The malinvestments of the boom have misplaced inconvertible factors of production in some lines at the expense of other lines in which they were more urgently needed. There is disproportion in the allocation of nonconvertible factors to the various branches of industry." Now "one must provide the capital goods lacking in those branches which were unduly neglected in the boom. Wage rates must drop; people must restrict their consumption temporarily until the capital wasted by malinvestment is restored. Those who dislike the hardships of the readjustment period must abstain in time from credit expansion" (575–6).

As regards the depression, the main difference between the two authors consists in that Professor Mises is less afraid than Dr. Hicks of the effects of secondary deflation (Mises, 565–6). This is perhaps a matter for judgment from case to case rather than for theoretical generalisation.

In conclusion we may note that on the whole the Austrian theory has the broader scope, thanks largely to the fact that it is not tied to the homogeneity assumption. Dr. Hicks ignores existing capital goods and the problems of their versatility. We do not even learn whether his coefficients of production are fixed or variable. In the Austrian theory existing capital combinations can be reshuffled so as to release scarce resources. In fact, the constructive entrepreneurial task of the readjustment period consists largely in this, and not in indiscriminate investment. The core of the matter lies in this: the existence of unemployment and idle resources does not necessarily indicate "lack of effective demand"; it *may* indicate lack of complementary capital. When we reach his "ceiling" Dr. Hicks recognises this possibility; when we leave it its implications seem to fall into oblivion.

6.

A few words have to be said about Professor Mises's altitude to the wider issues of our time. Among the members of the governing class of present-day Western society he is not a popular figure. Politicians and bureaucrats dislike him; the intellectuals who produce the ideologies to sustain their rule abhor him. The Fabians worship other idols.

Equalitarianism is the favourite myth of our century. No thinking person can fail to notice that as societies become more civilised, inequalities are bound to increase. This is simply a corollary of the division of labour. As this reaches ever higher degrees, individual contributions to the social product become more and more specific and thus less substitutable. For is it not an accepted maxim of economics that the division of labour enables everybody to give of his best, and that, as it is carried to higher degrees of complexity, this, individual and highly specific, "best" tends to become very much better than anybody else's "best" in the same line? As inequality can thus be shown to be an inevitable concomitant of civilisation, arguments about its desirability or undesirability are seen to be largely irrelevant. Therefore "the inequality of incomes and wealth is an inherent feature of the market economy" (836). No prejudice, however, was ever shaken by argument, and our contemporary mythologists are no more given to critical reflection on major tenets than were their medieval ancestors.

But Professor Mises not merely refuses to accept the contemporary myth. He can see through it! "In endorsing the principle of equality as a political postulate nobody wants to share his own income with those who have less. When the American wage earner refers to equality, he means that the dividends of the stockholders should be given to him. He does not suggest a curtailment of this own income for the benefit of those 95 percent of the earth's population whose income is lower than his"(836).

Nor is much comfort offered to those who would create "equality of opportunity" through education, by "making educational opportunities more equal." The abilities by which men outdo each other in a complex society have little to do with education. Entrepreneurial ability is not to be acquired in lecture-rooms. Here Professor Mises makes an important point. "It is not generally realised that education can never be more than indoctrination with theories and ideas already developed. Education, whatever benefits it may confer, is transmission of traditional doctrines and valuations; it is by necessity conservative. It produces imitation and routine, not improvement and progress. Innovators and creative geniuses cannot be reared in schools. They are precisely the men who defy what the school has taught them" (311).[14]

The outlook for the praxeological sciences is not exactly bright. In our time they are bound to come into conflict with the dominant ideologies at almost every point. The high priests of "modern education" are unlikely to take kindly to any endeavour to substitute a scientific for a mythological view of the social function of education.

Yet, in the long run, society ignores the praxeological sciences at its peril. "The body of economic knowledge is an essential element in the structure of human civilisation; it is the foundation upon which modern industrialism and all the moral, intellectual, technological, and therapeutical achievements of the last centuries have been built. It rests with men whether they will make the proper use of the rich treasure with which this knowledge provides them or whether they will leave it unused. But if they fail to take the best advantage of it and disregard its teachings and warnings, they will not annul economics; they will stamp out society and the human race" (881).

It will be for History to judge.

NOTES

1. Ludwig von Mises, *Human Action: A Treatise on Economics* (New Haven: Yale University Press, 1949), p. 421.
2. Ludwig von Mises, *Nationalökonomie* (Geneva: Editions Union, 1940).
3. "Professor Mises and the Theory of Capital," *Economica* 8 (November 1941): 409–27.
4. In *Economica*, 9 (August 1942): 267–91; 10 (February 1943): 34–63; 11 (February 1944): 27–39.
5. See A. Stonier and K. Bode, "A New Approach to the Methodology of the Social Sciences," *Economica* 4 (November 1937): 406–24.
6. When he says: "There is no mode of action thinkable in which means and ends or costs and proceeds cannot be clearly distinguished and precisely separated" (40), we take him to mean: within the sphere of adult life, a particular household and business life. But what about games? Within each game the distinction can be drawn, but is this the "end" for which we play them?
7. The two concepts were originally used by Professor Mayer in "Der Erkenntniswert der funktionellen Preistheorien," in *Die Wirschaftstheorie der Gegenwart*, vol. 2 (Vienna, 1932).
8. *Capitalism, Socialism, and Democracy* (New York: Harper & Row, 1950), p. 175. See also Professor Hayek's criticism in *Individualism and Economic Order* (London: Routledge & Kegan Paul, 1949), p. 90n.
9. London: Macmillan, 1941.
10. "The operations of the managers, their buying and selling, are only a small segment of the totality of market operations. The market of the capitalist society also performs all those operations which allocate the capital goods to the various branches of industry. The entrepreneurs and capitalists establish corporations, and other firms, enlarge or reduce their size, dissolve them or merge them with other enterprises; they buy and sell the shares and bonds of already existing and of new corporations" (703-4).

11. Cf. L. M. Lachmann, "Complementarity and Substitution in the Theory of Capital," *Economica* 14 (May 1947): 108–19.
12. J. R. Hicks, *A Contribution to the Theory of the Trade Cycle* (Oxford: Oxford University Press, 1950).
13. For instance, the American situation in 1929 was, in our opinion, an underconsumption situation. In fact, most of the underconsumption theories of the last twenty years are simply "historical generalizations" of the memories of 1929–33.
14. As Professor Mises's detractors will probably dismiss this as "armchair philosophy," we may note what one of the most discerning students of modern business organization has to say on this subject: "On the whole it looks very much as if the 'integrated' business education tends to make a man unfit to be an entrepreneur by paralyzing his intellectual muscles, just as the training in mere technical skills of the business school of yesterday tended to unfit a man by destroying his vision. The more emphasis there is on 'administration,' 'organization,' 'policy,' 'analysis,' etc., the more there is emphasis on the known 'right' way of doing things and on routines rather than on the new—in short on the accepted, the safe, the bureaucratic way rather than on the way of the risk taker and the innovator" (Peter F. Drucker "The Graduate Business School," *Fortune* 42 [August 1950]: 94).