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Science and Ideology

Author(s): Joseph A. Schumpeter

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## SCIENCE AND IDEOLOGY\*

By JOSEPH A. SCHUMPETER

### I

A hundred years ago economists were much more pleased with their performance than they are today. But I submit that, if complacency can ever be justified, there is much more reason for being complacent today than there was then or even a quarter of a century ago. As regards command of facts, both statistical and historical, this is so obviously true that I need not insist. And if it be true of our command of facts, it must be true also for all the applied fields that for their advance mainly depend upon fact finding. I must insist, however, on the proposition that our powers of analysis have grown in step with our stock of facts. A new organon of statistical methods has emerged, to some extent by our own efforts, that is bound to mean as much to us as it does to all the sciences, such as biology or experimental psychology, the phenomena of which are given in terms of frequency distributions. In response to this development and in alliance with it, as well as independently, our own box of analytic tools has been greatly enriched: economic theory, in the instrumental sense of the term—in which it means neither the teaching of ultimate ends of policy nor explanatory hypotheses but simply the sum total of our methods of handling facts—has grown quite as much as Marshall and Pareto had foreseen that it would.

If this is not more generally recognized and if it is etiquette with economists—let alone the public—to pass derogatory judgment on the state of our science, this is owing to a number of causes that, though known all too well, should be repeated: a building plot on which old structures are being torn down and new ones erected is not an esthetic thing to behold; moreover, to a most discouraging extent the new structures are being currently discredited by premature attempts at utilitarian application; finally, the building area widens so

\* Presidential address delivered at the Sixty-first Annual Meeting of the American Economic Association, Cleveland, Ohio, December 28, 1948.

that it becomes impossible for the individual worker to understand everything that is going on beyond his own small sector. It would indeed be difficult to present in systematic form, as the Smiths, Mills, and Marshalls have been able to do with more or less success, a comprehensive treatise that might display some measure of unity and command all but universal approval. Thus, though the workers in each sector are not at all displeased with how they are getting on themselves, they are quite likely to disapprove of the manner in which those in all the others go about their tasks, or even to deny that these other tasks are worth bothering about at all. This is but natural. Many types of mind are needed to build up the structure of human knowledge, types which never quite understand one another. Science is technique and the more it develops, the more completely does it pass out of the range of comprehension not only of the public but, minus his own chosen specialty, of the research worker himself. More or less, this is so everywhere although greater uniformity of training and greater discipline of endeavor may in physics reduce the tumult to something like order. As everyone knows, however, there is with us another source of confusion and another barrier to advance: most of us, not content with their scientific task, yield to the call of public duty and to their desire to serve their country and their age, and in doing so bring into their work their individual schemes of values and all their policies and politics—the whole of their moral personalities up to their spiritual ambitions.

I am not going to reopen the old discussion on value judgments or about the advocacy of group interests. On the contrary, it is essential for my purpose to emphasize that *in itself* scientific performance does not require us to divest ourselves of our value judgments or to renounce the calling of an advocate of some particular interest. To investigate facts or to develop tools for doing so is one thing; to evaluate them from some moral or cultural standpoint is, *in logic*, another thing, and the two *need* not conflict. Similarly, the advocate of some interest may yet do honest analytic work, and the motive of proving a point for the interest to which he owes allegiance does not in itself prove anything for or against this analytic work: more bluntly, advocacy does not imply lying. It spells indeed misconduct to bend either facts or inferences from facts in order to make them serve either an ideal or an interest. But such misconduct is not necessarily inherent in a worker's arguing from "axiological premises" or in advocacy *per se*.<sup>1</sup> Examples abound in which economists have estab-

<sup>1</sup> The above passage should be clear. But it may be as well to make its meaning more explicit. The misconduct in question consists, as stated, in "bending facts or logic in order to gain a point for either an ideal or an interest" *irrespective of whether a writer*

lished propositions for the implications of which they did not have any sympathy. To mention a single instance: to establish the logical consistency of the conditions (equations) that are descriptive of a socialist economy will seem to most people equivalent to gaining a point for socialism; but it was established by Enrico Barone, a man who, whatever else he may have been, was certainly no sympathizer with socialist ideals or groups.

But there exist in our minds preconceptions about the economic process that are much more dangerous to the cumulative growth of our knowledge and the scientific character of our analytic endeavors because they seem beyond our control in a sense in which value judgments and special pleadings are not. Though mostly allied with these, they deserve to be separated from them and to be discussed independently. We shall call them Ideologies.

## II

The word *idéologie* was current in France toward the end of the 18th and in the first decade of the 19th century and meant much the same thing as did the Scottish moral philosophy of the same and an earlier time or as our own social science in that widest acceptance of the term in which it includes psychology. Napoleon imparted a derogatory meaning to it by his sneers at the *idéologues*—doctrinaire dreamers without any sense for the realities of politics. Later on, it was used as it is often used today in order to denote systems of ideas, that is, in a way in which our distinction between ideologies and value judgments is lost. We have nothing to do with these or any other meanings except one that may be most readily introduced by reference to the “historical materialism” of Marx and Engels. According to this doctrine, history is determined by the autonomous evolution of the structure of production: the social and political organization, religions, morals, arts and sciences are mere “ideological superstructures,” generated by the economic process.

We neither need nor can go into the merits and demerits of this conception as such<sup>2</sup> of which only one feature is relevant to our purpose. This feature is the one that has, through various transformations, developed into the sociology of science of the type associated with the

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*states his preference for the cause for which he argues or not.* Independently of this, it may be sound practice to require that everybody should explicitly state his “axiological premises” or the interest for which he means to argue whenever they are not obvious. But this is an additional requirement that should not be confused with ours.

<sup>2</sup>In particular, its acceptance is no prerequisite of the validity of the argument that is to follow and could have been set forth also in other ways. There are, however, some advantages in starting from a doctrine that is familiar to all and that needs only to be mentioned in order to call up, in the mind of the audience, certain essential notions in a minimum of time.

names of Max Scheler and Karl Mannheim. Roughly up to the middle of the 19th century the evolution of "science" had been looked upon as a purely intellectual process—as a sequence of explorations of the empirically given universe or, as we may also put it, as a process of filiation of discoveries or analytic ideas that went on, though no doubt influencing social history and being influenced by it in many ways, according to a law of its own. Marx was the first to turn this relation of interdependence between "science" and other departments of social history into a relation of dependence of the former on the objective data of the social structure and in particular on the social location of scientific workers that determines their outlook upon reality and hence what they see of it and how they see it. This kind of relativism—which must of course not be confused with any other kind of relativism<sup>3</sup>—if rigorously carried to its logical consequences spells a new philosophy of science and a new definition of scientific truth. Even for mathematics and logic and still more for physics, the scientific worker's choice of problems and of approaches to them, hence the pattern of an epoch's scientific thought, becomes socially conditioned—which is precisely what we mean when speaking of scientific ideology rather than of the ever more perfect perception of objective scientific truths.

Few will deny, however, that in the cases of logic, mathematics, and physics the influence of ideological bias does not extend beyond that choice of problems and approaches, that is to say, that the sociological interpretation does not, at least for the last two or three centuries, challenge the "objective truth" of the findings. This "objective truth" may be, and currently is being, challenged on other grounds but not on the ground that a given proposition is true only with reference to the social location of the men who formulated it. To some extent at least, this favorable situation may be accounted for by the fact that logic, mathematics, physics and so on deal with experience that is largely invariant to the observer's social location and practically invariant to historical change: for capitalist and proletarian, a falling stone looks alike. The social sciences do not share this advantage. It is possible, or so it seems, to challenge their findings not only on all the grounds on which the propositions of all sciences may be challenged but also on the additional one that they cannot convey more than a writer's class affiliations and that, without reference to such class affiliations, there is no room for the categories of true or false, hence for the conception of "scientific advance" at all. Henceforth we adopt

<sup>3</sup>I should consider it an insult to the intelligence of my readers to emphasize that in particular this kind of relativism has nothing to do with Einsteinian relativity were it not a fact that there actually are instances of this confusion in the philosophical literature of our time. This has been pointed out to me by Professor Philipp Frank.

the term Ideology or Ideological Bias for this—real or supposed—state of things alone, and our problem is to ascertain the extent to which ideological bias is or has been a factor in the development of what—conceivably—it might be a misnomer to call scientific economics.

In recognizing the ideological element it is possible to go to very different lengths. There are a few writers who have in fact denied that there is such a thing in economics as accumulation of a stock of “correctly” observed facts and “true” propositions. But equally small is the minority who would deny the influence of ideological bias entirely. The majority of economists stand between these extremes: they are ready enough to admit its presence though, like Marx, they find it only in others and never in themselves; but they do not admit that it is an inescapable curse and that it vitiates economics to its core. It is precisely this intermediate position that raises our problem. *For ideologies are not simply lies*; they are truthful statements about what a man thinks he sees. Just as the medieval knight saw himself as he wished to see himself and just as the modern bureaucrat does the same and just as both failed and fail to see whatever may be adduced against their seeing themselves as the defenders of the weak and innocent and the sponsors of the Common Good, so every other social group develops a protective ideology which is nothing if not sincere. *Ex hypothesi* we are not aware of our rationalizations—how then is it possible to recognize and to guard against them?

But let me repeat before I go on: I am speaking of science which is technique that turns out the results which, together with value judgments or preferences, produce recommendations, either individual ones or systems of them—such as the systems of mercantilism, liberalism and so on. I am not speaking of these value judgments and these recommendations themselves. I fully agree with those who maintain that judgments about ultimate values—about the Common Good, for instance—are beyond the scientist’s range except as objects of historical study, that they are ideologies by nature and that the concept of scientific progress can be applied to them only so far as the means may be perfected that are to implement them. I share the conviction that there is no sense in saying that the world of ideas of bourgeois liberalism is “superior” in any relevant sense to the world of ideas of the middle ages, or the world of ideas of socialism to that of bourgeois liberalism. Actually, I further believe that there is no reason other than personal preference for saying that more wisdom or knowledge goes into our policies than went into those of the Tudors or Stuarts or, for that matter, into Charlemagne’s.

## III

So soon as we have realized the possibility of ideological bias, it is not difficult to locate it. All we have to do for this purpose is to scrutinize scientific procedure. It starts from the perception of a set of related phenomena which we wish to analyze and ends up—for the time being—with a scientific model in which these phenomena are conceptualized and the relations between them explicitly formulated, either as assumptions or as propositions (theorems). This primitive way of putting it may not satisfy the logician but it is all we need for our hunt for ideological bias. Two things should be observed.

First, that perception of a set of related phenomena is a prescientific act. It must be performed in order to give to our minds something to do scientific work on—to indicate an object of research—but it is not scientific in itself. But though prescientific, it is not preanalytic. It does not simply consist in perceiving facts by one or more of our senses. These facts must be recognized as having some meaning or relevance that justifies our interest in them and they must be recognized as related—so that we might separate them from others—which involves some analytic work by our fancy or common sense. This mixture of perceptions and prescientific analysis we shall call the research worker's Vision or Intuition. In practice, of course, we hardly ever start from scratch so that the prescientific act of vision is not entirely our own. We start from the work of our predecessors or contemporaries or else from the ideas that float around us in the public mind. In this case our vision will also contain at least some of the results of previous scientific analysis. However, this compound is still given to us and exists before we start scientific work ourselves.

Second, if I have identified with "model building" the scientific analysis that operates upon the material proffered by the vision, I must add at once that I intend to give the term "model" a very wide meaning. The explicit economic model of our own day and its analoga in other sciences are of course the product of late stages of scientific endeavor. Essentially, however, they do not do anything that is not present in the earliest forms of analytic endeavor which may therefore also be said to have issued, with every individual worker, in primitive, fragmentary, and inefficient models. This work consists in picking out certain facts rather than others, in pinning them down by labeling them, in accumulating further facts in order not only to supplement but in part also to replace those originally fastened upon, in formulating and improving the relations perceived—briefly, in "factual" and "theoretical" research that go on in an endless chain of give and take, the facts suggesting new analytic instruments (theories) and these in turn carrying us toward the recognition of new facts. This is as

true when the object of our interest is an historical report as it is when the object of our interest is to "rationalize" the Schrödinger equation though in any particular instance the task of fact finding or the task of analyzing may so dominate the other as to almost remove it from sight. Schoolmasters may try to make this clearer to their pupils by talking about induction and deduction and even set the one against the other, creating spurious problems thereby. The essential thing, however we may choose to interpret it, is the "endless give and take" between the clear concept and the cogent conclusion on the one hand, and the new fact and the handling of its variability on the other.

Now, so soon as we have performed the miracle of knowing what we cannot know, namely the existence of the ideological bias in ourselves and others, we can trace it to a simple source. This source is in the initial vision of the phenomena we propose to subject to scientific treatment. For this treatment itself is under objective control in the sense that it is always possible to establish whether a given statement, in reference to a given state of knowledge, is provable, refutable, or neither. Of course this does not exclude honest error or dishonest faking. It does not exclude delusions of a wide variety of types. But it does permit the exclusion of that particular kind of delusion which we call ideology because the test involved is indifferent to any ideology. The original vision, on the other hand, is under no such control. There, the elements that will meet the tests of analysis are, by definition, undistinguishable from those that will not or—as we may also put it since we admit that ideologies *may* contain provable truth up to 100 per cent—the original vision *is* ideology by nature and may contain any amount of delusions traceable to a man's social location, to the manner in which he wants to see himself or his class or group and the opponents of his own class or group. This should be extended even to peculiarities of his outlook that are related to his personal tastes and conditions and have no group connotation—there is even an ideology of the mathematical mind as well as an ideology of the mind that is allergic to mathematics.

It may be useful to reformulate our problem before we discuss examples. Since the source of ideology is our pre- and extrascientific vision of the economic process and of what is—causally or teleologically—important in it and since normally this vision is then subjected to scientific treatment, it is being either verified or destroyed by analysis and in either case should vanish *qua* ideology. How far, then, does it fail to disappear as it should? How far does it hold its own in the face of accumulating adverse evidence? And how far does it vitiate our analytic procedure itself so that, in the result, we are still left with knowledge that is impaired by it?

From the outset it is clear that there is a vast expanse of ground on which there should be as little danger of ideological vitiation as there is in physics. A time series of gross investment in manufacturing industry may be good or bad, but whether it is the one or the other is, normally, open to anyone to find out. The Walrasian system *as it stands* may or may not admit of a unique set of solutions but whether it does or not is a matter of exact proof that every qualified person can repeat. Questions like these may not be the most fascinating or practically most urgent ones but they constitute the bulk of what is specifically scientific in our work. And they are in logic although not always in fact neutral to ideology. Moreover, their sphere widens as our understanding of analytic work improves. Time was when economists thought that they were gaining or losing a point for labor if they fought for the labor-quantity and against the marginal-utility theory of value. It can be shown that, so far as ideologically relevant issues are concerned, this makes as little difference as did the replacement of the latter by the indifference-curve approach or the replacement of the indifference curves by a simple consistency postulate (Samuelson). I dare say that there are still some who find something incongruous to their vision in marginal-productivity analysis. Yet it can be shown that the latter's purely formal apparatus is compatible with any vision of economic reality that anyone ever had.<sup>4</sup>

#### IV

Let us now look for ideological elements in three of the most influential structures of economic thought, the works of Adam Smith, of Marx, and of Keynes.

In Adam Smith's case the interesting thing is not indeed the absence but the harmlessness of ideological bias. I am not referring to his time- and country-bound practical wisdom about *laissez-faire*, free trade, colonies and the like for—it cannot be repeated too often—a man's political preferences and recommendations as such are entirely beyond the range of my remarks or rather they enter this range only so far as the factual and theoretical analysis does that is presented in support of them. I am exclusively referring to this analytical work

<sup>4</sup>The contrary opinion that is sometimes met with is to be attributed to the simplified versions of the marginal-productivity theory that survive in textbooks and do not take into account all the restrictions to which production functions are subject in real life, especially if they are production functions of going concerns for which a number of technological data are, for the time being, unalterably fixed—just as in elementary mechanics no account is taken of the complications that arise so soon as we drop the simplifying assumption that the masses of bodies are concentrated in a single point. But a marginal-productivity theory that does take account of restrictions which, even in pure competition, prevent factors from being paid according to their marginal productivities is still marginal-productivity theory.

itself—only to his indicatives, not to his imperatives. This being understood, the first question that arises is what kind of ideology we are to attribute to him. Proceeding on the Marxist principle we shall look to his social location, that is, to his personal and ancestral class affiliations and in addition to the class connotation of the influences that may have formed or may have helped to form what we have called his vision. He was a *homo academicus* who became a civil servant. His people were more or less of a similar type: his family, not penniless but neither wealthy, kept up some standard of education and fell in with a well-known group in the Scotland of his day. Above all it did *not* belong to the business class. His general outlook on things social and economic reproduced these data to perfection. He beheld the economic process of his time with a cold critical eye and instinctively looked for mechanical rather than personal factors of explanation—such as division of labor. His attitude to the land-owning and to the capitalist classes was the attitude of the observer from outside and he made it pretty clear that he considered the landlord (the “slothful” landlord who reaps where he has not sown) as an unnecessary, and the capitalist (who hires “industrious people” and provides them with subsistence, raw materials, and tools) as a necessary evil. The latter necessity was rooted in the virtue of parsimony, eulogy of which evidently came from the bottom of his Scottish soul. Apart from this, his sympathies went wholly to the laborer who “clothes everybody and himself goes in rags.” Add to this the disgust he felt—like all the people in his group—at the inefficiency of the English bureaucracy and at the corruption of the politicians and you have practically all of his ideological vision. While I cannot stay to show how much this explains of the picture he drew, I must emphasize that the other component of this vision, the natural-law philosophy that he imbibed in his formative years, the product of similarly conditioned men, influenced the ideological background from which he wrote in a similar manner—natural freedom of action, the workman’s natural right to the whole product of industry, individualistic rationalism and so on, all this was taught to him ere his critical faculties were developed but there was hardly need to teach him these things for they came “naturally” to him in the air he breathed. But—and this is the really interesting point—all this ideology, however strongly held, really did not much harm to his scientific achievement. Unless we go to him for economic sociology,<sup>5</sup> we receive from him sound factual and analytic teaching that no doubt carries date but is not open to objection on the score of ideological bias. There is some semiphilosophical foliage of

<sup>5</sup> Even there, so I have been reminded by Professor E. Hamilton, there is perhaps more to praise than there is to blame.

an ideological nature but it can be removed without injury to his scientific argument. The analysis that supports his qualified free-trade conclusions is not—as it was with some contemporaneous philosophers, such as Morellet—based upon the proposition that by nature a man is free to buy or to sell where he pleases. The statement that the (whole) produce is the natural compensation of labor occurs, but no analytic use is made of it—everywhere the ideology spends itself in phraseology and for the rest recedes before scientific research. In part at least, this was the merit of the man: he was nothing if not responsible; and his sober and perhaps somewhat dry common sense gave him respect for facts and logic. In part it was good fortune: it matters little if his analysis has to be given up as the *psychology* it was meant to be if at the same time it must be retained as a *logical* schema of economic behavior—on closer acquaintance, the *homo economicus* (so far as Adam Smith, the author of the *Moral Sentiments*, can in fact be credited or debited with this conception at all) turns out to be a very harmless man of straw.

Marx was the economist who discovered ideology for us and who understood its nature. Fifty years before Freud, this was a performance of the first order. But, strange to relate, he was entirely blind to its dangers so far as he himself was concerned. Only other people, the bourgeois economists and the utopian socialists, were victims of ideology. At the same time, the ideological character of his premises and the ideological bias of his argument are everywhere obvious. Even some of his followers (Mehring, for instance) recognized this. And it is not difficult to describe his ideology. He was a bourgeois radical who had broken away from bourgeois radicalism. He was formed by German philosophy and did not feel himself to be a professional economist until the end of the 1840's. But by that time, that is to say, *before* his serious analytic work had begun, his vision of the capitalist process had become set and his scientific work was to implement, not to correct it. It was not original with him. It pervaded the radical circles of Paris and may be traced back to a number of 18th century writers, such as Linguet.<sup>6</sup> History conceived as the struggle between classes that are defined as *haves* and *havenots*, with exploitation of the one by the other, ever increasing wealth among ever fewer *haves* and ever increasing misery and degradation among the *havenots*, moving with inexorable necessity toward spectacular explosion, this was the vision then conceived with passionate energy and to be worked up, like a raw material is being worked up, by means of the scientific tools of his time. This vision implies a number of statements that will

<sup>6</sup>See especially S. N. H. Linguet, *La théorie des Lois Civiles* (1767), and Marx's comments on him in Volume I, pp. 77 *et seq.* of the *Theorien über den Mehrwert*.

not stand the test of analytic controls. And, in fact, as his analytic work matured, Marx not only elaborated many pieces of scientific analysis that were neutral to that vision but also some that did not agree with it well—for instance, he got over the kind of underconsumption and the kind of overproduction theories of crises which he seems to have accepted at first and traces of which—to puzzle interpreters—remained in his writings throughout. Other results of his analysis he introduced by means of the device of retaining the original—ideological—statement as an “absolute” (*i.e.*, abstract) law while admitting the existence of counteracting forces which accounted for deviating phenomena in real life. Some parts of the vision, finally, took refuge in vituperative phraseology that does not affect the scientific elements in an argument. For instance, whether right or wrong, his exploitation theory of “surplus” value was a genuine piece of theoretical analysis. But all the glowing phrases about exploitation could have been attached just as well to other theories, Böhm-Bawerk’s among them: imagine Böhm-Bawerk in Marx’s skin, what could have been easier for him than to pour out the vials of his wrath on the infernal practice of robbing labor by means of deducting from its product a time discount?

But some elements of his original vision—in particular the increasing misery of the masses which was what was to goad them into the final revolution—that were untenable were at the same time indispensable for him. They were too closely linked to the innermost meaning of his message, too deeply rooted in the very meaning of his life, to be ever discarded. Moreover, they were what appealed to followers and what called forth their fervent allegiance. It was they which explain the organizing effect—the party-creating effect—of what without them would have been stale and lifeless. And so we behold in this case the victory of ideology over analysis: all the consequences of a vision that turns into a social creed and thereby renders analysis sterile.

Keynes’ vision—the source of all that has been and is more or less definitely identified as Keynesianism—appeared first in a few thoughtful paragraphs in the introduction to the *Consequences of the Peace* (1920). These paragraphs created *modern* stagnationism—stagnationist moods had been voiced, at intervals, by many economists before, from *Britannia Languens* on (1680)—and indicate its essential features, the features of mature and arteriosclerotic capitalist society that tries to save more than its declining opportunities for investment can absorb. This vision never vanished again—we get another glimpse of it in the tract on *Monetary Reform* and elsewhere but, other problems absorbing Keynes’ attention during the 1920’s, it was not implemented analytically until much later. D. H. Robertson in his *Banking Policy*

and the *Price Level* presented some work that amounted to partial implementation of the idea of abortive saving. But with Keynes this idea remained a side issue even in the *Treatise on Money*. Perhaps it was the shock imparted by the world crisis which definitely broke the bonds that prevented him from fully verbalizing himself. Certainly it was the shock imparted by the world crisis which created the public for a message of this kind.

Again it was the ideology—the vision of decaying capitalism that located (*saw*) the cause of the decay in one out of a large number of features of latter-day society—which appealed and won the day, and not the analytic implementation by the book of 1936 which, by itself and without the protection it found in the wide appeal of the ideology, would have suffered much more from the criticisms that were directed against it almost at once. Still, the conceptual apparatus was the work not only of a brilliant but also of a mature mind—of a Marshallian who was one of the three men who had shared the sage's mantle between them. Throughout the 1920's Keynes was and felt himself to be a Marshallian and even though he later on renounced his allegiance dramatically, he never deviated from the Marshallian line more than was strictly necessary in order to make his point. He continued to be what he had become by 1914, a master of the theorist's craft, and he was thus able to provide his vision with an armour that prevented many of his followers from seeing the ideological element at all. Of course this now expedites the absorption of Keynes' contribution into the current stream of analytic work. There are no really new principles to absorb. The ideology of underemployment equilibrium and of non-spending—which is a better term to use than saving—is readily seen to be embodied in a few restrictive assumptions that emphasize certain (real or supposed) facts. With these everyone can deal as he thinks fit and for the rest he can continue his way. This reduces Keynesian controversies to the level of technical science. Lacking institutional support, the "creed" has petered out with the situation that had made it convincing. Even the most stalwart McCullochs of our day are bound to drift into one of those positions of which it is hard to say whether they involve renunciation, reinterpretation, or misunderstanding of the original message.

## V

Our examples might suggest that analytically uncontrolled ideas play their role exclusively in the realm of those broad conceptions of the economic process as a whole that constitute the background from which analytic effort sets out and of which we never succeed in fully mastering more than segments. This is of course true to some extent—

the bulk of our research work deals with particulars that give less scope to mere vision and are more strictly controlled by objective tests—but not wholly so. Take, for instance, the theory of saving which does appear in a wider context in the Keynesian system but might also, factually and theoretically, be treated by itself. From the time of Turgot and Smith—in fact from still earlier times—to the time of Keynes all the major propositions about its nature and effects have, by slow accretion, been assembled so that, in the light of the richer supply of facts we command today, there should be little room left for difference of opinion. It should be easy to draw up a summarizing (though perhaps not very exciting) analysis that the large majority of professional economists might accept as a matter of course. But there is, and always has been, eulogistic or vituperative preaching on the subject that, assisted by terminological tricks such as the confusion between saving and nonspending, has succeeded in producing a sham antagonism between the writers on the subject. Much emphasized differences in doctrine for which there is no factual or analytical basis always indicate, though in themselves they do not prove, the presence of ideological bias on one side or on both—which in this case hails from two different attitudes to the bourgeois scheme of life.

Another instance of sectional ideology of this kind is afforded by the attitude of many, if not most economists, toward anything in any way connected with monopoly (oligopoly) and cooperative price setting (collusion). This attitude has not changed since Aristotle and Molina although it has acquired a partially new meaning under the conditions of modern industry. Now as then, a majority of economists would subscribe to Molina's dictum: *monopolium est injustum et rei publicae injuriosum*. But it is not this value judgment which is relevant to my argument—one may dislike modern largest-scale business exactly as one may dislike many other features of modern civilization—but the analysis that leads up to it and the ideological influence that this analysis displays. Anyone who has read Marshall's *Principles*, still more anyone who has also read his *Industry and Trade*, should know that among the innumerable patterns that are covered by those terms there are many of which benefit and not injury to economic efficiency and the consumers' interest ought to be predicated. More modern analysis permits to show still more clearly that no sweeping or unqualified statement can be true for all of them; and that the mere facts of size, single-sellership, discrimination, and cooperative price setting are in themselves inadequate for asserting that the resulting performance is, in any relevant sense of the word, inferior to the one which could be expected under pure competition in conditions attainable under pure competition—in other words, that economic

analysis offers no material in support of *indiscriminate* "trust busting" and that such material must be looked for in the particular circumstances of each individual case. Nevertheless, many economists support such *indiscriminate* "trust busting" and the interesting point is that enthusiastic sponsors of the private-enterprise system are particularly prominent among them. Theirs is the ideology of a capitalist economy that would fill its social functions admirably by virtue of the magic wand of pure competition were it not for the monster of monopoly or oligopoly that casts a shadow on an otherwise bright scene. No argument avails about the performance of largest-scale business, about the inevitability of its emergence, about the social costs involved in destroying existing structures, about the futility of the hallowed ideal of pure competition—or in fact ever elicits any response other than most obviously sincere indignation.

Even as thus extended, our examples, while illustrating well enough what ideology is, are quite inadequate to give us an idea of the range of its influence. The influence shows nowhere more strongly than in economic history which displays the traces of ideological premises so clearly, precisely because they are rarely formulated in so many words, hence rarely challenged—the subject of the role that is to be attributed in economic development to the initiative of governments, policies, and politics affords an excellent instance: groupwise, economic historians have systematically over- or understated the importance of this initiative in a manner that points unequivocally to prescientific convictions. Even statistical inference loses the objectivity that should in good logic characterize it whenever ideologically relevant issues are at stake.<sup>7</sup> And some of the sociological, psychological, anthropological, biological waters that wash our shores are so vitiated by ideological bias that, beholding the state of things in parts of those fields, the economist might sometimes derive solace from comparison. Had we time, we could everywhere observe the same phenomenon: that ideologies crystallize, that they become creeds which for the time being are impervious to argument; that they find defenders whose very souls go into the fight for them.

There is little comfort in postulating, as has been done sometimes, the existence of detached minds that are immune to ideological bias and *ex hypothesi* able to overcome it. Such minds may actually exist

<sup>7</sup>I am not aware of any instances in which the rules of inference themselves have been ideologically distorted. All the more frequent are instances in which the rigor of tests is relaxed or tightened according to the ideological appeal of the proposition under discussion. Since acceptance or rejection of a given statistical result always involves some risk of being wrong, mere variation in willingness to incur such a risk will suffice, even apart from other reasons, to produce that well-known situation in which two statistical economists draw opposite inferences from the same figures.

and it is in fact easy to see that certain social groups are further removed than are others from those ranges of social life in which ideologies acquire additional vigor in economic or political conflict. But though they may be relatively free from the ideologies of the practitioners, they develop not less distorting ideologies of their own. There is more comfort in the observation that no economic ideology lasts forever and that, with a likelihood that approximates certainty, we eventually grow out of each. This follows not only from the fact that social patterns change and that hence every economic ideology is bound to wither but also from the relation that ideology bears to that prescientific cognitive act which we have called vision. Since this act induces fact finding and analysis and since these tend to destroy whatever will not stand their tests, no economic ideology could survive indefinitely even in a stationary social world. As time wears on and these tests are being perfected, they do their work more quickly and more effectively. But this still leaves us with the result that some ideology will always be with us and so, I feel convinced, it will.

But this is no misfortune. It is pertinent to remember another aspect of the relation between ideology and vision. That prescientific cognitive act which is the source of our ideologies is also the prerequisite of our scientific work. No new departure in any science is possible without it. Through it we acquire new material for our scientific endeavors and something to formulate, to defend, to attack. Our stock of facts and tools grows and rejuvenates itself in the process. And so—though we proceed slowly because of our ideologies, we might not proceed at all without them.