

## Mises on Economics, Epistemology, and Popper

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This “essay” consists of commentary on a series of selective and edited quotes from Mises’s *Human Action* and his *The Ultimate Foundation of Economic Science*. They pertain to the relationship between economic science, as defined by Mises, epistemology, and logical positivism, as espoused by Karl Popper. The quotes show that Mises treated Popper like the other epistemologists. He wrote that Popper’s deficiency consists of his failure to take account of the new science of economics. Because of this omission, Popper could not broaden his definition of science, he could not appreciate how the methods of economics differ from those of the natural sciences, and he could not broaden his conception of epistemology.

To understand this critique of Popper, one must first understand the new science of economics that Mises gleaned from the ideology of the classical economists and the subsequent contributions of the subjective value theorists. With this in mind, I begin in Part One by showing how Mises described and presented this new science. Part Two turns to the critique of Popper.

### 1. THE SCIENCE OF ECONOMICS

The first step in presenting the new science described by Mises is to understand what he meant by this science. In this part I tell the ideological source of this new science and broadly describe how

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Mises converted this ideology into a science. In the process, I show how Mises clarified the definition of science.

### **The Founding and Development of the New Science**

Mises begins his introduction to the treatise by writing about the philosophy of science that existed at the time when the classical economists made their discoveries.

Economics is the youngest of all sciences...[E]conomics opened to human science a domain previously inaccessible and never thought of...It conveyed knowledge which could be regarded neither as logic, mathematics, psychology, physics, nor biology...(ibid.: 1).

#### *The New Knowledge*

Of what did this new knowledge consist? It begins with the division of labor law. To find this out, the reader must page ahead. Mises writes:

The fundamental social phenomenon is the division of labor and its counterpart human cooperation.

Experience teaches man that cooperative action is more efficient and productive than isolated action of self-sufficient individuals. The natural conditions determining man's life and effort are such that the division of labor increases output per unit of labor expended (ibid.: 157-8).

A division of labor occurs after individuals decide to exchange and specialize.

The fundamental facts that brought about cooperation, society, and civilization and transformed the animal man into a human being are the facts that work performed under the division of labor is more productive than isolated work and that man's reason is capable of recognizing this truth. But for these facts men would have forever remained deadly foes of one another, irreconcilable rivals in their endeavors to secure a portion of the scarce supply of means of sustenance provided by nature (ibid.: 144).

When such cooperation occurs step-by-step, in a private property system, through exchange and specialization, the result is *capitalism*, or the *free market*.

The recurrence of individual acts of exchange generates the market step by step with the evolution of the division of labor within a society based on private property. As it becomes a rule to produce for other people's consumption, the members of society must sell and buy (ibid.: 328).

Thus, the new knowledge is knowledge of the *division of labor law*. The division of labor occurs in conjunction with the emergence of private property rights.

#### *Rejection of the New Knowledge by Philosophers*

His next statements in the introduction refer to how philosophers rejected the new science because they could not accept the fact that economists had discovered a regularity in market phenomena due to the incentives provided by individuals' recognition of the higher physical productivity of the division of labor.

Philosophers...could not satisfactorily answer the question regarding what factors compelled the various acting individuals to behave in such a way that the goal aimed at by the whole's inexorable evolution was attained.<sup>1</sup> [P]hilosophers...all were fully convinced that there was in the course of social events no such regularity and invariance of phenomena as had already been found in the operation of human reasoning and in the sequence of natural phenomena. They did not search for the laws of social cooperation because they thought that man could organize society as he pleased (*ibid.*: 2).

The first sentence in this quote seems poetic. What he means is that the division of labor law has been a driving force of human evolution and the history of human interaction. The philosophers did not realize this. His reference to “regularity in the course of social events” refers to the regularity in market phenomena under the conditions of capitalism as it is expressed in the division of labor law.

The philosophers had already accepted that human reasoning is universal and that “laws” can be identified to help describe regularity in the *phenomena of the natural sciences*. They were uninterested, however, in the possibility that there may be comparable regularity and laws that lead to human cooperation. On the one hand, they did not realize that the division of labor law could help explain the step-by-step evolution of human organization. On the other hand, thinking that humankind could succeed in central planning, they disregarded the new knowledge of the division of labor law as irrelevant to policy making. As a result, they readily accepted the central planning implications of the socialist and interventionists ideologies.

He goes on.

The discovery of the inescapable interdependence of market phenomena overthrew this opinion. Bewildered, people had to face a new view of society. They learned with stupefaction that there is another aspect from which human action might be viewed than that of good and bad, of fair and unfair, of just and unjust. In the course of social events there prevails a regularity of phenomena to which man must adjust his actions if he wishes to succeed...One must study the laws of human action and social cooperation as the physicist studies the laws of nature. Human action and social cooperation seen as the object of a science of given relations, no longer as a normative discipline of things that ought to be – this was a revolution of tremendous consequences for knowledge and philosophy as well as for social action (*ibid.*: 2).

The revolution of which he writes did not occur, at least in the field of philosophy. If the philosophers of the period had carefully studied the division of labor law, they would have had to revise their conception of knowledge. But they did not.

### *Regularities in Market Phenomena*

Mises identifies three of regularities that were discovered by the early business writers. The first relates to a system of commodity money like gold coins. Assume that sellers of goods assign the same purchasing power to coins with the same face value even though they contain different percentages of metal content. A hat seller, for example, may accept a one-dollar gold coin that contains 99 per cent gold and also a one-dollar gold coin of the same size that contains only 90 per cent gold. In cases of this sort, the early business writers observed that the higher gold-content coins were withdrawn from circulation, melted down and used to produce coins that contain 90 per cent

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<sup>1</sup>The reader who wonders what he means by this statement should consult his discussion of the Darwinian concept of natural selection (Mises 1962: 14-5).

gold. The writers concluded from this that “Bad money drives out the good.” This is called “Gresham’s law,” named for a writer in the sixteenth century. See Mises’s discussion in his treatise *Human Action* (1966 – HA: 760). The second regularity is the relationship between the money supply and the purchasing power of money. People observed that if the quantity of money increases, the purchasing power of the money tends to fall. The third regularity is the relationship between the amount of a particular good supplied and its price (HA: 231).

### *Further Development of the Science*

Mises goes on to comment on the subsequent history of this new science.

The transformation of thought which the classical economists had initiated was brought to its consummation only by modern subjectivist economics, which converted the theory of market prices into a general theory of human choice... Out of the political economy of the classical school emerges the general theory of human action, praxeology. The economic or catallactic problems are embedded in a more general science, and can no longer be severed from this connection. No treatment of economic problems proper can avoid starting from acts of choice; economics becomes a part, although the hitherto best elaborated part, of a more universal science, praxeology (*ibid.*: 3).

In this passage, Mises points out that the new science was not stagnant. The “modern subjectivist economists” recognized that the economics of the classical economists was the theory of action in general applied to the specific conditions of capitalism. In making this recognition they conceived, at least vaguely, of the notion that economics is a branch of praxeology.

Mises’s reference to economic problems most likely denotes policy questions, such as whether to impose a price control or to intervene in the supply of money. To answer such questions, the economist who follows the lead of the modern subjectivists must first study praxeology – the theory of action as a category or action in general. This is because praxeology is the foundation for economics.<sup>2</sup>

### *Battling the Ignorance of Economic Science*

The past rejection of economics is of critical importance in helping to decide the goal that today’s praxeological-based economists should pursue in order to promote the application of the new knowledge. Some leaders of government had actually followed policies that were recommended by the classical economists. Others did not. The economists who observed the consequences saw that the new science contributed to the material progress of Western civilization. Thus Mises writes that what “is commonly called the ‘industrial revolution’ was an offspring of the ideological revolution brought about by the doctrines of the economists” (*ibid.*: 8). If, now, people are not wise enough to recognize the new knowledge – if they reject economic thinking – civilization must perish. Thus he writes:

It must be emphasized that the destiny of modern civilization as developed by the white peoples in the last two hundred years is inseparably linked with the fate of economic science. This civilization was able to spring into existence because the peoples were dominated by ideas which were the application of the teachings of economics to the problems of economic policy. It will and must perish if the nations continue to pursue the course which they entered upon under the spell of doctrines rejecting economic thinking (*ibid.*: 10).

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<sup>2</sup>Since an image of pure capitalism is also needed to do economic history, his reference to “problems” may include the task of interpreting historical events.

When he writes that the civilization must perish, he is referring to his assessment that the World Wars were caused by public opinion, which was promoted by opinion leaders who were largely under the influence of misguided intellectuals (see my essay on the [ideology of the common man](#)). These attitudes about government policy favored nationalism and isolationism and they opposed capitalism, free international trade and immigration. This view is most cogently expressed in his 1944 book *Omnipotent Government*.

To combat the spread of such views, the economist must do battle on the intellectual front.

It...devolves upon economics to deal thoroughly with the assertion that its teachings are valid only for the capitalistic system of the shortlived and already vanished liberal period of Western civilization. It is incumbent upon no branch of learning other than economics to examine all the objections raised from various points of view against the usefulness of the statements of economic theory for the elucidation of the problems of human action. The system of economic thought must be built up in such a way that it is proof against any criticism on the part of irrationalism, historicism, panphysicalism, behaviorism, and all varieties of polylogism. It is an intolerable state of affairs that while new arguments are daily advanced to demonstrate the absurdity and futility of the endeavors of economics, the economists pretend to ignore all this (*ibid.*: 7).

### **From Ideology to Science**

When Mises refers to the classical economists, he has in mind an ideology about the role of government that he called liberalism (Mises 1927). The classical economists discovered the higher physical productivity of the division of labor and the “laws of social cooperation.” But they espoused liberal economic policies as an ideology. They presented their ideas as judgments about what economic policies should be. Mises discovered a means of avoiding making value judgments while still dealing with economic policies (Mises 1940: 98, italics added). It is to employ the economic theorems to evaluate specific policy arguments. A proponent of an intervention describes the end, or ends, that she expects a market intervention to achieve. Then the economist applies the theorems of economics to evaluate the argument on the basis of whether it can achieve that end, or ends. Thus, the economic scientist does not recommend policy; he evaluates the policy recommendations of others using the economic theorems that were identified by the classical economists, refined by the subjective value theorists, and further refined by Mises himself.<sup>3</sup>

### **Mises as the Inventor of Praxeology**

The subjective value theorists ([individualist economists](#)) did not invent praxeology. They advanced economics by referring to the choices that help to cause interaction in the material and social world it – i.e., by referring to the ends and perceived means of individuals. But they did not develop praxeology. Praxeology is concerned with “what is necessary and universal” in performing actions (*ibid.*: 44). The method used to do praxeology is “bethinking and reflecting” (*ibid.*: 64). One begins with the prerequisites of action (*ibid.*: 13-14). Next, he develops other concepts and theorems that show further conditions “required by any action” (*ibid.*: 44). Mises actually does this in chapters 4, 5, and 6 of the treatise. However, he does not announce that he is doing it. So it may easily escape the attention of the casual reader.

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<sup>3</sup>See the section “How Mises Achieved Value Freedom” in my essay [“Mises on Value Freedom in Economics and the Practical Significance of Democracy.”](#)

### **Praxeology and Economics Vs. The Natural Sciences**

For obvious reasons, Mises regards it as important to distinguish praxeology and economics from the natural sciences. In doing so, he places the priority on praxeology. In deriving the prerequisites and further conditions required for acting, the praxeologist is able to identify the logical structure of the human mind, or human reason. He is able to do this because “[a]ction and reason are congeneric and homogeneous; they may even be called two different aspects of the same thing” (*ibid.*: 39). What this means is that as the growing child learns to act – to apply means to attain ends – she also learns to reason about cause and effect.

Such reasoning is the means through which all actors, including the natural scientists, comprehend reality. Mises relates these ideas to the concepts of *causality* and *teleology*. He writes that

[t]here are for man only two principles available for a mental grasp of reality, namely, those of [causality and teleology]. What cannot be brought under either of these categories is absolutely hidden to the human mind...Change can be conceived as the outcome either of the operation of mechanistic causality or of purposeful behavior; for the human mind there is no third way available (*ibid.*: 25).<sup>4</sup>

Causality here refers to the conception of events in terms of mechanistic causality. It is employed to conceive and interpret the events that form the subject matter of the natural sciences; teleology refers to the conception of events in terms of purposeful behavior. It is employed to conceive and interpret the events that form the subject matter of the sciences of human action: history, praxeology and its branches, including economics.

### **Complexity**

As a student of market interaction, the economist must adopt a particular method that is different from the experimental and observational methods of the natural sciences. Mises calls this the method of imaginary constructions (*ibid.*: 236). To explain why this method is necessary, Mises uses the concept of “complexity.” He says that the market phenomena that we observe in studying history – the prices, quantities, characters of goods, terms of sale, etc. – are *complex*. This means that they are caused by the choices of numerous, separate individuals. The price of each consumer good and factor of production is set by a single producer-seller of a good. However, the producer-seller’s decision is based on the producer’s expectations about the actions that others will take in the future. The producer tries to project the prices that buyers will be willing to pay. And she tries to project the prices that will be charged in the future for the factors of production needed to produce and sell her product.

The projections made by each producer-seller in market interaction take account of the perceived market phenomena that have resulted from the choices made by prospective buyers of their products and prospective suppliers of factors of production in the past. In light of this, the economist notes that numerous, perhaps uncountable, individuals *contribute* to the final configuration of market phenomena. More broadly, the market phenomena studied by the economist are the joint outcome

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<sup>4</sup>I have transposed the terms causality and teleology in the first sentence of this quote in order to make it conform in structure with the third sentence.

of contributions of these numerous, perhaps uncountable, individuals. Complexity of market phenomena implies numerous *contributory choices*.

### *Complexity and Individual Choice*

There is a sense in which the phenomena studied by the natural scientist are also complex. One can say that because a phenomenon would not be sensed if it did not exist, and because there are numerous and uncountable phenomena, the phenomena of the natural sciences are also complex. The difference, of course, is that the phenomena studied by the natural scientist cannot choose and act. The actors in market interaction are in a position to choose. In choosing, each can take account of the fact that the others can choose. As a result, an actor bases her decision partly on knowledge that is not relevant to the natural scientist. From this point of view, it is not complexity that distinguishes the sciences of human action from the natural sciences; it is the fact that the phenomena of the sciences of human action have the capacity to choose and that it is reasonable to assume that they exercise this capacity.<sup>5</sup>

### *Study of Historical Phenomena in the Natural Sciences and Human Affairs*

Mises refers to this difference when he distinguishes the methods of studying the phenomena of the sciences of human action from the methods of studying the phenomena of the natural sciences. He writes:

Complex phenomena in the production of which various causal chains are interlaced cannot test any theory. Such phenomena, on the contrary, become intelligible only through an interpretation in terms of theories previously developed from other sources. In the case of natural phenomena the interpretation of an event must not be at variance with the theories satisfactorily verified by experiments. In the case of historical events there is no such restriction. Commentators would be free to resort to quite arbitrary explanations. Where there is something to explain, the human mind has never been at a loss to invent ad hoc some imaginary theories, lacking any logical justification (*ibid.*: 31-2).

While explanations of historical events can be arbitrary, the proper approach of history is to build theorems based on the defining assumption that the events are partly the consequence of the contributory choices of numerous, perhaps uncountable, individuals. Because of this, a prerequisite for doing history is praxeology. The method of building theorems in all branches of praxeology is the method of imaginary constructions. In economics, the method is dictated by fact that price difference for the same good tend to be eliminated net of transportation and transaction costs.

### **Method of Imaginary Constructions**

In using the phrase “method of imaginary constructions,” Mises has in mind the mental process of trying to conceive of the consequences of choices that contribute to a particular outcome. For example, Ricardo used the method to invent the *law of comparative advantage*. He conceived of a set of conditions under which, if they were present, individuals could benefit themselves by acting in a particular way. In the absence of those conditions, the individuals would act differently. Thus

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<sup>5</sup>In his treatise, Mises is not so careful to distinguish between the complexity of the phenomena of economics and the complexity of the phenomena of the natural sciences. In his 1962 book, however, he confines his use of the term “complex” to the phenomena of the former.

Ricardo built an imaginary construction of interaction under the conditions required to recognize and take advantage of gains from the higher physical productivity of the division of labor.

The classical economists and the subjective value theorists applied this law in an effort to explain the increase in standards of living that had occurred under capitalism. To do this, they built an imaginary construction of interaction under the conditions of the higher physical productivity of the division of labor, complete private property rights, completely free enterprise, and the absence of fraud. The plausibility of their explanations depends on whether the conditions they assumed were present in reality.

All economic theorems (laws) that are employed to help explain historical events and to evaluate government policy are of this nature. The economist cannot depict all of the actions and all of the conditions that are present in reality due to complexity. She must decide which historical phenomena she wants to explain and which arguments pertaining to market intervention she wants to evaluate. For example, the historian may propose that the increases in international standards of living that occurred during the 19th century were largely the consequence of expanding international trade in accord with the law of comparative advantage and expanding capitalism. To support this view, she builds a simplified image of international trade under the assumption that in each nation, there is higher physical productivity of the division of labor, a complete set of private property rights, completely free enterprise, an absence of fraud, and the freedom to trade internationally. Similarly, the economist evaluates the effects of a policy that imposes a price control in a particular market by assuming that complete private property rights, completely free enterprise, the use of money and an absence of fraud prevail in the markets for other goods (*ibid.*: 248).

How different is the method of imaginary constructions from the method of experiment and induction used in the natural sciences!

## 2. CRITIQUE OF POPPER

The most advanced form of positivism among philosophers of science today is based on the writings of Karl Popper about the method used in the natural sciences. Modern professional economists base their defense of economic positivism on Popper. Yet this form of positivism is no more relevant to the question of whether economics is a science than the form that preceded it.

Mises acknowledges that Popper made a useful contribution to the natural sciences. Popper showed that the data of experience can refute a theorem in the natural sciences, but also that it cannot confirm the theorem.<sup>6</sup> However, this contribution is not relevant to the theorems of economics.

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<sup>6</sup>Mises does not refer to Popper's work in his 1966 revision of the treatise. Since he was familiar with this work, one must assume that he did not regard his ideas as worth mentioning. Apparently, he changed his mind because he does refer to these ideas in UF. He introduces his discussion of Popper with the following statements.

In the natural sciences a theory can be maintained only if it is in agreement with experimentally established facts. This agreement was, up to a short time ago, considered as confirmation. Karl Popper, in 1935, in *Logik und Forschung* pointed out that facts cannot confirm a theory; they can only refute it. Hence a more correct formulation has to declare: A theory cannot be maintained if it is refuted by the data of experience. In this way experience restricts the scientist's discretion in constructing theories. A hypothesis has to be dropped when experiments show that it is incompatible with the established facts of experience

All economic theorems are *ceteris paribus* theorems. Consider the use of Ricardo's theorem of the higher physical productivity of the division of labor to explain an event in economic history. Observing a real capitalist economy, the historian reports that during some historical period when the sphere of capitalism was getting larger, the amounts of material consumer goods did not increase. The economist would not regard this as a refutation of the theorem. She would search for other circumstances that may have offset the expansion of opportunities to produce and consume material goods. Three classes of such circumstances come to mind. First, individuals may have made non-market choices for which her subsidiary assumptions did not account. Second, the conditions of capitalism that she assumed may not have depicted the real capitalism under which the choices were actually made. Third, there may have been changes in the individuals' capacities to make choices. Such changes may be due to unexpected changes in the natural environment.

The economist cannot design theorems to explain historical events in their totality. The events are too complex. They are the consequence of the choices of numerous individuals in a changing natural environment with a panoply of characteristics, a changing set of mores, changing property rights constraints, changing choices made outside markets and changing errors by choosers. Each individual has specific ends and means that probably differ from those of other individuals. Each may possess inventive character (See Part Five of my essay on [Mises's Method of Imaginary Constructions](#)). And each tries to take account of others whose choices she regards as relevant. Economic theorems are necessary but they are not sufficient to explain an historical event in its totality.

The same reasoning applies to the prediction of future events. In the natural sciences, the study of the material phenomena of the past helps scientists to predict the events of the future. The correctness of such predictions can be tested, according to the refutation method, by waiting for the future events to unfold. Thus, natural scientists can confidently predict the tides of an ocean and the location of a star. And they can test whether their predictions about the effects of a new vaccine on the behavior of mice is correct. In the case of historical events, the situation is different. Each event is too complex to enable the historian to disentangle, with relative certainty and specificity, the choices that influenced the events. People can make predictions using the methods of statistics or the method that Mises called historical understanding (HA 57). A positivist can then report whether the events predicted actually occur. But such observations can never refute an economic theorem because the goal of the economist in building a theorem has nothing to do with prediction. His goal is to evaluate an intervention argument.<sup>7</sup>

### Scourge of Positivism

The scourge of economic positivism is threefold. First, it fails to recognize the pragmatic nature of science. The positivists have not realized that the work of the natural scientists is called science

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UF: 69.

<sup>7</sup>Accordingly, Mises writes:

It is obvious that all this cannot refer in any way to the problems of the sciences of human action. There are in this orbit no such things as experimentally established facts (UF: 69).

because it has helped humankind attain material ends. Correspondingly, they have not realized that economics, too, provides knowledge that has the potential of helping humankind.<sup>8</sup>

Second, the positivists have drawn attention away from the unique phenomena of economics. In other words, they have neglected the fact that distinctly human beings make choices and that such choices have effects that can be observed and that have effects that help humankind attain material ends. Accordingly, knowledge of how this occurs is worthy of being called science.<sup>9</sup>

Third, the ideas expressed by positivists have been incorrectly used by students of history and statistics to make judgments about the knowledge provided by means of economic theorem building. Popper, of course, is not responsible for this. But his failure and that of other positivists to recognize that economics provides useful knowledge is a contributing factor.

Economic positivists, drawing on the writings of Popper, assert that a theorem in the sciences of human action, including economics, is “unscientific” because it cannot be refuted. It is true that an economic theorem cannot be refuted by experience or experimentation. But this fact is not relevant to the conclusion by the Misesian economist that economics provides useful knowledge that has the potential of helping individuals better achieve their material ends.<sup>10</sup>

What, then is one to make of the criticism of economics that its theorems cannot be refuted. The answer is that it does not matter. These theorems provide useful knowledge anyway.<sup>11</sup>

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<sup>8</sup>Thus, he writes:

The popular prestige that the natural sciences enjoy in our civilization is, of course, not founded upon the merely negative condition that their theorems have not been refuted. There is, apart from the outcome of laboratory experiments, the fact that the machines and all other implements constructed in accordance with the teachings of science run in the way anticipated on the ground of these teachings (UF: 70).

<sup>9</sup>Mises writes that the claim by philosophers of science that an economic theorem “in *principle*...cannot be refuted by experience” is “merely a verbal quibble...Praxeology and economics will retain their paramount significance for human life and action however people may classify and describe them” (UF: 70).

<sup>10</sup>Mises writes:

[W]hat is wrong with positivism is not what it teaches about the methods of the empirical natural sciences, but what it asserts about matters concerning which – up to now at least – the natural sciences have not succeeded in contributing any information. The positivistic principle of verifiability as rectified by Popper is unassailable as an epistemological principle of the natural sciences. But it is meaningless when applied to anything about which the natural sciences cannot supply any information (UF: 119-120).

<sup>11</sup>Mises writes that the claim by philosophers of science that an economic theorem “in *principle*...cannot be refuted by experience” is “merely a verbal quibble...Praxeology and economics will retain their paramount significance for human life and action however people may classify and describe them” (UF: 70).

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