To
Ludwig von Mises
(Man, Economy, and State)

AND TO

Libertarians of the Past,
who Blazed the Trail
and to
Libertarians of the Future,
who Shall Overcome
(Power and Market)

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Man, Economy, and State

A Treatise on Economic Principles

Contents

Power and Market

Introduction to the Second Edition of *Man, Economy, and State with Power and Market*

Murray Rothbard began work on this *magnum opus* on January 1, 1952.[1] On May 5, 1959 Rothbard wrote to his mentor, Ludwig von Mises, informing him, "È finito!"[2] The more than seven years that it took Rothbard to complete *Man, Economy, and State* elapsed during, what was up to that time, one of the most sterile and retrogressive decades in the history of scientific economics, dating back to the birth of the science in the systematic treatise of Richard Cantillon published in 1755.[3] In

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The Introduction draws substantially on the information and resources found in the Murray N. Rothbard Papers. The Rothbard Papers are currently held at the Ludwig von Mises Institute, Auburn, Alabama, and include, among other materials, Murray Rothbard's letters and correspondence (1940–1994), memos and unpublished essays (1945–1994), and drafts of published works.

[1]Rothbard to H. Cornuelle, June 28, 1952; Rothbard Papers.

[2]Rothbard to Mises, May 5, 1959; Rothbard Papers. In English, "It is finished."

[3]Richard Cantillon, *Essai sur la Nature du commerce en Général*, ed. and trans. Henry Higgs (New York: Augustus M. Kelley, 1964).

view of the progressive degeneration of economic thought throughout the 1950s, the eventual publication of Rothbard's treatise in 1962 was a milestone in the development of sound economic theory and an event that rescued the science from self-destruction.

The era of modern economics emerged with the publication of Carl Menger's seminal work, *Principles of Economics*, in 1871. In this slim book, Menger set forth the correct approach to theoretical research in economics and elaborated some of its immediate implications. In particular, Menger sought to identify the causal laws determining the prices that he observed being paid daily in actual markets.[4] His stated goal was to formulate a realistic price theory that would provide an integrated explanation of the formation of market phenomena valid for all times and places.[5] Menger's investigations led him to the discovery that all market prices, wage rates, rents, and interest rates could ultimately be traced back to the choices and actions of consumers striving to satisfy their most important wants by "economizing" scarce means or "economic goods." Thus, for Menger, all

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[4]Carl Menger, *Principles of Economics*, trans. James Dingwall and Bert E. Hoselitz (New York: New York University Press, 1981). Menger had worked as an economic journalist and market analyst for daily newspapers on and off for over a decade. For an overview of Menger's life and thought see Joseph T. Salerno, "Carl Menger: The Founding of the Austrian School," in Randall G. Holcombe, ed., *15 Great Austrian Economists* (Auburn, Ala.: Ludwig von Mises Institute, 1999), pp. 71–100 and the sources cited therein.

[5]Thus in his Preface to the book, Menger (*Principles*, p. 49) wrote,

> I have devoted special attention to the investigation of the *causal connections* between economic phenomena involving products and the corresponding agents of production . . . for the purpose of establishing a price theory *based upon reality* and placing all price phenomena (including interest, wages, ground rent, etc.) under one unified point of view. . . . (Emphasis added)

prices, rents, wage, and interest rates were the outcome of the value judgments of individual consumers who chose between concrete units of different goods according to their subjective values or "marginal utilities" to use the term coined by his student Friedrich Wieser. With this insight was born modern economics.

Menger's causal-realist approach to economic theorizing quickly began to attract outstanding followers both in Austria and, later, throughout Continental Europe and the Anglophone countries. What came to be called the "Austrian School" grew rapidly in prestige and numbers and by World War I theoretical research based on the causal-realist approach was considered the cutting edge of economic science. For various reasons, the school suffered an amazingly rapid decline, especially in Great Britain and the United States but also in Austria, after the war. By the 1920s, the causal-realist approach had been overshadowed by the partial equilibrium approach of Alfred Marshall in Great Britain, the U.S., and even parts of Continental Europe. Its star fell further with the importation of the mathematical general equilibrium approach of Léon Walras into the English-speaking world in the early 1930s. A little later Menger's approach was nearly buried by the Keynesian Revolution. Hence, by the advent of World War Two there ceased to be a self-conscious, institutionally-embedded network of economists actively engaged in teaching and research in the Mengerian tradition.[6]

After World War II, a new and stifling orthodoxy known as the "neoclassical synthesis" had descended upon economics, especially in the United States. This so-called "synthesis" was actually a hodgepodge of the three disparate approaches that

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[6]For the factors underlying the rise and decline of the early Austrian School, see Joseph T. Salerno, "The Place of Mises's *Human Action* in the Development of Modern Economic Thought," *Quarterly Journal of Austrian Economics* 2, no. 1 (Spring 1999): 35–65.

had overwhelmed the Mengerian causal-realist approach in the interwar period. It jumbled together the Marshallian and Walrasian approaches to price determination with Keynesian macroeconomics. The first two approaches focused narrowly on analyzing the determination of unreal, equilibrium prices either in single markets (partial equilibrium) or in all markets simultaneously (general equilibrium). Keynesian macroeconomics denied the efficacy of the price system altogether in coordinating the various sectors of an economy confronted with the "failure of aggregate demand." This latter condition was supposed to have caused the Great Depression and was further alleged by Keynes and his followers to be an endemic feature of the market economy. The neoclassical synthesis thus proclaimed that the price system worked efficiently to allocate scarce resources only if the government deftly employed fiscal and monetary policies to maintain a level of aggregate demand or total spending in the economy that was sufficient to absorb a full employment level of output.

This new orthodoxy also promoted hyper-specialization and a corresponding disintegration of economic science into a clutter of compartmentalized sub-disciplines. Even the theoretical core of economics was now split into "microeconomics" and "macroeconomics," which had seemingly very little connection to each another. Specialized journals proliferated and resulted in a radical change in the research culture, with a premium on the writing and reading of the latest journal articles. The few books that were published were technical monographs or dumbed-down textbooks; the era of the great systematic treatise on economic theory was at a close.[7]

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[7]Indeed, in the Preface to this treatise, Rothbard laments the demise of "the old-fashioned treatise on economic 'principles' " after World War One and the ensuing progressive disintegration of economics, including economic theory, into compartmentalized sub-disciplines. On the factors

Almost the sole holdout against this intellectual revolution was Ludwig von Mises. With the publication in 1940 of *Nationalökonomie*, the German-language forerunner of *Human Action*, Mises single-handedly recovered and greatly advanced the system of causal-realistic economic theory.[8] In particular, he integrated Mengerian value and price theory with his own earlier restatement of monetary theory. In addition, he provided a rigorous foundation for the entire system of economic theory in a broader science of human action that he himself had expounded in earlier works and now further elaborated. This science of human action he now dubbed, "praxeology." Unfortunately, Mises's great treatise was almost completely ignored by the postwar economics profession.[9] However, while it failed to inspire an immediate renewal of the Mengerian scientific movement, *Human Action* did lay the foundations for its later revival. This revival was to be ignited by the publication of *Man, Economy, and State* in 1962.[10]

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that exacerbated this fragmentation of economics after World War Two, see Joseph T. Salerno, "Economics: Vocation or Profession," Ludwig von Mises Institute Daily Article (November 17, 2004), available at http://mises.org/story/1676.

[8]Ludwig von Mises, *Human Action: A Treatise on Economics*, Scholar's Edition (Auburn, Ala.: Ludwig von Mises Institute, 1998).

[9]On the reasons for this, see Salerno "The Place of Mises's *Human Action*," pp. 59–761. The books that molded postwar economics were cut from a completely different cloth than Mises's treatise and dealt primarily with the formal techniques, rather than the substance, of economic theory. These included, especially: J.R. Hicks, *Value and Capital: An Inquiry into Some Fundamental Principles of Economics Theory*, 2nd ed. (New York: Oxford University Press, 1946); Paul A. Samuelson, *Foundations of Economic Analysis* (Cambridge, Mass.: Harvard University Press, 1947); and George J. Stigler, *The Theory of Price* (New York: Macmillan, 1947).

[10]Rothbard's central role in the modern revival of Austrian economics is detailed in Joseph T. Salerno, "The Rebirth of Austrian Economics—In Light of Austrian Economics," *Quarterly Journal of Austrian Economics* 5, no. 4 (Winter 2002): 111–28.

When Rothbard initiated work on what would turn out to be a full-blown treatise, he conceived of the project as a book suitable both for lay readers and for college instruction that would bring "to the surface and [clarify] the step-by-step nature of the edifice which Mises had constructed but more or less had taken for granted that his readers would understand."[11] This was necessary because *Human Action* was addressed to a scholarly audience, and Mises had accordingly assumed a great deal of familiarity among his readers with many of the concepts and theorems of what he called "modern subjectivist economics." Thus Rothbard intended "to do for Mises, what McCulloch did for Ricardo," that is, to make his work comprehensible to an intelligent lay readership.[12]

But Rothbard quickly realized that his original plan was flawed and had to be abandoned for three reasons. First the traditional textbook format was too disorganized in its arrangement and treatment of various topics to accommodate the development of economic theory in the logical step-by-step manner that Rothbard had envisioned. As such, it was inadequate to convey a "sense of the grand sweep, of the coherent system integrating and pervading all aspects of sound economic doctrine."[13] Second, Rothbard discovered that there existed "a lot of gaps" in Mises's "economic organon" that he had to "fill in" himself.[14] In addition, Rothbard's step-by-step deductions led him to the conclusion that Mises's theory of monopoly, which was held by most economists in the Mengerian tradition, was irreparably flawed and had to be completely revised. The book was thus turning out "to involve a good deal of original

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[11]Rothbard to H. Cornuelle, June 28, 1952; Rothbard Papers.

[12]Rothbard to H. Cornuelle, March 14, 1951; Rothbard Papers. "What McCulloch did for Ricardo" refers to John Ramsay McCulloch's *Principles of Political Economy* (New York: Augustus M. Kelley, [1864] 1965).

[13]*Ibid*.

[14]Rothbard to R. Cornuelle, August 9, 1954; Rothbard Papers.

contribution" on Rothbard's part. Third, as he proceeded in writing the book, Rothbard was concurrently researching the literature and reading widely, and he began to realize that *Human Action* had emerged from a very broad tradition that included many more economists than just Mises and his famous predecessors and direct protégés (e.g., Friedrich A. Hayek) in the native Austrian School. Moreover, as Rothbard read and wrote it became increasingly clear to him that the various strands of this theoretical tradition, which included many important American and British contributions in addition to the great Austrian works, had not yet been completely integrated and their principles fully delineated in a systematic treatise. Accordingly, Rothbard concluded, "many essential points must be deduced originally or with the help of other works" and therefore "the book cannot simply be a paraphrase of *Human Action*."[15] Rothbard's proposed book was thus transformed, in the very process of its writing, from a straightforward exposition of the principles of received doctrine of the Austrian School narrowly conceived to a treatise elaborating a complete system of economic theory and featuring many original, and even radically new, deductions and theorems.

Mises himself immediately recognized the profound originality and significance of Rothbard's contribution. In his review of *Man, Economy, and State*, Mises wrote that Rothbard

> joins the ranks of eminent economists by publishing a voluminous work, a systematic treatise on economics. . . . In every chapter of his treatise, Rothbard . . . adopt[s] the best teachings of his predecessors . . . and add[s] to them highly important observations. . . .[16]

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[15]Rothbard to H. Cornuelle, June 28, 1952; Rothbard Papers.

[16]Ludwig von Mises, "*Man, Economy and State: A New Treatise on Economics*," in idem, *Economic Freedom and Interventionism: An Anthology of Articles and Essays*, ed. Bettina Bien Greaves (Irvington-on-Hudson, N.Y.: The Foundation for Economic Education, 1990), pp. 155–56.

Mises went on to characterize Rothbard's work as

> . . . an epochal contribution to the general science of human action, praxeology, and its practically most important and up-to-now best elaborated part, economics. Henceforth, all essential studies in these branches of knowledge will have to take full account of the theories and criticisms expounded by Dr. Rothbard.[17]

Given Mises's exacting scholarly standards and his well-known parsimony in paying compliments for scientific contributions, this is high praise indeed for a book published by a thirty-six year old economist.[18] More importantly, Mises evidently viewed Rothbard's work as opening a new epoch in modern economic science.

Rothbard himself was not reluctant to indicate the respects in which he considered his treatise to have been a departure from or an advance upon Mises's work. Foremost, among Rothbard's theoretical innovations was his formulation of a complete and integrated theory of production. Previously, production theory in causal-realist analysis was in disarray and had consisted of a number of independent and conflicting strands of thought that treated capital and interest, marginal productivity theory, rent theory, entrepreneurship and so on in isolation. Somewhat surprised by this yawning gap in production theory, Rothbard commented:

> Mises has very little detail on production theory, and as a consequence it took me many false starts, and lots of what turned out to be wasted effort, before I

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[17] *Ibid.*, pp. 156–57.

[18] The following statement is indicative of Mises's attitude in this respect: "There never lived at the same time more than a score of men whose work contributed anything essential to economics" (Mises, *Human Action*, p. 869).

> arrived at what satisfied me as a good Production Theory. (It's involved emancipation from 90 percent of current textbook material.)[19]

In *Man, Economy, and State*, Rothbard elaborates a unified and systematic treatment of the structure of production, the theory of capital and interest, factor pricing, rent theory, and the role of entrepreneurship in production. Furthermore, production theory is presented as part of the core of economic analysis and covers five of the book's twelve chapters and approximately 30 percent of its text. One of Rothbard's greatest accomplishments in production theory was the development of a capital and interest theory that integrated the temporal production-structure analysis of Knut Wicksell and Hayek with the pure-time-preference theory expounded by Frank A. Fetter and Ludwig von Mises. Although the roots of both of these strands of thought can be traced back to Böhm-Bawerk's work, his exposition was confused and raised seemingly insoluble contradictions between the two.[20] They were subsequently developed separately until Rothbard revealed their inherent logical connection.

Despite Mises's lavish praise for the book as an epochal leap forward in economic science as well as general recognition among many adherents, observers, and critics of the contemporary Austrian movement that *Man, Economy, and State* is indeed a foundational work in the renaissance of modern Austrian economics, there are two crucial questions regarding the book that, surprisingly, have never even been addressed, let

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[19]Rothbard to R. Cornuelle, memo: "Textbook or Treatise?"; Rothbard Papers.

[20]In *Human Action*, Mises avoided a deep analysis of the time-spanning structure of production, perhaps because he associated it with the concept of the backward-looking "average period of production" in Böhm-Bawerk's work which he criticized (Mises, *Human Action*, pp. 485–86).

alone resolved. The first question relates to the precise sense in which Rothbard's treatise can be described as a work in "Austrian economics" and how Rothbard himself conceived the connection between his treatise and this body of received doctrine. The second question concerns Rothbard's perception of the relationship of the theoretical system expounded in his treatise and the neoclassical synthesis of the 1950s. As we shall see, the answers to these questions are not only surprising but are pregnant with implications for interpreting recent developments in Austrian economics and evaluating its future possibilities and prospects.

Before addressing the question of the doctrinal filiation between *Man, Economy, and State* and Austrian economics, it is instructive to examine Mises's attitude toward the Austrian School because it is not as straightforward as is generally supposed and it clearly influenced Rothbard's view. As early as 1932, Mises had argued that all the essential ideas of the Austrian School of economics had been absorbed into the mainstream of what he called "modern subjectivist economics."[21] According to Mises,

> the Austrian and the Anglo-American Schools and the School of Lausanne . . . differ only in their mode of expressing the same fundamental idea and . . . are divided more by their terminology and by peculiarities of presentation than by the substance of their teachings.[22]

Now admittedly this opinion was delivered at an economics conference in Germany that was heavily attended by the still influential remnants of the German Historical School who were

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[21]Mises, *Human Action*, p. 3.

[22]Ludwig von Mises, *Epistemological Problems of Economics*, 3rd ed. (Auburn, Ala.: Ludwig von Mises Institute, 2003), p. 228.

antagonistic to economic theory of all kinds. It certainly can be reasonably argued that, given this venue, Mises's remarks were intended as a generic defense of theoretical research in economics. In fact, a year earlier Mises had written,

> Within the field of modern economics the Austrian School has shown its superiority to the School of Lausanne and the schools related to the latter, which favor mathematical formulations, by clarifying the causal relationship between value and cost, while at the same time eschewing the concept of function, which in our science is misleading.[23]

In spite of the foregoing caveat, Mises continued to maintain that the label "Austrian School" was an anachronism, arguing in the last publication of his career in 1969, that the Austrian School constituted a closed chapter in the history of economic thought from about the time of Menger's death in 1921. By that time, according to Mises,

> all the essential ideas of the Austrian School were by and large accepted as an integral part of economic theory . . . [and] one no longer distinguished between an Austrian School and other economics. The appellation "Austrian School" became the name given to an important chapter of the history of economic thought; it was no longer the name of the specific sect with doctrines different from those held by other economists.[24]

As noted, Mises used the term "modern subjectivist economics" to describe the new synthesis of theoretical approaches that he believed had begun to emerge in the 1920s. There are

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[23] *Ibid*., p. 175.

[24] Ludwig von Mises, *The Historical Setting of the Austrian School of Economics*, 2nd ed. (Auburn, Ala.: Ludwig von Mises Institute, 1984), p. 41.

two problems with this label, which may explain Mises's ambivalent attitude toward the inclusion of the Marshallian and Lausanne Schools under its head. First, by World War I most theoretical economists at least paid lip service to some version of subjective-value theory, so that subjectivism was no longer a distinguishing characteristic of a unique approach to theoretical research. Second, as we have seen in our own time, the term subjectivism is a notoriously elastic term that can be stretched to denote even the nihilistic approach to economic theory famously propounded by George Shackle, the later Ludwig Lachmann, and a number of post-modernist and hermeneutical economists.[25]

Rothbard evidently followed Mises in construing the term "Austrian School" as the designation for an important movement in the history of economic thought. In the text of *Man, Economy, and State*, Rothbard uses the terms "Austrian" or "Austrian School" at least ten times enclosed in quotation marks, as he naturally would if he were referring to a movement that had only historical significance to the contemporary reader. The few times he uses these terms without quotation marks, they clearly refer to historical doctrines or controversies such as "the Austrian-Wicksteedian theory of price" or the Austrian School versus Alfred Marshall on the relationship between prices and costs. The single time that Rothbard mentions "Austrian" in his

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[25]For an overview and critique of this nihilist turn in economics, see David Gordon, *Hermeneutics Versus Austrian Economics* (Auburn, Ala.: Ludwig von Mises Institute, 1986), available at http://mises.org/etexts/hermeneutics.asp; Hans-Hermann Hoppe, "In Defense of Extreme Rationalism: Thoughts on Donald McCloskey's *The Rhetoric of Economics*," *Review of Austrian Economics* 3 (1989): 179–214, available at http://mises.org/journals/rae/pdf/RAE3_1_16.pdf; and Murray N. Rothbard, "The Hermeneutical Invasion of Philosophy and Economics," in idem, *The Logic of Action Two: Applications and Criticism from the Austrian School* (Lyme, N.H.: Edward Elgar, 1997), pp. 275–93.

Preface to the first edition, he does so in the phrase "the 'Austrian' economists," placing the word in quotation marks and using it in a sentence featuring verbs in the past tense.[26]

This textual exegesis is not meant to imply that Rothbard did not consider his work as continuing the great tradition originated by the early Austrian economists. Indeed Rothbard wrote of

> the myth among economists that the Austrian School is effectively dead and has no more to contribute and that everything of lasting worth that it had to offer was effectively stated and integrated in Alfred Marshall's *Principles*.[27]

Rather, the point is that Rothbard's goal was to recover and advance a much broader doctrinal tradition, for which Menger's and Böhm-Bawerk's works were indisputably the taproot. Thus in his Preface, Rothbard stated, "This book, then, is an attempt to fill part of the enormous gap of 40 year's time."[28] The "gap" Rothbard is here referring to separates the publication of *Man, Economy, and State* and that of the last three systematic economics treatises to appear in English, by Philip Wicksteed (1910), Frank Fetter (1910), and Frank Taussig (1911).[29] The treatises

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[26]Rothbard, *Man, Economy, and State*, p. xcii.

[27]*Ibid*., p. 357.

[28]*Ibid*., p. xciii.

[29]Philip H. Wicksteed, *The Common Sense of Political Economy and Selected Papers and Reviews on Economic Theory*, ed. Lionel Robbins, 2 vols. (New York: Augustus M. Kelley, 1967); Frank A. Fetter, *The Principles of Economics with Applications to Practical Problems* (New York: The Century Co., 1910); F.W. Taussig, *Principles of Economics*, 2 vols. (New York: The Macmillan Company, 1911). Rothbard did not consider *Human Action* an "old-style Principles" because "it assumes considerable previous economic knowledge and includes within its spacious confines numerous

of Wicksteed and Fetter in particular were in what Rothbard called "the praxeological tradition." Their procedure, like his own, was "slowly and logically to build on the basic axioms an integrated and coherent edifice of economic truth."[30] The main reason that his treatise contains numerous references to the historical Austrian school was because Rothbard judged the members of this school to have "best perceived this method and used it most fully and cogently. They were the classic employers, in short, of the 'praxeologic' method."[31]

In contrast to Mises's "modern subjectivist economics," Rothbard's reference to the "praxeologic method" drew a bright line between those who employed Menger's procedure in logically deducing economic laws from a few basic facts of reality and those who did not. "Praxeology" was Mises's explicit and self-conscious elaboration of this venerable procedure for discovering the causal laws governing market phenomena. The early Austrian School and their followers, and even some of the better classical economists, had used this research method without being fully aware of it. The praxeological method begins with the self-evident reality of human action and its immediate implications. It then introduces other empirical postulates that reflect the concrete conditions of action from which emerge the historically specific market phenomena that the economist seeks to analyze. It is, therefore, necessarily about real things. It is for this reason that it has no use for fictions and figments like the "representative firm," "the perfectly competitive market," or "the social welfare function"; nor does it concern itself with the existence, uniqueness, and stability of general equilibrium.

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philosophic and historical insights" (Rothbard, *Man, Economy, and State*, p. xciii).

[30]Rothbard, *Man, Economy, and State*, p. xciii.

[31]*Ibid*., p. xcii.

The highly selective use that the praxeological method makes of imaginary constructs has a single aim: the systematic elaboration of a unified body of theory comprising meaningful propositions about the causes of economic phenomena in the world as it is, has been, or is likely to be. As Mises put it, the praxeological method,

> . . . studies acting under unrealized and unrealizable conditions only from two points of view. It deals with states of affairs which, although not real in the present and past world, could possibly become real at some future date. And it examines unreal and unrealizable conditions if such an inquiry is needed for a satisfactory grasp of what is going on under the conditions present in reality.[32]

Mises concluded, "The specific method of economics is the method of imaginary constructions. . . . [I]t is the only method of praxeological and economic inquiry."[33]

Rothbard took Mises's dictum seriously and for seven years immersed himself in employing and perfecting this method in elaborating an integrated system of economic theory. This explains why Rothbard identified the use of the praxeological method, rather than a loose subjectivist orientation, as the hallmark and acid test of scientific economics. During the long period of sustained effort in writing the present volume, Rothbard thus became a master practitioner of the praxeological research method. He not only skillfully used the various imaginary constructs whose nature and specific use Mises had explicitly formulated in *Human Action*, but also devised new ones as needed to assist in the deduction of new theorems to elucidate unexplained features of economic reality. [34]

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[32]Mises, *Human Action*, p. 65.

[33]*Ibid*., pp. 237–38.

[34]*Ibid*., pp. 237–57.

Let us take a detailed example to illustrate Rothbard's procedure. In confronting the daunting task of untangling and systematizing causal-realist production theory, Rothbard postulates an imaginary world of specific factors, in which each and every individual laborer, parcel of land, and capital good is irrevocably committed to the production of a single product and cannot be converted to use in any other production process.[35] Rothbard also imagines two variations of this world. In the first, the cooperating factors in each stage of a given production process jointly own the product (i.e., capital good) of that stage and, since the services of all capital goods are embodied in the final product, therefore all factors jointly own the final good that is sold to consumers in exchange for money. The money receipts are then distributed according to the terms of a voluntary contract among all joint factor owners. In the second variation, a single capitalist or consortium of capitalists pay the various factors participating in the amalgamated process in advance of the sale of the final product on the market and in exchange receive ownership of the capital goods from every

[35]While this construct is highly unrealistic, it is not unrealizable like the evenly rotating economy (ERE), which abstracts completely from change and uncertainty and is used to analytically isolate interest income and the capitalist function which earns it from entrepreneurial profit. Thus a world in which every factor is suited for one and only one task is not inconceivable or logically contradictory. In contrast, the ERE is indeed an unrealizable and self-contradictory construct. It describes a world in which, for example, the future is known with perfect certainty but action, which is always aimed at changing the future, occurs; and agents hold money balances despite the absence of uncertainty regarding the temporal pattern of their future receipts and expenditures. This is not to imply that proximity to reality makes one imaginary construct better or more useful than another; the sole test of a construct's usefulness is the aid it gives to thought in deducing the causal laws operating in real markets.

stage as well as the stock of final consumer goods and the money revenue obtained from its sale to consumers.[36] In both variations of the construct, an evenly rotating economy is assumed in order to abstract from the problems of entrepreneurship.

With the assistance of this construct, Rothbard deduces a number of important theorems and principles of production. First, in the case of joint ownership of the product by the collaborating land and labor factors, there are no independent, primordial owners of capital goods, which are intermediate goods in the production process and therefore resolvable into the labor and land inputs that cooperated in producing them. Second, and consequently, all income in production consists of wages and land rents—capital goods, which are merely way stations on the path to the final product, do not earn any net rents for their owners. Third, all cooperating laborers and land owners must wait for their income from the inception of the productive process to its termination and the subsequent sale of the final product to consumers. Therefore, fourth, the size of the aggregate income of the cooperating factor owners depends solely and completely on the demand of consumers for their product. A relative shift in relative consumer demand between final goods will fall solely and completely on the specific factors that are involved in the production of the affected products.

Once the capitalist is introduced into this fictitious world, a fifth principle becomes immediately evident: the function of the capitalist is to relieve the factor owners of the burden of waiting for income, as he advances them present money payments from his accumulated savings for the joint product of their labor and land services. In exchange for these present wages and rents, the

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[36]For the explanation of this construct and its variations and the elaboration of its implications, see Rothbard, *Man, Economy, and State*, pp. 329–66.

capitalist receives an interest return on his invested funds, which is based on time preference and reflects the value discount of the anticipated *future* monetary revenues he will be receiving relative to the *present* money payments he expends on the factor services. Conversely, the factor owners agree to this deduction from the full-sale proceeds of their product that is embodied in their discounted wage and rent payments from the capitalist, because these present payments unshackle them from the temporal dimension of the production process. A sixth principle is that, even in a world of capitalist ownership of the entire production process, capital goods still do not generate a net monetary income for their owners, because the net interest return obtained by the capitalist-owners is fully derived from the discount incorporated into the present wages and rents paid to owners of labor and land factors, who are the only net recipients of incomes in a world without capitalists. Thus wage, rent, and interest incomes logically exhaust the entire proceeds from the sale of the final product, leaving no remainder for net payments to capital goods.[37]

This analysis of Rothbard's hypothetical world of purely specific factors also is pregnant with implications for the role of subjective costs in production and pricing. Given that specific

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[37]This conclusion of the exhaustion of the income from production among wages, rents, and interest receipts hold true only under the assumption that future market conditions are known with certainty. Once this assumption is dropped and the possibility is admitted of overvaluation or undervaluation of the complements of specific factors by capitalist investors, entrepreneurial profits and losses enter the picture. However, in a world of purely specific factors such profits and losses would not have an allocative function because, by definition, factors cannot shift between production processes. More importantly, it becomes clear that such incomes accrue to the capitalists alone and that, therefore, in the real world of uncertainty, the functions of capitalist and entrepreneur are integrated in the same agent.

land factors and capital goods have no alternative uses in this imagined world, an immediate inference is that their use in production is "costless" and their respective supply curves perfectly inelastic. Labor, specific to a particular production process though it may be, in contrast, is costly to use because it has an alternative use in the production of "leisure," which is an instantaneously producible consumers' good. Thus, in a world without capitalists, labor involves the disutility of foregoing both leisure and present goods. The arrival of capitalists on the scene reduces, but does not eradicate, the disutility of labor. These inferences starkly demonstrate the principle that all production costs are ultimately and essentially subjective. Leisure preferences and time preferences thus determine the ultimate costs of production and these costs are purely subjective and consist of the valuation of the forgone utilities of the producers against the anticipated monetary revenues from consumers. Once these (subjective) producers' costs have all been incurred, the stocks of the various kinds of consumers' goods emerge from the production process ready for sale to consumers. Unless their producers have a direct use for the goods, their sale to consumers is completely costless and their relative prices are determined solely by the structure of value scale of consumers. Hence, barring speculation on future price variations, the supply curves for the various stocks of consumer goods are also perfectly inelastic. In sum, "production costs"—that is, the disutilities of labor and waiting that have already been incurred, or the utilities of leisure and immediate enjoyment that have already been forgone, by producers—have no role whatever in determining the prices of the existing stocks of consumers goods.[37]

Rothbard also wields the fictive construction he formulated to demolish Marshallian price theory, according to which prices were determined by two blades of a scissors: the subjective values of consumers composing one blade while the objective or real costs of production compose the other blade. While Marshall and his contemporary followers concede that, in the transient immediate run the subjective-value blade predominates in

determining prices, they maintain that in the long-run equilibrium, where the permanent tendencies of the economy reveal themselves, the cost of production blade governs because the price of every product conforms to its average cost of production. Thus Marshallians superficially conclude that costs must therefore determine prices. However, Rothbard easily demonstrates that this conformity between price and average cost in long-run equilibrium or the ERE, which itself is not real but a useful imaginary construction, is the result of the same principles governing the determination of the actual prices that momentarily prevail and at which exchanges take place in real-world markets. In a world where all factors are purely specific to a single production process, Rothbard shows that in the long run, where entrepreneurial errors are absent and profits and losses have been totally eliminated, the aggregate payments to all factors cooperating in a given production process are rigidly governed by and must perfectly correspond to the aggregate revenues spent on the final product by consumers minus the interest return to capitalists. Accepting this deduction and dividing both aggregate revenues and aggregate factor payments by the quantity of product implies that the direction of causation of the equality between price and average cost, *especially* in the long run, runs from the former to the latter.

Rothbard's formulation and deployment of this imaginary world of purely specific factors epitomizes the application of the praxeological method in theoretical research. As Mises pointed out,

> The main formula for designing of imaginary constructions is to abstract from the operation of some conditions present in actual action. Then we are in a position to grasp the hypothetical consequences of the absence of these conditions and to conceive the effects of their existence.[38]

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[38]Mises, *Human Action*, p. 238.

Thus Rothbard first imagines that in this world all production processes are owned by the cooperating factors themselves, who must endure without income until the final product has emerged and is sold to consumers. By first analyzing the state of affairs in abstraction from the existence of the capitalist, we are able to grasp his function of advancing his accumulated savings to the factors before the sale of the final product and to comprehend the nature of his income as a return to time preference, which has been previously established much earlier in the chain of praxeological deductions as an immediate inference from the Action Axiom. In assuming away the capitalist we have also assumed away monetary costs of production, since the only money payments are directly from consumers to the joint factor owners of the final product. This enables us to see that total monetary costs are essentially determined by and equal to these total money expenditures by consumers as mediated through capitalists who have previously advanced present wages and rents to the factor owners.

In later chapters, Rothbard proceeds to drop the assumption of purely specific factors and admits varying degrees of specificity among factors into his analysis. The effects of relatively nonspecific factors in the production process can now be identified by investigating how their presence modifies the outcomes of a hypothetical world of purely specific factors. Since nonspecific factors can be converted to use in a wide range of production processes, a relative shift in consumer demand, *ceteris paribus*, will alter their allocation while only temporarily affecting their prices. But the principles already deduced regarding specific factors still hold sway in this more complex world and so we are able to conclude that prices of the relatively specific factors in any process will bear the brunt of the change in aggregate consumer expenditures on a given final product. Thus, for instance, in the case of a relative decline of the demand for diamonds, all other things equal, the capital values of diamond mines and the wages of highly skilled jewelers will also decline while the wages of diamond miners and rents of

electric generators will undergo little change as these nonspecific factors shift to other employments. Furthermore, introduction of nonspecific factors into the analysis will make a large part of the monetary costs of production appear to be given to the capitalist-employer of factors independently of the demand for his particular good. As a result, the capitalist will react to a change in his costs by adjusting his level of production, just as he would in the case of a change in the demand for his product. Hence, in the absence of a long chain of deductive reasoning utilizing imaginary constructs, *à la* Rothbard and earlier Austrians, a superficial view of the matter will render Marshall's metaphor of the two blades of the scissors as a plausible representation of reality. Without sedulous employment of the praxeological method, it would be impossible to conceive that it is the demands of consumers for the outputs of a wide range of production processes, as mediated through the bids of capitalist-entrepreneurs, as ultimately and exclusively determinative of the prices of all factors, relatively nonspecific as well as purely specific.

This praxeological method so masterfully deployed by Rothbard had been used, even if implicitly and crudely, as the primary tool of theoretical research in economics up through the 1930s. However, as Rothbard points out, it was precisely "Marshall's distrust of 'long chains of deduction,'" in addition to "the whole Cambridge impetus toward" making short-cut assumptions designed to make their theory more testable was one of the factors that led to the gradual breakdown of the praxeological method and its replacement by positivism.[39] By the early

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[39]Rothbard, *Man, Economy, and State*, p. xcii. While Marshall utilized the method of imaginary constructions, his aversion to lengthy step-by-step deduction runs afoul of Mises's warning: that it is "a method very difficult to handle because it can easily result in fallacious syllogisms. It leads along a sharp edge; on both sides yawns the chasm of absurdity and nonsense" (Mises, *Human Action*, p. 238).

1950s the praxeological method and verbal logic had been eclipsed by positivism and mathematical models. For example, the leading economist of the postwar era, Paul Samuelson now maintained that the task of economic theory was to "organize the facts into useful and meaningful" patterns and in so doing to provide economical descriptions of complex reality.[40] Economic theorems, then, had to be framed in a manner that was "operationally meaningful." According to Samuelson, a meaningful theorem was "simply a hypothesis about empirical data that could conceivably be refuted, if only under ideal conditions." Whether such a theorem was "false," or "of trivial importance," or even of "indeterminate" validity was not as important to Samuelson as it being framed as a proposition capable *in principle* of empirical refutation.[41] For Samuelson, theorems would thus be embodied and expressed in highly simplified mathematical models that *could* be subjected to empirical tests *if the data were available*. Since, admittedly, the requisite data were rarely accessible the most that could be expected from such abstract models was that they "often point the way to an element of truth present in a complex situation" and that they "afford tolerably accurate extrapolations and interpolations."[42] However, in a retrospective, Samuelson lamented the lack of success of the crude positive method in economics, writing:

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[40]Paul Samuelson, "My Life Philosophy: Policy Credos and Working Ways," in Michael Szenberg, ed., *Eminent Economists: Their Life Philosophies* (New York: Cambridge University Press, 1993), p. 241.

[41]Paul Samuelson, *Foundations of Economic Analysis*, 2nd ed. (New York: Atheneum, 1976), p. 4.

[42]Paul Samuelson, "International Factor Price Equalisation Once Again," in *The American Economics Association*, *Readings in International Economics* (Homewood, Ill.: Richard D. Irwin, 1968), pp. 58; and idem, "My Life Philosophy," p. 241.

> When I was 20 . . . I expected that the new econometrics would enable us to narrow down the uncertainties of our economic theories. We would be able to test and reject false theories. We would be able to infer new good theories. . . [I]t has turned out not to be possible to arrive at a close approximation to indisputable truth [and] it seems objectively to be the case that there does not accumulate a convergent body of econometric findings, convergent on a testable truth.[43]

Of course this does not mean that Samuelson's faith in the positivist method was shaken. Rather, it confirmed his prior belief that truth was multifaceted and therefore "Precision in deterministic facts or in probability laws can at best be only partial and approximate."[44]

If Samuelson downplayed the attainment of truth as a goal of theoretical research in favor of the formulation of operationally meaningful theorems, the other avatar of positivism in postwar economics, Milton Friedman, jettisoned all references to truth and realism in assessing the validity of economic theorems. Rejecting Samuelson's crude logical positivism, Friedman reveled in the falsity or "unrealism" of a theorem's assumptions and offered the seemingly more sophisticated alternative of "falsificationism," which was allegedly based on Karl Popper's philosophy of science.[45] Friedman's position was concisely summed up

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[43]Samuelson, "My Life Philosophy," p. 243.

[44]*Ibid*., p. 244

[45]Milton Friedman, "The Methodology of Positive Economics," in idem, *Essays in Positive Economics* (Chicago: University of Chicago Press, 1970), pp. 1–43. Some methodologists have argued that Friedmanite-positivist methodology shares little more than vocabulary with Popper's philosophy of science. For example, see Lawrence A. Boland, *The Foundations of Economic Method* (Boston: Allen & Unwin, 1982), pp. 155–96.

in Mark Blaug's statement, "No assumptions about economic behavior are absolutely true and no theoretical conclusions are valid for all times and places. . . ."[46]

Despite the formal adherence by most of the profession to positivist methods during the 1950s, Rothbard's quest to recover and reconstruct the edifice of sound economic theory drove him to scour the contemporary literature for new ideas and insights as carefully as he had scrutinized the writings of his predecessors in the causal-realist tradition. Rothbard's treatise contains citations from over 150 books, journal articles, conference proceedings, government documents, dissertations, and policy and research institute monographs published between the appearance of *Human Action* in 1949 and *Man, Economy, and State* in 1962.[47] Rothbard's deep engagement with the contemporary literature paid off as he discovered that many of these works contained research that clarified, refined or advanced causal-realist theory and he eagerly integrated these contributions into his own work.

For example in his notable development of an explanation of the firm's costs and return on investment that sharply deviates from the Marshallian theory of the firm, Rothbard was heavily influenced by two neglected articles coauthored by André Gabor and I.F. Pierce on "the Austro-Wicksellian" theory of the firm.[48]

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[46]Mark Blaug, *Economic Theory in Retrospect*, 4th ed. (New York: Cambridge University Press, 1986), p. 3.

[47]Actually some of the references in the present edition are to works published after 1962, because this volume includes *Power and Market* which was originally written as the third volume of *Man, Economy, and State*, but was published separately eight years later. For the story behind the editorial decision to truncate *Man, Economy, and State* and publish it as two volumes and Rothbard's reaction to it, see Stromberg, pp. lxv–lxxi.

[48]André Gabor and I.F. Pearce, "A New Approach to the Theory of the Firm," *Oxford Economic Papers* 54 (October 1952): 252–65; idem, "The Place of Money Capital in the Theory of Production," *Quarterly Journal of Economics* 72 (November 1958): 537–57.

Rothbard cites a discussion by the Cambridge economist Roy Harrod, in addition to a discussion by Böhm-Bawerk, as a source for his own path-breaking identification of a fourth component in the gross business income of the capitalist-entrepreneur. This "ownership" or "decision-making" rent is distinct from and in addition to implicit wages of management, interest return on invested capital, and pure profit.[49] In his thoroughgoing critique of the theories of perfect and monopolistic competition doctrines and his original formulation of a positive theory of competition as a dynamic process, Rothbard favorably cites the contributions of a number of his mainstream contemporaries including: G. Warren Nutter; Wayne Leeman; Marshall I. Goldman; and Reuben Kessel. Rothbard singles out a book by Lawrence Abbott published in 1952 titled *Quality and Competition* for special praise, characterizing it as "one of the outstanding theoretical works of recent years."[50,51] Indeed, the theory of rivalrous competition that Rothbard expounds is clearly influenced by Abbott's arguments on the central importance of the qualitative dimensions of competition.

The fact that theoretical research employing verbal logic and the praxeological method still remained relatively pervasive among academic economists even as late as the 1950s highlights the deep and hardy roots of the causal-realist tradition. It is also accounts for the reason why Rothbard did not yet perceive any

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[49]Roy Harrod, "Theory of Profit," in idem, *Economic Essays* (New York, Harcourt and Brace & Co., 1952), pp. 190–95. For a detailed discussion of Rothbard's concept of decision-making rent and its significance for the theories of entrepreneurship and the firm, see Joseph T. Salerno, "The Entrepreneur: Real and Imagined," *Quarterly Journal of Austrian Economics* 11 (3).

[50]Lawrence Abbott, *Quality and Competition: An Essay on Economic Theory* (Westport, Conn.: Greenwood Press, 1973).

[51]Rothbard, *Man, Economy and State*, p. 666, fn. 28.

advantage in appropriating the label "Austrian" to differentiate his treatise from contemporary economics. In fact, in private correspondence dated February 1954, Rothbard expressed confidence that mainstream economic theorists could still be drawn back toward the causal-realist research program and that his work in progress

> will, I believe, command the attention of the profession as a treatise because of its considerable elaborations in those areas not developed by Mises, its differences from Mises in such areas as monopoly, banking ethics, and government . . . and its refutations of current economic theory.[52]

While in retrospect we may be tempted to dismiss Rothbard's bold prediction as a burst of youthful optimism, it hardly reflects the attitude of someone intent on completely breaking with the prevailing doctrine and founding a heterodox school of thought.

By the advent of the 1970s, however, mainstream economic theory had sunk to almost unfathomable depths, degenerating into a series of loosely related mathematical models which had little contact with reality. Following the prevailing Friedmanite-positivist methodology, the tentative "validity"—never the truth—of these models was putatively established by empirically testing their ability to predict or, more accurately, "retrodict" using the methods of econometrics. The last vestiges of the Mengerian approach thus disappeared from the curricula of graduate economics programs and causal-realist theoretical research was now completely banished from academic journals, which had become the main, if not the only, research outlet for mainstream economics.

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[52]Rothbard to R. Cornuelle, memo: "Textbook or Treatise?"; Rothbard Papers.

Around the same time as this sea change in economic theory and method, there began to coalesce outside the formal institution of academic economics a new intellectual movement that was directly inspired by Rothbard's reconstruction of the causal-realist theoretical organon in *Man, Economy, and State*. This movement comprised mainly graduate students and younger faculty members associated with U.S. academic institutions who were disaffected with the orthodox neoclassical synthesis, which had begun to break down with the failure of the Kennedy-Johnson "New Economic" policies to rein in the Vietnam War inflation and the subsequent emergence of stagflation in the early 1970s.

By the mid-1970s the new movement had grown to such an extent that the opportunity presented itself to institutionalize and promote its existence by means of a formal academic conference on Austrian economics, which was held at South Royalton, Vermont, in June 1974. The appellation "Austrian" was chosen for this new intellectual tendency mainly for strategic reasons. Since the Rothbardian movement embraced a method and body of doctrine that now shared very little common ground with the entrenched positivist orthodoxy, the label at least provided the movement with a recognizable affiliation with one of the great streams of early marginalist thought that had fed into this modern mainstream. The name also instantly endowed the movement with the great cachet associated with the well-known names of the founding members of the Austrian School, such as Carl Menger, Eugen von Böhm-Bawerk, and Friedrich von Wieser and its later representatives Ludwig von Mises and Friedrich A. Hayek. The prestige of the "Austrian" brand name was further enhanced when Hayek became a co-recipient of the Nobel Prize in economics later in the year. The term had the additional virtue of identifying the movement's general theoretical orientation.

Rothbard and his followers eagerly embraced the new designation and began to refer to themselves as members or followers

of the modern Austrian School, which was now positioned as a heterodox challenger to "mainstream economics." Despite its significant short-run strategic virtues, however, branding the school of thought that coalesced at the South Royalton conference as "Austrian" has engendered a number of serious problems in the long run. First, it has come to obscure the extent to which the modern Austrian School was directly inspired by Rothbard. Indeed it is no exaggeration to say that a large majority of the thirty or so participants in the South Royalton conference adhered to the body of causal-realist theory elaborated in *Man, Economy, and State*. Second, it conceals the fact, noted above, that in writing this treatise, Rothbard drew from a much broader range of literature than that emanating from the original Austrian School and its direct intellectual descendents. Third, the label diverts attention from Rothbard's primary mission in writing his treatise, which has to purge modern economic science of its alien positivist and mathematical formalist elements and to reconstruct it along consistently causal-realist lines. It cannot be stated too often or too emphatically that engineering a radical break from standard economic theory and establishing a heterodox school of thought that rejected all forms of equilibrium analysis and the use of imaginary constructs was not Rothbard's purpose in writing *Man, Economic, and State*. Indeed, as we have seen, one of Rothbard's most important contributions in his treatise is his painstaking explication of the content and the proper use of fictitious constructs and imaginary states of the world in deriving meaningful propositions about the causal determinants of observable economic phenomena.

The last and perhaps most significant disadvantage of applying the unqualified term "Austrian" to the post-South Royalton economics movement is the fact that it fosters a conflation of the very different and conflicting research programs that have grown up under this opaque semantic veil. Rothbard recognized and lamented this state of affairs in the Preface to the revised edition of *Man, Economy, and State* published in 1993:

> In fact, the number of Austrians has grown so large, and the discussion so broad, that differences of opinion and branches of thought have arisen, in some cases developing into genuine clashes of thought. Yet they have all been conflated and jammed together by non-Austrians and even by some within the school, giving rise to a great deal of intellectual confusion, lack of clarity, and outright error. The good side of these developing disputes is that each side has clarified and sharpened its underlying premises and world-view. It has indeed become evident in recent years that there are three clashing paradigms within Austrian economics: the original Misesian or praxeological paradigm, to which the present author adheres; the Hayekian paradigm, stressing "knowledge" and "discovery" rather than praxeological "action" and "choice," and whose leading exponent now is Professor Israel Kirzner; and the nihilistic view of the late Ludwig Lachmann, an institutionalist anti-theory approach taken from the English "subjectivist" Keynesian G.L.S Shackle. (p. xiv)

While this accurately describes the state of Austrian economics in the early 1990s, the situation has become even more contentious and muddled since then. While the Lachmannian branch has waned somewhat in influence, a new, wildly eclectic tendency has developed which proposes to agglomerate indiscriminately selected elements of Menger, Mises, Hayek, Lachmann, Kirzner, and Rothbard with random insights from Adam Smith's economics, Public Choice Theory, New Institutional Economics, transaction costs economics, game theoretic modeling, hermeneutical economics, and ethnographic and historical case studies, all under the rubric of Austrian economics or "good economics." Needless to say, the situation is even less satisfactory now than it was when Rothbard penned the passage above. Those interested in pursuing theoretical research in the Mengerian causal-realist tradition are now viewed by the profession, thanks to the Austrian label, as part of a splintered and feuding

heterodox movement more interested in discoursing on meta-economic esoterica or devising "spontaneous-order" explanations for obscure historical episodes than in analyzing the "mundane" issues at the heart of mainstream economics—value theory, price theory, capital theory, monetary theory, and business cycles.

Fortunately, *Man, Economy, and State* points the way out of this morass of confusion, which threatens permanent and wholesale marginalization of all branches of Austrian economics. Every page of Rothbard's treatise is imbued with a profound awareness that the causal-realist theoretical system that he was expounding was in the mainstream of an international economic tradition that originated in the Marginalist Revolution. His treatise thus was not intended as the program for a new heterodox movement or the revival of an old one; rather it represented an endeavor to reconstruct orthodox economics on the unshakeable foundation of the praxeological method and to use this method to substantively advance the theory. In a crucial sense, economic science had temporarily lost its bearings and was beginning to stray from its rich heritage and Rothbard aimed at setting it back on course. Consequently, he never conceded the mainstream of economic science to the disciples of mathematical modeling and the positivist method, whom he regarded as an irrationalist cult that had hijacked economics and whose silly doctrines would sooner or later wind up in the dustbin of intellectual history.

Rothbard has been proven correct. Mathematical modeling has revealed itself to be a vain and formalistic exercise incapable of explaining the international currency crises, stock-market and real-estate bubbles, and the global financial crises that have wracked our world in the past two decades. It is increasingly evident even to professional economists that the tortuous positivist detour has led to an intellectual dead end. Hence, bizarre heterodox sects such as behavioral economics, experimental economics, the "happiness" literature, neuro-economics, etc.,

now abound. Some market-oriented economists have even abandoned modern economic theory altogether for the less rigorous rhetoric and metaphors of Adam Smith's "invisible hand" and Hayek's "spontaneous order."[53]

The death knell is now tolling for the mathematical and positivist pretenders to the mainstream of economics. The time is now ripe for Austrians to recover their rightful position as the true representatives of the central tendency of modern economic theory by affirming the praxeological method as the research method of economics. The prodigious fruits of this method stand before us in the integrated theoretical structure expounded in *Man, Economy, and State*.

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[53]Of course the concept of the "spontaneous order" was only one of Hayek's many contributions. Most of these contributions were squarely in the Mengerian causal-realist tradition and dealt with themes of mundane economics such as capital theory, business-cycle theory, international monetary theory, and comparative monetary institutions. For a collection of Hayek's most important works in these areas, see *Prices and Production and Other Works: F.A. Hayek on Money, the Business Cycle, and the Gold Standard*, ed. Joseph T. Salerno (Auburn, Ala.: Ludwig von Mises Institute, 2008). Also see Peter G. Klein, "The Mundane Economics of the Austrian School," *Quarterly Journal of Austrian Economics* 11, no. 3 (Fall 2008), for the argument that the notion of spontaneous order, rightly understood, has roots in Menger's causal-realist economics.

Preface to Revised Edition

One of the unhappy casualties of World War I, it seems, was the old-fashioned treatise on economic "principles." Before World War I, the standard method, both of presenting and advancing economic thought, was to write a disquisition setting forth one's vision of the corpus of economic science. A work of this kind had many virtues wholly missing from the modern world. On the one hand, the intelligent layman, with little or no previous acquaintance with economics, could read it. On the other hand, the author did not limit himself, textbook-fashion, to choppy and oversimplified compilations of currently fashionable doctrine. For better or worse, he carved out of economic theory an architectonic—an edifice. Sometimes the edifice was an original and noble one, sometimes it was faulty; but at least there *was* an edifice, for beginners to see, for colleagues to adopt or criticize. Hyperrefinements of detail were generally omitted as impediments to viewing economic science as a whole, and they were consigned to the journals. The university student, too, learned his economics from the treatise on its "principles;" it was not assumed that special works were needed with chapter lengths fitting course requirements and devoid of original doctrine. These works, then, were read by students, intelligent laymen, and leading economists, all of whom profited from them.

[Publisher's Note: This "Preface to Revised Edition" is from the 1993 edition of *Man, Economy, and State*, published by the Mises Institute.]

Their spirit is best illustrated by a prefatory passage from one of the last of the species:

> I have tried in this book to state the principles of economics in such form that they shall be comprehensible to an educated and intelligent person who has not before made any systematic study of the subject. Though designed in this sense for beginners, the book does not gloss over difficulties or avoid severe reasoning. No one can understand economic phenomena or prepare himself to deal with economic problems who is unwilling to follow trains of reasoning which call for sustained attention. I have done my best to be clear, and to state with care the grounds on which my conclusions rest, as well as the conclusions themselves, but have made no vain pretense of simplifying all things.[1]

Since the brilliant burst that gave us the works of Wicksteed (1910), Taussig (1911), and Fetter (1915), this type of treatise has disappeared from economic thought, and economics has become appallingly fragmented, dissociated to such a degree that there hardly *is* an *economics* any more; instead, we find myriad bits and pieces of uncoordinated analysis. Economics has, first, been fragmented into "applied" fields—"urban land economics," "agricultural economics," "labor economics," "public finance economics," etc., each division largely heedless of the others. More grievous still has been the disintegration of what has been confined to the category of "economic theory." Utility theory, monopoly theory, international trade theory, etc., down to linear programming and games theory—each moves in its sharply isolated compartment, with its own hyperrefined literature. Recently, growing awareness of this fragmentation has led to vague "interdisciplinary" admixtures with all the other "social sciences." Confusion has been worse confounded, with resulting invasive forays of numerous other disciplines into economics, rather than the diffusion of economics elsewhere. At any rate, it is somewhat foolhardy to

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[1]Frank W. Taussig, *Principles of Economics* (New York: Macmillan, 1911), p. vii.

attempt to integrate economics with everything else before economics has *itself* been made whole. Only then will the proper place of economics among the other disciplines become manifest.

I think it fair to say that, with only a single exception (Ludwig von Mises' *Human Action*), *not one* general treatise on economic principles has appeared since World War I. Perhaps the closest approach was Frank H. Knight's *Risk, Uncertainty, and Profit*, and *that* was published far back in 1921. Since then, there has been no book of remotely as broad a scope.

The only place where we can find economics treated with any degree of breadth is in the elementary textbooks. These textbooks, however, are sorry substitutes for a genuine Principles. Since they must, by their nature, present only currently received doctrine, their work is uninteresting to the established economist. Furthermore, since they may only boil down the existing literature, they must of necessity present to the student a hodgepodge of fragmented chapters, each with little or no relation to the other.

Many economists see no loss in all this; in fact, they herald these developments as signs of the enormous progress the science has made on all fronts. Knowledge has grown so vast that no man can encompass it all. Yet economists should at least be responsible for knowing *economics*—the essentials of the body of their discipline. Certainly, then, these essentials could have been presented by this time. The plain fact is that economics is fragmented precisely *because* it is no longer regarded as an edifice; since it is considered a congeries of isolated splinters, it is treated as such.

Perhaps the key to this change is that formerly economics was regarded as a logical structure. Fundamentally, whatever the differences of degree, or even of proclaimed methodology, economics was considered a deductive science using verbal logic. Grounded on a few axioms, the edifice of economic thought was deduced step by step. Even when the analysis was primitive or the announced methodology far more inductive, this was the

essence of economics during the nineteenth century. Hence, the treatise on economic "principles"—for if economics proceeds by deductive logic grounded on a few simple and evident axioms, then the corpus of economics can be presented as an interrelated whole to the intelligent layman with no loss of ultimate rigor. The layman is taken step by step from simple and evident truths to more complex and less evident ones.

The "Austrian" economists best perceived this method and used it most fully and cogently. They were the classic employers, in short, of the "praxeologic" method. In the present day, however, the prevailing epistemology has thrown over praxeology for methods at once too empirical and too "theoretical." Empiricism has disintegrated economics to such an extent that no one thinks to look for a complete edifice; and, paradoxically, it has falsified economics by making economists eager to introduce admittedly false and short-cut assumptions in order to make their theories more readily "testable." Alfred Marshall's distrust of "long chains of deduction," as well as the whole Cambridge impetus toward such short cuts, has contributed a great deal to this breakdown. On the other hand, verbal logic in economic theory has been replaced by mathematics, seemingly more precise and basking in the reflected glory of the physical sciences. The dominant econometric wing of mathematical economists also looks for empirical verifications and thereby compounds the errors of both methods. Even on the level of pure theoretical integration, mathematics is completely inappropriate for any sciences of human action. Mathematics has, in fact, contributed to the compartmentalization of economics—to specialized monographs featuring a hyperrefined maze of matrices, equations, and geometric diagrams. But the really important thing is *not* that nonmathematicians cannot understand them; the crucial point is that mathematics cannot contribute to economic knowledge. In fact, the recent conquest of mathematical economics by econometrics is a sign of recognition that pure mathematical theory in economics is sterile.

This book, then, is an attempt to fill part of the enormous gap of 40 years' time. Since the last treatise on economic "principles," economics has proceeded a long way in many areas, and its methodology has been immeasurably improved and strengthened by those continuing to work in the praxeological tradition. Furthermore, there are still great gaps in the praxeological corpus, since so few economists have worked at shaping it. Hence, the attempt in this book to develop the edifice of economic science in the manner of the old-fashioned works on its "principles"—slowly and logically to build on the basic axioms an integrated and coherent edifice of economic truth. Hyper-refinements have been shunned as much as possible. In short, Professor Taussig's quoted statement of intention has been mine also, with the addition that I have felt it necessary to include, at pertinent points, refutation of some of the main opposing doctrines. This was especially needed because economic fallacy prevails far more widely than in Taussig's time.

I have indicated briefly that there has been *one* general treatise since World War I. Professor Paul Samuelson has written rhapsodically of the joy of being under thirty at the time of publication of Keynes' *General Theory*. I can say the same for the publication of Ludwig von Mises' *Human Action* in 1949. For here at last was economics *whole* once more, once again an edifice. Not only that—here was a structure of economics with many of the components newly contributed by Professor Mises himself. There is no space here to present or expound Mises' great contributions to economic science. That will have to be done elsewhere. Suffice it to say that from now on, little constructive work can be done in economics unless it starts from *Human Action*.

Human Action is a general treatise, but not an old-style Principles. Instead, it assumes considerable previous economic knowledge and includes within its spacious confines numerous philosophic and historical insights. In one sense, the present

work attempts to isolate the economic, fill in the interstices, and spell out the detailed implications, as I see them, of the Misesian structure. It must not be thought, however, that Professor Mises is in any way responsible for these pages. Indeed, he may well differ strongly with many sections of this volume. Yet it is my hope that this work may succeed in adding a few bricks to the noble structure of economic science that has reached its most modern and developed form in the pages of *Human Action*.

The present work deduces the entire corpus of economics from a few simple and apodictically true axioms: the Fundamental Axiom of *action*—that men employ means to achieve ends, and two subsidiary postulates: that there is a *variety* of human and natural resources, and that leisure is a consumers' good. Chapter 1 begins with the action axiom and deduces its immediate implications; and these conclusions are applied to "Crusoe economics"—that much maligned but highly useful analysis that sets individual man starkly against Nature and analyzes his resulting actions. Chapter 2 introduces other men and, consequently, social relations. Various types of interpersonal relations are analyzed, and the economics of *direct exchange* (barter) is set forth. Exchange cannot be adequately analyzed until property rights are fully defined—so chapter 2 analyzes property in a free society. Chapter 2, in fact, marks the beginning of the body of the book—an analysis of the economics of voluntary exchange. Chapter 2 discusses the free market of barter, and the subsequent chapters treat the economics of *indirect*—or monetary—exchange. Thus, analytically, the book deals fully with the economics of the free market, from its property relations to the economics of money.

Chapter 3 introduces money and traces the patterns of indirect exchange on the market. Chapter 4 treats the economics of consumption and the pricing of consumers' goods. Chapters 5–9 analyze production on the free market. One of the features of this consumption and production theory is the resurrection of Professor Frank A. Fetter's brilliant and completely neglected

theory of *rent*—i.e., the concept of rent as the hire price of a unit service. *Capitalization* then becomes the process of determining the present values of the expected future rents of a good. The Fetter-Mises pure time-preference theory of interest is synthesized with the Fetter rent theory, with the Austrian theory of the structure of production, and with separation of *original* from *produced* factors of production. One "radical" feature of our analysis of production is a complete break with the currently fashionable "short-run" theory of the firm, substituting for this a general theory of marginal value productivity and capitalization. It is a "general equilibrium" analysis in the dynamic Austrian sense, and not in the static, currently popular Walrasian sense.

Chapter 10 expounds a completely new theory of monopoly—that monopoly can be meaningfully defined only as a grant of privilege by the State, and that a monopoly price can be attained only from such a grant. In short, there can be no monopoly or monopoly price on the free market. The theory of monopolistic competition is also discussed. And chapter 11 sets forth the theory of money on the free market, along with an extensive discussion of the Keynesian theories.

Having completed the theory of the purely free market, I then turn, in the final chapter, to applying praxeological analysis to a systematic discussion of various forms and degrees of coercive intervention and their consequences. The effects of coercive intervention can be studied only after fully analyzing the construct of a purely free market. Chapter 12 presents a typology of intervention, discusses its direct and indirect consequences and the effects on utility, and sets forth a necessarily brief analysis of the various major types of intervention, including price control, monopoly grants, taxation, inflation, and government enterprise and expenditures. The chapter and the book conclude with a brief summary assessment of the free market, as contrasted to interventionist and other coercive systems.

For this revised edition, I have decided to keep the original text and footnotes intact, and to confine any changes to this revised preface. Professor Mises died in 1973, and the following year, as luck would have it, the Austrian School of economics that Mises had kept alive in an almost underground existence burst forward into a spectacular revival. It is no accident that this revival coincided with the virtual collapse of the previously dominant Keynesian paradigm. Keynesians had promised to steer the economy easily away from the recurring pitfalls of inflationary boom, and recession and unemployment; instead, they would insure permanent and stable prosperity, bringing us full employment without inflation. And yet, after three decades of Keynesian planning, we faced a new phenomenon that cannot even exist, much less be explained, in the Keynesian paradigm: inflation *combined with* recession and high unemployment. This unwelcome specter first appeared in the inflationary recession of 1973–74, and has been repeated since, the last time being the recession of 1990—?

The Austrian revival of 1974 was also spurred by F.A. Hayek's receiving the Nobel Prize for economics that year, the first free-market and nonmathematical economist to be accorded that honor. The economics profession's obsession with the Nobel reawakened interest in Hayek and in the Austrian School. But this award to Hayek itself can be no coincidence, since it reflects disillusion by economists in Keynesian macro-models.

Since 1974, the number of Austrians, books and articles by Austrians, and interest in the school, has greatly multiplied. It is a reflection of the difference in the quality of academia in the two countries that, even though there are proportionately fewer Austrian School economists in Britain than in the United States, Austrian economics is accorded a great deal more respect in Britain. In British textbooks and surveys of thought, Austrian economics, while not often winning agreement, is treated

objectively and fairly as a respectable wing of economic thought. In the United States, on the contrary, while there are a large number of sympathizers as well as adherents in the profession, Austrians are still marginalized, unheeded, and unread by the bulk of economists.

Intellectual curiosity has a habit of breaking through, however, especially among college and graduate students. As a result, the Austrian School has flourished over the last two decades, despite severe institutional obstacles.

In fact, the number of Austrians has grown so large, and the discussion so broad, that differences of opinion and branches of thought have arisen, in some cases developing into genuine clashes of thought. Yet they have all been conflated and jammed together by non-Austrians and even by some within the school, giving rise to a great deal of intellectual confusion, lack of clarity, and outright error. The good side of these developing disputes is that each side has clarified and sharpened its underlying premises and world-view. It has indeed become evident in recent years that there are three very different and clashing paradigms within Austrian economics: the original Misesian or praxeological paradigm, to which the present author adheres; the Hayekian paradigm, stressing "knowledge" and "discovery" rather than the praxeological "action" and "choice," and whose leading exponent now is Professor Israel Kirzner; and the nihilistic view of the late Ludwig Lachmann, an institutionalist anti-theory approach taken from the English "subjectivist"-Keynesian G.L.S. Shackle. Fortunately, there is now a scholarly journal, *The Review of Austrian Economics*,* where the reader can keep apprised of ongoing developments in Austrian economics, as well as other publications, conferences, and instructional courses of the Ludwig von Mises Institute. The Mises Institute, founded on the centenary of his birth, keeps alive the spirit of

*[PUBLISHER'S NOTE: In addition, *The Quarterly Journal of Austrian Economics* began publishing in 1998.]

Mises as well as the paradigm that he has bequeathed to scholarship and to the world. For the latest on the three Austrian paradigms, the reader is referred to the Mises Institute Working Paper by the present author, "The Present State of Austrian Economics" (November, 1992).**

My overriding intellectual debt, of course, is to Ludwig von Mises. But apart from that, I can never fully express my personal debt. His wisdom, kindness, enthusiasm, good humor, and unflagging encouragement of even the slightest signs of productivity among his students were a lifelong inspiration to those who knew him. He was one of the great teachers of economics, as well as one of the great economists, and I am grateful to have had the opportunity of studying for many years at his Seminar in Advanced Economic Theory at New York University.

I can also never fully express my gratitude to Llewellyn H. Rockwell, Jr., who, at a low point in Misesian economics, with no endowment, no large pledges of support, and armed only with an idea, founded and dedicated his life to the Ludwig von Mises Institute. Lew has done a remarkable job of building and expanding the Institute, and of devoting himself to the Misesian paradigm. In addition, Lew has been a close and valued friend and intellectual colleague for many years. It is obvious that, without his efforts, this new edition would never have seen the light of day.

Finally, I must at least try to convey how grateful I am to another long-time colleague, Burton S. Blumert, of the Mises Institute and head of the Center for Libertarian Studies, Burlingame, California. Self-effacing and indispensable, Burt is always there—with wit, wisdom, kindness, and friendship.

** [PUBLISHER'S NOTE: This essay was reprinted as chapter 7 in Murray N. Rothbard, *The Logic of Action I: Method, Money, and the Austrian School* (Cheltenham, U.K.: Edward Elgar, 1997).]

It is impossible to list all the friends and acquaintances who, over the many years, have taught and inspired me in the area of Austrian economics, or in the wider arena of political economy, and in the nature of coercion of freedom. I am grateful to them all. None of them, of course, are responsible for any errors herein.

MURRAY N. ROTHBARD
Las Vegas, Nevada
May, 1993

1

FUNDAMENTALS OF HUMAN ACTION[1]

1. The Concept of Action

THE DISTINCTIVE AND CRUCIAL FEATURE in the study of man is the concept of *action*. *Human action is defined simply as purposeful behavior*. It is therefore sharply distinguishable from those observed movements which, from the point of view of man, are not purposeful. These include all the observed movements of inorganic matter and those types of human behavior that are purely reflex, that are simply involuntary responses to certain stimuli. *Human action*, on the other hand, can be *meaningfully interpreted* by other men, for it is governed by a certain *purpose* that the actor has in view.[2] The purpose of a man's act is his *end*; the desire to achieve this end is the man's *motive* for instituting the action.

[PUBLISHER'S NOTE: Page numbers cited in parentheses within the text refer to the present edition.]

[1]For further reading on this topic, the best source is the epochal work of Ludwig von Mises, *Human Action* (New Haven, Conn.: Yale University Press, 1949), pp. 1–143, and *passim*.

[2]Cf. *ibid*., p. 11; F.A. Hayek, "The Facts of the Social Sciences," in *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), pp. 57–76; Hayek, *The Counter-Revolution of Science* (Glencoe, Ill.: The Free Press, 1952), pp. 25–35; and Edith T. Penrose, "Biological Analogies in the Theory of the Firm," *American Economic Review*, December, 1952, pp. 804–19, especially 818–19.

All human beings *act* by virtue of their existence and their nature as human beings.[3] We could not conceive of human beings who do not act purposefully, who have no ends in view that they desire and attempt to attain. Things that did not *act*, that did not behave purposefully, would no longer be classified as human.

It is this fundamental truth—this axiom of human action—that forms the key to our study. The entire realm of praxeology and its best developed subdivision, economics, is based on an analysis of the necessary logical implications of this concept.[4] The fact that men act by virtue of their being human is indisputable and incontrovertible. To assume the contrary would be an absurdity. The contrary—the absence of motivated behavior—would apply only to plants and inorganic matter.[5]

2. First Implications of the Concept

The first truth to be discovered about human action is that *it can be undertaken only by individual "actors."* Only individuals have ends and can act to attain them. There are no such things as ends of or actions by "groups," "collectives," or "States," which do not take place as actions by various specific individuals. "Societies" or

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[3]Cf. Aristotle, *Ethica Nicomachea*, Bk. I, especially ch. vii.

[4]This chapter consists solely of a development of the logical implications of the existence of human action. Future chapters—the further parts of the structure—are developed with the help of a very small number of subsidiary assumptions. Cf. Appendix below and Murray N. Rothbard, "Praxeology: Reply to Mr. Schuller," *American Economic Review*, December, 1951, pp. 943–46; and "In Defense of 'Extreme Apriorism,'" *Southern Economic Journal*, January, 1957, pp. 314–20.

[5]There is no need to enter here into the difficult problem of animal behavior, from the lower organisms to the higher primates, which might be considered as on a borderline between purely reflexive and motivated behavior. At any rate, men can *understand* (as distinguished from merely observe) such behavior only in so far as they can impute to the animals motives that they can understand.

"groups" have no independent existence aside from the actions of their individual members. Thus, to say that "governments" act is merely a metaphor; actually, certain individuals are in a certain relationship with other individuals and act in a way that they and the other individuals recognize as "governmental."[6] The metaphor must not be taken to mean that the collective institution itself has any reality apart from the acts of various individuals. Similarly, an individual may contract to act as an agent in representing another individual or on behalf of his family. Still, only individuals can desire and act. The existence of an institution such as government becomes meaningful only through influencing the actions of those individuals who are and those who are not considered as members.[7]

In order to institute action, it is not sufficient that the individual man have unachieved ends that he would like to fulfill. *He must also expect that certain modes of behavior will enable him to attain his ends.* A man may have a desire for sunshine, but if he realizes that he can do nothing to achieve it, he does not act on this desire. He must have certain *ideas* about how to achieve his ends. Action thus consists of the behavior of individuals directed towards ends in ways that they believe will accomplish their purpose. Action requires an image of a desired end and "technological ideas" or plans on how to arrive at this end.

Men find themselves in a certain *environment*, or *situation*. It is this situation that the individual decides to change in some way in order to achieve his ends. But man can work only with the numerous elements that he finds in his environment, by rearranging them in order to bring about the satisfaction of his

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[6]To say that only individuals act is not to deny that they are influenced in their desires and actions by the acts of other individuals, who might be fellow members of various societies or groups. We do not at all assume, as some critics of economics have charged, that individuals are "atoms" isolated from one another.

[7]Cf. Hayek, *Counter-Revolution of Science*, p. 34. Also cf. Mises, *Human Action*, p. 42.

ends. With reference to any given act, the environment external to the individual may be divided into two parts: those elements which he believes he cannot control and must leave unchanged, and those which he can alter (or rather, thinks he can alter) to arrive at his ends. The former may be termed the *general conditions* of the action; the latter, the *means* used. Thus, the individual actor is faced with an environment that he would like to change in order to attain his ends. To act, he must have technological ideas about how to use some of the elements of the environment as *means*, as pathways, to arrive at his ends. Every act must therefore involve the employment of means by individual actors to attempt to arrive at certain desired ends. In the external environment, the general conditions cannot be the objects of any human action; only the means can be employed in action.[8]

All human life must take place *in time*. Human reason cannot even conceive of an existence or of action that does not take place through time. At a time when a human being decides to act in order to attain an end, his goal, or end, can be finally and completely attained only at some point *in the future*. If the desired ends could all be attained instantaneously in the present, then man's ends would all be attained and there would be no reason for him to act; and we have seen that action is necessary to the nature of man. Therefore, an actor chooses means from his environment, in accordance with his ideas, to arrive at an expected end, completely attainable only at some point in the future. For any given action, we can distinguish among three periods of time involved: the period before the action, the time absorbed by the action, and the period after the action has been completed. All action aims at rendering conditions at some time in the future more satisfactory for the actor than they would have been without the intervention of the action.

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[8]Cf. Talcott Parsons, *The Structure of Social Action* (Glencoe, Ill.: The Free Press, 1949), pp. 44 ff.

A man's *time* is always scarce. He is not immortal; his time on earth is limited. Each day of his life has only 24 hours in which he can attain his ends. Furthermore, all actions must take place through time. Therefore time is a *means* that man must use to arrive at his ends. It is a means that is omnipresent in all human action.

Action takes place by *choosing* which ends shall be satisfied by the employment of means. Time is *scarce* for man only because whichever ends he chooses to satisfy, there are others that must remain unsatisfied. When we must use a means so that some ends remain unsatisfied, the necessity for a *choice among ends* arises. For example, Jones is engaged in watching a baseball game on television. He is faced with the choice of spending the next hour in: (*a*) continuing to watch the baseball game, (*b*) playing bridge, or (*c*) going for a drive. He would like to do all three of these things, but his means (time) is insufficient. As a result, he must *choose*; one end can be satisfied, but the others must go unfulfilled. Suppose that he decides on course A. This is a clear indication that he has *ranked* the satisfaction of end A higher than the satisfaction of ends B or C.

From this example of action, many implications can be deduced. In the first place, *all means are scarce*, i.e., limited with respect to the ends that they could possibly serve. If the means are in unlimited abundance, then they need not serve as the object of attention of any human action. For example, air in most situations is in unlimited abundance. It is therefore not a means and is not employed as a means to the fulfillment of ends. It need not be allocated, as time is, to the satisfaction of the more important ends, since it is sufficiently abundant for all human requirements. Air, then, though indispensable, is not a means, but a *general condition* of human action and human welfare.

Secondly, these scarce means must be allocated by the actor to serve certain ends and leave other ends unsatisfied. This act of *choice* may be called *economizing* the means to serve the most

desired ends. Time, for example, must be economized by the actor to serve the most desired ends. The actor may be interpreted as ranking his alternative ends in accordance with their *value* to him. This scaling of ends may be described as assigning ranks of *value* to the ends by the actor, or as a process of *valuation*. Thus, suppose that Jones ranked his alternative ends for the use of an hour of time as follows:

(First)	1. Continuing to watch the baseball game
(Second)	2. Going for a drive
(Third)	3. Playing bridge

This was his *scale of values* or *scale of preferences*. The supply of means (time) available was sufficient for the attainment of only one of these ends, and the fact that he chose the baseball game shows that he ranked that highest (or first). Suppose now that he is allocating two hours of his time and can spend an hour on each pursuit. If he spends one hour on the game and then a second hour on the drive, this indicates that his ranking of preferences is as above. The lowest-ranking end—playing bridge—goes unfulfilled. Thus, the larger the supply of means available, the more ends can be satisfied and the lower the rank of the ends that must remain unsatisfied.

Another lesson to be derived is that *action* does not necessarily mean that the individual is "active" as opposed to "passive," in the colloquial sense. Action does not necessarily mean that an individual must stop doing what he has been doing and do something else. He also acts, as in the above case, who chooses to continue in his previous course, even though the opportunity to change was open to him. Continuing to watch the game is just as much *action* as going for a drive.

Furthermore, action does not at all mean that the individual must take a great deal of time in deliberating on a decision to act. The individual may make a decision to act hastily, or after great deliberation, according to his desired choice. He may

decide on an action coolly or heatedly; none of these courses affects the fact that action is being taken.[9]

Another fundamental implication derived from the existence of human action is the *uncertainty of the future*. This must be true because the contrary would completely negate the possibility of action. If man knew future events completely, he would never act, since no act of his could change the situation. Thus, the fact of action signifies that the future is uncertain to the actors. This uncertainty about future events stems from two basic sources: the unpredictability of human acts of choice, and insufficient knowledge about natural phenomena. Man does not know enough about natural phenomena to predict all their future developments, and he cannot know the content of future human choices. All human choices are continually changing as a result of changing valuations and changing ideas about the most appropriate means of arriving at ends. This does not mean, of course, that people do not try their best to estimate future developments. Indeed, any actor, when employing means, estimates that he will thus arrive at his desired goal. But he never has certain knowledge of the future. All his actions are of necessity *speculations* based on his *judgment* of the course of future events. The omnipresence of uncertainty introduces the ever-present possibility of *error* in human action. The actor may find, after he has completed his action, that the means have been *inappropriate* to the attainment of his end.

To sum up what we have learned thus far about human action: The distinguishing characteristic of human beings is that all humans *act*. Action is purposeful behavior directed toward the attainment of ends in some future period which will involve the fulfillment of wants otherwise remaining unsatisfied. Action involves the expectation of a less imperfectly satisfied state as a result of the action. The individual actor chooses

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[9]Some writers have unfoundedly believed that praxeology and economics assume that all action is cool, calculating, and deliberate.

to employ elements in his environment as means to the expected achievement of his ends, *economizing* them by directing them toward his most valued ends (leaving his least valued ones unsatisfied), and in the ways that his reason tells him are most appropriate to attain these ends. His method—his chosen means—may or may not turn out to be inappropriate.

3. Further Implications: The Means

The *means* to satisfy man's wants are called *goods*. These goods are all the objects of economizing action.[10] Such goods may all be classified in either of two categories: (*a*) they are immediately and *directly serviceable* in the satisfaction of the actor's wants, or (*b*) they may be transformable into directly serviceable goods only at some point in the future—i.e., are *indirectly serviceable* means. The former are called *consumption goods* or *consumers' goods* or *goods of the first order*. The latter are called *producers' goods* or *factors of production* or *goods of higher order*.

Let us trace the relations among these goods by considering a typical human end: *the eating of a ham sandwich*. Having a desire for a ham sandwich, a man decides that this is a want that should be satisfied and proceeds to act upon his judgment of the methods by which a ham sandwich can be assembled. *The consumers' good* is the ham sandwich at the point of being eaten. It is obvious that there is a scarcity of this consumers' good as there is for all direct means; otherwise it would always be available, like air, and would not be the object of action. But if the consumers' good is scarce and not obviously available, how can it be made available? The answer is that man must rearrange various elements of his environment in order to *produce* the ham sandwich at the desired place—the consumers' good. In other words, man must use various *indirect* means as

[10]The common distinction between "economic goods" and "free goods" (such as air) is erroneous. As explained above, air is not a means, but a general condition of human welfare, and is not the object of action.

co-operating factors of production to arrive at the direct means. This necessary process involved in all action is called *production*; it is the use by man of available elements of his environment as indirect means—as co-operating factors—to arrive eventually at a consumers' good that he can use directly to arrive at his end.

Let us consider the pattern of some of the numerous co-operating factors that are involved in a modern developed economy to produce one ham sandwich as a consumers' good for the use of one consumer. Typically, in order to produce a ham sandwich for Jones in his armchair, it is necessary for his wife to expend energy in unwrapping the bread, slicing the ham, placing the ham between bread slices, and carrying it to Jones. All this work may be called the *labor* of the housewife. The co-operating factors that are directly necessary to arrive at the consumers' good are, then: the housewife's labor, bread in the kitchen, ham in the kitchen, and a knife to slice the ham. Also needed is the land on which to have room to live and carry on these activities. Furthermore, this process must, of course, take *time*, which is another indispensable co-operating factor. The above factors may be called *first-order producers' goods*, since, in this case, these co-operate in the production of the consumers' good. Many of the first-order producers' goods, however, are also unavailable in nature and must be *produced* themselves, with the help of other producers' goods. Thus, bread in the kitchen must be produced with the co-operation of the following factors: *bread-in-retail-shop* and *housewife's labor* in carrying it (plus the ever-present land-as-standing-room, and time). In this procedure, these factors are second-order producers' goods, since they co-operate in producing first-order goods. Higher-order factors are those co-operating in the production of factors of lower order.

Thus, any process (or *structure*) of production may be analyzed as occurring in different *stages*. In the *earlier* or "higher" stages, producers' goods must be produced that will later co-operate in producing other producers' goods that will finally

co-operate in producing the desired consumers' good. Hence, in a developed economy, the structure of production of a given consumers' good might be a very complex one and involve numerous stages.

Important general conclusions can, however, be drawn that apply to all processes of production. In the first place, each stage of production takes *time*. Secondly, the factors of production may all be divided into two classes: *those that are themselves produced*, and *those that are found already available in nature—in man's environment*. The latter may be used as indirect means without having been previously produced; the former must first be produced with the aid of factors in order to aid in the *later* (or "lower") stages of production. The former are the *produced factors of production*; the latter are the *original factors of production*. The original factors may, in turn, be divided into two classes: *the expenditure of human energy*, and *the use of nonhuman elements provided by nature*. The first is called *Labor*; the latter is Nature or *Land.*[11] Thus, the classes of factors of production are Labor, Land, and the produced factors, which are termed *Capital Goods.*

Labor and Land, in one form or another, enter into each stage of production. Labor helps to transform seeds into wheat, wheat into flour, pigs into ham, flour into bread, etc. Not only is Labor present at every stage of production, but so also is Nature. Land must be available to provide room at every stage of the process, and time, as has been stated above, is required for each stage. Furthermore, if we wish to trace each stage of production far enough back to original sources, we must arrive at a point where only labor and nature existed and there were no capital goods. This must be true by logical implication, since all capital goods must have been produced at earlier stages with the aid of labor. If we could trace each production process far

[11]The term "land" is likely to be misleading in this connection because it is not used in the popular sense of the word. It includes such *natural* resources as water, oil, and minerals.

enough back in time, we must be able to arrive at the point—the earliest stage—where man combined his forces with nature unaided by produced factors of production. Fortunately, it is not necessary for human actors to perform this task, since action uses materials available in the present to arrive at desired goals in the *future*, and there is no need to be concerned with development in the *past*.

There is another unique type of factor of production that is indispensable in every stage of every production process. This is the "technological idea" of how to proceed from one stage to another and finally to arrive at the desired consumers' good. This is but an application of the analysis above, namely, that for any action, there must be some *plan* or idea of the actor about how to use things as means, as definite pathways, to desired ends. Without such plans or ideas, there would be no action. These plans may be called *recipes*; they are ideas of recipes that the actor uses to arrive at his goal. A *recipe* must be present at each stage of each production process from which the actor proceeds to a later stage. The actor must have a recipe for transforming iron into steel, wheat into flour, bread and ham into sandwiches, etc.

The distinguishing feature of a recipe is that, *once learned*, it generally does not have to be learned again. It can be noted and remembered. Remembered, it no longer has to be produced; it remains with the actor as an *unlimited* factor of production that never wears out or needs to be economized by human action. It becomes a general condition of human welfare in the same way as air.[12]

It should be clear that the end of the production process—the consumers' good—is valued because it is a direct means of satisfying man's ends. The consumers' good is *consumed*, and this act of *consumption* constitutes the satisfying of human wants.

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[12]We shall not deal at this point with the complications involved in the original learning of any recipe by the actor, which is the object of human action.

This consumers' good may be a material object like bread or an immaterial one like friendship. Its important quality is not whether it is material or not, but whether it is valued by man as a means of satisfying his wants. This function of a consumers' good is called its *service* in ministering to human wants. Thus, the material bread is valued not for itself, but for its service in satisfying wants; just as an immaterial thing, such as music or medical care, is obviously valued for such service. All these services are "consumed" to satisfy wants. "Economic" is by no means equivalent to "material."

It is also clear that the factors of production—the various higher-order producers' goods—*are valued solely because of their anticipated usefulness in helping to produce future consumers' goods or to produce lower-order producers' goods that will help to bring about consumers' goods.* The valuation of factors of production is derived from actors' evaluation of their products (lower stages), all of which eventually derive their valuation from the end result—the consumers' good.[13]

Furthermore, the omnipresent fact of the scarcity of consumers' goods must be reflected back in the sphere of the factors of production. The scarcity of consumers' goods must imply a scarcity of their factors. If the factors were unlimited, then the consumers' goods would also be unlimited, which cannot be the case. This does not exclude the possibility that *some* factors, such as recipes, may be unlimited and therefore general conditions of welfare rather than scarce indirect means. But other factors at each stage of production must be in scarce supply, and this must account for the scarcity of the end product. Man's endless search for ways to satisfy his wants—i.e., to *increase his production of consumers' goods*—takes two forms: increasing his available supply of factors of production and improving his recipes.

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[13]Cf. Carl Menger, *Principles of Economics* (Glencoe, Ill.: The Free Press, 1950), pp. 51–67.

Although it has seemed evident that there are several co-operating factors at each stage of production, it is important to realize that for each consumers' good *there must always be more than one scarce factor of production.* This is implied in the very existence of human action. It is impossible to conceive of a situation where only one factor of production produces a consumers' good or even advances a consumers' good from its previous stage of production. Thus, if the sandwich in the armchair did not require the co-operating factors at the previous stage (labor of preparation, carrying, bread, ham, time, etc.), then it would always be in the status of a consumers' good—sandwich-in-the-armchair. To simplify the example, let us suppose the sandwich already is prepared and in the kitchen. Then, to produce a consumers' good from this stage forward requires the following factors: (1) the sandwich; (2) carrying it to the armchair; (3) time; (4) the land available. If we assume that it required only one factor—the sandwich—then we would have to assume that the sandwich was magically and instantaneously moved from kitchen to armchair without effort. But in this case, the consumers' good would not have to be produced at all, and we would be in the impossible assumption of Paradise. Similarly, at each stage of the productive process, the good must have been produced by at least *more than one* (higher-order) scarce co-operating factor; otherwise this stage of production could not exist at all.

4. Further Implications: Time

Time is omnipresent in human action as a means that must be economized. Every action is related to time as follows:

FIGURE 1

. . . *A* is the period before the beginning of the action; *A* is the point in time at which the action begins; *AB* is the period during

which the action occurs; *B* is the point at which the action ends; and *B . . .* is the period after the end of the action.

AB is defined as the *period of production*—the period from the beginning of the action to the time when the consumers' good is available. This period may be divided into various stages, each itself taking a period of time. The time expended during the period of production consists of the time during which *labor energy* is expended (*or working time*) and *maturing time*, i.e., time required without the necessity of concurrent expenditure of labor. An obvious example is the case of agriculture. There might be six months between the time the soil is tilled and the time the harvest is reaped. The total time during which labor must be expended may be three weeks, while the remaining time of over five months consists of the time during which the crop must mature and ripen by the processes of nature. Another example of a lengthy maturing time is the aging of wine to improve its quality.

Clearly, each consumers' good has its own period of production. The differences between the time involved in the periods of production of the various goods may be, and are, innumerable.

One important point that must be emphasized when considering action and the period of production is that acting man does *not* trace back past production processes to their original sources. In the previous section, we traced back consumers' goods and producers' goods to their original sources, demonstrating that all capital goods were *originally* produced solely by labor and nature. Acting man, however, is not interested in past processes, but only in using *presently available means* to achieve anticipated future ends. At any point in time, when he begins the action (say *A*), he has available to him: labor, nature-given elements, and *previously produced capital goods*. He begins the action at *A* expecting to reach his end at *B*. For *him*, the period of production is *AB*, since he is not concerned with the amount of time spent in past production of his capital goods or in the

methods by which they were produced.[14] Thus, the farmer about to use his soil to grow crops for the coming season does not worry about whether or to what extent his soil is an original, nature-given factor or is the result of the improvements of previous land-clearers and farmers. He is not concerned about the previous time spent by these past improvers. He is concerned only with the capital (and other) goods in the present and the future. This is the necessary result of the fact that action occurs in the present and is aimed at the future. Thus, acting man considers and values the factors of production available in the present in accordance with their anticipated services in the future production of consumers' goods, and never in accordance with what has happened to the factors in the past.

A fundamental and constant truth about human action is that *man prefers his end to be achieved in the shortest possible time*. Given the specific satisfaction, the sooner it arrives, the better. This results from the fact that time is always scarce, and a means to be economized. The sooner any end is attained, the better. Thus, with any *given end* to be attained, the shorter the period of action, i.e., production, the more preferable for the actor. *This is the universal fact of time preference.* At any point of time, and for any action, the actor most prefers to have his end attained in the immediate present. Next best for him is the immediate future, and the further in the future the attainment of the end appears to be, the less preferable it is. *The less waiting time*, the more preferable it is for him.[15]

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[14]For each actor, then, the period of production is equivalent to his *waiting time*—the time that he must expect to wait for his end after the commencement of his action.

[15]*Time preference* may be called the preference for *present satisfaction* over *future satisfaction* or *present good* over *future good*, provided it is remembered that it is the *same* satisfaction (or "good") that is being compared over the periods of time. Thus, a common type of objection to the assertion of universal time preference is that, in the wintertime, a man will prefer the delivery of ice the next summer (future) to delivery of ice

Time enters into human action not only in relation to the waiting time in production, but also in *the length of time in which the consumers' good will satisfy the wants of the consumer*. Some consumers' goods will satisfy his wants, i.e., attain his ends, for a short period of time, others for a longer period. They can be consumed for shorter or longer periods. This may be included in the diagram of any action, as shown in Figure 2. This length of time, *BC*, is the *duration of serviceableness* of the consumers' good. It is the length of the time the *end* served by the consumers' good continues to be attained. This duration of serviceableness differs for each consumers' good. It may be four hours for the ham sandwich, after which period of time the actor desires other food or another sandwich. The builder of a house may expect to use it to serve his wants for 10 years. Obviously, the expected durative power of the consumers' good to serve his end will enter into the actor's plans.[16]

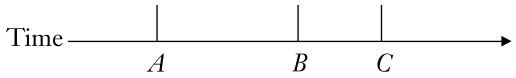

FIGURE 2. PERIOD OF PRODUCTION AND CONSUMPTION

Clearly, all other things being equal, the actor will prefer a consumers' good of greater durability to one of lesser, since the former will render more total service. On the other hand, if the

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in the present. This, however, confuses the concept "good" with the material properties of a thing, whereas it actually refers to subjective satisfactions. Since ice-in-the-summer provides different (and greater) satisfactions than ice-in-the-winter, they are *not* the same, but *different* goods. In this case, it is different satisfactions that are being compared, despite the fact that the *physical* property of the thing may be the same.

[16]It has become the custom to designate consumer goods with a longer duration of serviceableness as *durable goods*, and those of shorter duration as *nondurable goods*. Obviously, however, there are innumerable degrees of durability, and such a separation can only be unscientific and arbitrary.

actor values the total service rendered by two consumers' goods equally, he will, because of time preference, choose the less durable good since he will acquire its total services sooner than the other. He will have to wait less for the total services of the less durable good.

The concepts of period of production and duration of serviceableness are present in all human action. There is also a third time-period that enters into action. Each person has a general time-horizon, stretching from the present into the future, for which he plans various types of action. Whereas period of production and duration of serviceableness refer to specific consumers' goods and differ with each consumers' good, the *period of provision* (the time-horizon) is the length of future time for which each actor plans to satisfy his wants. The period of provision, therefore, includes planned action for a considerable variety of consumers' goods, each with its own period of production and duration. This period of provision differs from actor to actor in accordance with his choice. Some people live from day to day, taking no heed of later periods of time; others plan not only for the duration of their own lives, but for their children as well.

5. Further Implications

A. Ends and Values

All action involves the employment of scarce means to attain the most valued ends. Man has the choice of using the scarce means for various alternative ends, and the ends that he chooses are the ones he values most highly. The less urgent wants are those that remain unsatisfied. Actors can be interpreted as *ranking* their ends along a scale of values, or scale of preferences. These scales differ for each person, both in their content and in their orders of preference. Furthermore, they differ for the same individual at different times. Thus, at some other point in time, the actor mentioned in section 2 above might choose to go for a drive, or to go for a drive and then to play bridge,

rather than to continue watching the game. In that case, the ranking on his preference scale shifts to this order:

(First) 1. Going for a drive
(Second) 2. Playing bridge
(Third) 3. Continuing to watch baseball game

Moreover, a new end might have been introduced in the meantime, so that the actor might enjoy going to a concert, and this may change his value scale to the following:

(First) 1. Going for a drive
(Second) 2. Going to a concert
(Third) 3. Playing bridge
(Fourth) 4. Continuing to watch baseball game

The choice of which ends to include in the actor's value scale and the assignment of rank to the various ends constitute the process of *value judgment*. Each time the actor ranks and chooses between various ends, he is making a judgment of their value to him.

It is highly useful to assign a *name* to this value scale held by all human actors. We are not at all concerned with the specific *content* of men's ends, but only with the fact that various ends are ranked in the order of their importance. These scales of preference may be called *happiness* or *welfare* or *utility* or *satisfaction* or *contentment*. Which name we choose for value scales is not important. At any rate, it permits us to say, whenever an actor has attained a certain end, that he has *increased* his state of satisfaction, or his contentment, happiness, etc. Conversely, when someone considers himself worse off, and fewer of his ends are being attained, his satisfaction, happiness, welfare, etc., have *decreased*.

It is important to realize that there is never any possibility of *measuring* increases or decreases in happiness or satisfaction. Not only is it impossible to measure or compare changes in the

satisfaction of different people; it is not possible to measure changes in the happiness of any given person. In order for any measurement to be possible, there must be an eternally fixed and objectively given unit with which other units may be compared. There is no such objective unit in the field of human valuation. The individual must determine subjectively for himself whether he is better or worse off as a result of any change. His preference can only be expressed in terms of simple choice, or *rank*. Thus, he can say, "I am better off" or "I am happier" because he went to a concert instead of playing bridge (or "I will be better off" for going to the concert), but it would be completely meaningless for him to try to assign units to his preference and say, "I am two and a half times happier because of this choice than I would have been playing bridge." Two and a half times *what*? There is no possible unit of happiness that can be used for purposes of comparison and, hence, of addition or multiplication. Thus, values cannot be measured; values or utilities cannot be added, subtracted, or multiplied. They can only be ranked as better or worse. A man may know that he is or will be happier or less happy, but not by "how much," not by a measurable quantity.[17]

All action is an attempt to exchange a less satisfactory state of affairs for a more satisfactory one. The actor finds himself (or expects to find himself) in a nonperfect state, and, by attempting to attain his most urgently desired ends, expects to be in a better state. He cannot measure the gain in satisfaction, but he does know which of his wants are more urgent than others, and

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[17]Accordingly, the numbers by which ends are ranked on value scales are *ordinal*, not *cardinal*, numbers. Ordinal numbers are only ranked; they cannot be subject to the processes of measurement. Thus, in the above example, all we can say is that going to a concert is valued more than playing bridge, and either of these is valued more than watching the game. We cannot say that going to a concert is valued "twice as much" as watching the game; the numbers two and four cannot be subject to processes of addition, multiplication, etc.

he does know when his condition has improved. Therefore, *all action involves exchange*—an exchange of one state of affairs, *X*, for *Y*, which the actor anticipates will be a more satisfactory one (and therefore higher on his value scale). If his expectation turns out to be correct, the value of *Y* on his preference scale will be higher than the value of *X*, and he has made a *net gain* in his state of satisfaction or utility. If he has been in error, and the value of the state that he has given up—*X*—is higher than the value of *Y*, he has suffered a *net loss*. This psychic gain (or *profit*) and loss cannot be measured in terms of units, but the actor always knows whether he has experienced psychic profit or psychic loss as a result of an action-exchange.[18]

Human actors value *means* strictly in accordance with their valuation of the ends that they believe the means can serve. Obviously, consumers' goods are graded in value in accordance with the ends that men expect them to satisfy. Thus, the value placed on the enjoyment contributed by a ham sandwich or a house will determine the value a man will place on the ham sandwich or the house themselves. Similarly, producers' goods are valued in accordance with their expected contribution in producing consumers' goods. Higher-order producers' goods are valued in accordance with their anticipated service in forming lower-order producers' goods. Hence, those consumers' goods serving to attain more highly valued ends will be valued more highly than those serving less highly valued ends, and those producers' goods serving to produce more highly valued consumers' goods will themselves be valued more highly than other producers' goods. Thus, the *process of imputing values to goods* takes place in the opposite direction to that of the process of production. Value proceeds from the ends to the consumers' good to the various

[18]An example of suffering a loss as a result of an erroneous action would be going to the concert and finding that it was not at all enjoyable. The actor then realizes that he would have been much happier continuing to watch the game or playing bridge.

first-order producers' goods, to the second-order producers' goods, etc.[19] The original source of value is the ranking of ends by human actors, who then impute value to consumers' goods, and so on to the orders of producers' goods, in accordance with their expected ability to contribute toward serving the various ends.[20]

B. The Law of Marginal Utility

It is evident that things are valued as means in accordance with their ability to attain ends valued as more or less urgent. *Each physical unit of a means* (direct or indirect) that enters into human action is valued separately. Thus, the actor is interested in evaluating only those units of means that enter, or that he considers will enter, into his concrete action. Actors choose between, and evaluate, not "coal" or "butter" in general, but specific units of coal or butter. In choosing between acquiring cows or horses, the actor does not choose between the class of cows and the class of horses, but between specific units of them—e.g., two cows versus three horses. Each unit that enters into concrete action is graded and evaluated separately. Only when several units together enter into human action are all of them evaluated together.

The processes that enter into valuation of specific units of different goods may be illustrated in this example:[21] An individual possessing two cows and three horses might have to choose between giving up one cow or one horse. He may decide in this case to keep the horse, indicating that in this state of his stock,

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[19]A large part of this book is occupied with the problem of how this process of value imputation can be accomplished in a modern, complex economy.

[20]This is the solution of a problem that plagued writers in the economic field for many years: the source of the value of goods.

[21]Cf. Ludwig von Mises, *The Theory of Money and Credit* (New Haven: Yale University Press, 1953), p. 46.

a horse is more valuable to him than a cow. On the other hand, he might be presented with the choice of keeping either his entire stock of cows or his stock of horses. Thus, his stable and cowshed might catch fire, and he is presented with the choice of saving the inhabitants of one or of the other building. In this case, two cows might be more valuable to him than three horses, so that he will prefer to save the cows. When deciding between units of his stock, the actor may therefore prefer good *X* to good *Y*, while he may choose good *Y* if he must act upon his *whole stock of each good*.

This process of valuation according to the specific units involved provides the solution for the famous "value paradox" which puzzled writers for centuries. The question was: How can men value bread less than platinum, when "bread" is obviously more useful than "platinum"? The answer is that acting man does not evaluate the goods open to him by abstract classes, but in terms of the specific units available. He does not wonder whether "bread-in-general" is more or less valuable to him than "platinum-in-general," but whether, given the present available stock of bread and platinum, a "loaf of bread" is more or less valuable to him than "an ounce of platinum." That, in most cases, men prefer the latter is no longer surprising.[22]

As has been explained above, value, or utility, cannot be measured, and therefore cannot be added, subtracted, or multiplied. This holds for specific units of the same good in the same way as it holds for all other comparisons of value. Thus, if butter is an object serving human ends, we know that two pounds of butter will be valued more highly than one pound. This will be true until a point is reached when the butter is available in unlimited quantities to satisfy human wants and

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[22]Also cf. T.N. Carver, *The Distribution of Wealth* (New York: Macmillan & Co., 1904), pp. 4–12. See below for a further discussion of the influences on man's valuation of specific units resulting from the size of the available stock.

will then be transferred from the status of a means to that of a general condition of human welfare. However, we *cannot* say that two pounds of butter are "twice as useful or valuable" as one pound.

What has been involved in this key concept of "specific units of a good"? In these examples, the units of the good have been *interchangeable from the point of view of the actor*. Thus, any concrete pound of butter was evaluated in this case perfectly equally with any other pound of butter. Cow A and cow B were valued equally by the individual, and it made no difference to him which cow he was faced with the choice of saving. Similarly, horse A was valued equally with horse B and with horse C, and the actor was not concerned which particular horse he had to choose. When a commodity is in such a way available in *specific homogeneous units equally capable of rendering the same service to the actor*, this available stock is called a *supply*. A *supply of a good* is available in specific units each perfectly substitutable for every other. The individual above had an available supply of two cows and three horses, and a supply of pounds of butter.

What if one pound of butter was considered by the actor as of better quality than another pound of butter? In that case, the two "butters" are really *different goods* from the point of view of the actor and will be evaluated differently. The two pounds of butter are now two different goods and are no longer two units of a supply of one good. Similarly, the actor must have valued each horse or each cow identically. If he preferred one horse to each of the others, or one cow to the other, then they are no longer units of the supply of the same good. No longer are his horses interchangeable for one another. If he grades horse A above the others and regards horses B and C indifferently, then he has supplies of two different goods (omitting the cows): say, "Grade A horses—one unit"; and "Grade B horses—two units." If a specific unit is differently evaluated from all other units, then the supply of that good is only one unit.

Here again, it is very important to recognize that what is significant for human action is *not* the physical property of a good, but the evaluation of the good by the actor. Thus, physically there may be no discernible difference between one pound of butter and another, or one cow and another. But if the actor chooses to evaluate them differently, they are no longer part of the supply of the same good.

The interchangeability of units in the supply of a good does not mean that the concrete units are actually valued equally. They may and will be valued differently whenever their *position in the supply* is different. Thus, suppose that the isolated individual successively finds one horse, then a second, then a third. Each horse may be identical and interchangeable with the others. The first horse will fulfill the most urgent wants that a horse can serve; this follows from the universal fact that action uses scarce means to satisfy the most urgent of the not yet satisfied wants. When the second horse is found, he will be put to work satisfying the most urgent of the wants remaining. These wants, however, must be ranked lower than the wants that the previous horse has satisfied. Similarly, the third horse acquired might be capable of performing the same service as the others, but he will be put to work fulfilling the highest of the remaining wants—which, however, will yet be lower in value than the others.

The important consideration is the *relation between the unit to be acquired or given up and the quantity of supply (stock) already available to the actor*. Thus, if no units of a good (whatever the good may be) are available, the first unit will satisfy the most urgent wants that such a good is capable of satisfying. If to this supply of one unit is added a second unit, the latter will fulfill the most urgent wants remaining, but these will be less urgent than the ones the first fulfilled. Therefore, the value of the second unit to the actor will be less than the value of the first unit. Similarly, the value of the third unit of the supply (added to a stock of two units) will be less than the value of the second unit. It may not matter to the individual *which* horse is chosen first and which second, or *which* pounds of butter he consumes, but

those units which he does use first will be the ones that he values more highly. *Thus, for all human actions, as the quantity of the supply (stock) of a good increases, the utility (value) of each additional unit decreases.*

Let us now consider a supply from the point of view of a possible *decrease*, rather than an increase. Assume that a man has a supply of six (interchangeable) horses. They are engaged in fulfilling his wants. Suppose that he is now faced with the necessity of giving up one horse. It now follows that this smaller stock of means is not capable of rendering as much service to him as the larger supply. This stems from the very existence of the good as a means.[23] Therefore, *the utility of X units of a good is always greater than the utility of X – 1 units.* Because of the impossibility of measurement, it is impossible to determine *by how much greater* one value is than the other. Now, the question arises: Which utility, which end, does the actor give up because he is deprived of one unit? Obviously, he gives up the *least urgent of the wants which the larger stock would have satisfied.* Thus, if the individual was using one horse for pleasure riding, and he considers this the least important of his wants that were fulfilled by the six horses, the loss of a horse will cause him to give up pleasure riding.

The principles involved in the utility of a supply may be illustrated in the following value-scale diagram (Figure 3). We are considering any given means, which is divisible into homogeneous units of a supply, each interchangeable and capable of giving service equal to that of the other units. The supply must be scarce in relation to the ends that it is capable of fulfilling; otherwise it would not be a good, but a condition of human welfare. We assume for simplicity that there are 10 ends which

[23]This would not be true only if the "good" were not a means, but a general condition of human welfare, in which case one less unit of supply would make no difference for human action. But in that case it would not be a *good*, subject to the economizing of human action.

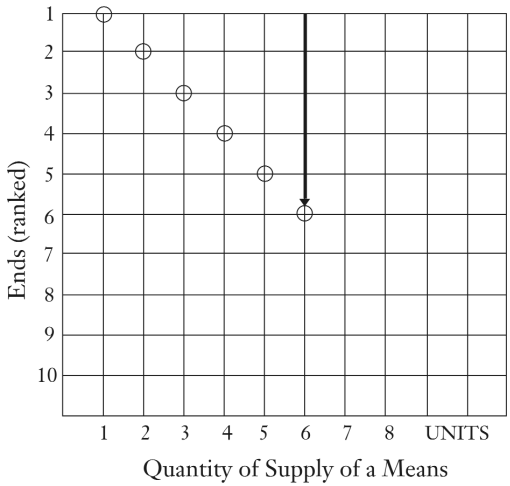

FIGURE 3. VALUE-SCALE DIAGRAM

the means could fulfill, and that each unit of means is capable of serving one of the ends. If the supply of the good is 6 units, then the first six ends, ranked in order of importance by the valuing individual, are the ones that are being satisfied. Ends ranked 7–10 remain unsatisfied. If we assume that the stock arrived in successive units, then the first unit went to satisfy end 1, the second unit was used to serve end 2, etc. The sixth unit was used to serve end 6. The dots indicate how the units were used for the different ends, and the arrow indicates the direction the process took, i.e., that the most important ends were served first; the next, second, etc. The diagram illustrates the aforementioned laws that the utility (value) of more units is greater than the utility of fewer units and that the utility of each successive unit is less as the quantity of the supply increases.

Now, suppose the actor is faced with the necessity of giving up one unit of his stock. His total will be 5 instead of 6 units. Obviously, he gives up satisfying the end ranked sixth, and continues to satisfy the more important ends 1–5. As a result of the interchangeability of units, it does not matter to him *which* of

the six units he must lose; the point is that he will give up serving this sixth end. Since action considers only the present and the future not the past, it does not matter to him *which* units he acquired first in the past. He deals only with his presently available stock. In other words, suppose that the sixth horse that he had previously acquired (named "Seabiscuit") he had placed in the service of pleasure riding. Suppose that he now must lose another horse ("Man o' War") which had arrived earlier, and which was engaged in the more important duty (to him) of leading a wagon. He will still give up end 6 by simply transferring Seabiscuit from this function to the wagon-leading end. This consequence follows from the defined interchangeability of units and from disregard of past events which are of no consequence for the present and the future.

Thus, the actor gives up the lowest-ranking want that the original stock (in this case, six units) was capable of satisfying. This one unit that he must consider giving up is called *the marginal unit*. It is the unit "at the margin." This least important end fulfilled by the stock is known as the *satisfaction provided by the marginal unit*, or the *utility of the marginal unit*—in short: the marginal satisfaction, or *marginal utility*. If the marginal unit is one unit, then the *marginal utility of the supply* is the end that must be given up as the result of a loss of the unit. In Figure 3, the marginal utility is ranked sixth among the ends. If the supply consisted of four units, and the actor were faced with the necessity of giving up one unit, then the value of the marginal unit, or the *marginal utility*, would have a rank of four. If the stock consisted of one unit, and this had to be given up, the value of the marginal unit would be one—the value of the highest-ranked end.

We are now in a position to complete an important law indicated above, but with different phraseology: *The greater the supply of a good, the lower the marginal utility; the smaller the supply, the higher the marginal utility.* This fundamental law of economics has been derived from the fundamental axiom of human

action; it is the *law of marginal utility*, sometimes known as the *law of diminishing marginal utility*. Here again, it must be emphasized that "utility" is not a cardinal quantity subject to the processes of measurement, such as addition, multiplication, etc. It is a *ranked number* expressible only in terms of higher or lower order in the preferences of men.

This law of marginal utility holds for all goods, regardless of the size of the unit considered. The size of the unit will be the one that enters into concrete human action, but whatever it is, the same principle applies. Thus, if in certain situations, the actor must consider only *pairs of horses* as the units to add or subtract from his stock, instead of the individual horses, he will construct a new and shorter scale of ends with fewer units of supply to consider. He will then go through a similar process of assigning means to serve ends and will give up the least valued end should he lose a unit of supply. The ends will simply be ranked in terms of the alternative uses of pairs of horses, instead of single horses.

What if a good cannot be divided into homogeneous units for purposes of action? There are cases where the good must be treated as a whole in human action. Does the law of marginal utility apply in such a case? The law does apply, since we then treat the supply as consisting of *one unit*. In this case, the marginal unit is equal in size to the total supply possessed or desired by the actor. The value of the marginal unit is equal to the *first rank of the ends which the total good could serve*. Thus, if an individual must dispose of his whole stock of six horses, or acquire a stock of six horses together, the six horses are treated as one unit. The marginal utility of his supply would then be equal to the first-ranking end that the unit of *six horses* could supply.

If, as above, we consider the case of *additions* instead of decreases to stock, we recall that the law derived for this situation was that as the quantity of supply increases, the utility of each additional unit decreases. Yet this additional unit is precisely the *marginal unit*. Thus, if instead of decreasing the supply from six

to five horses, we *increase* it from five to six, the value of the additional horse is equal to the value of the sixth-ranking end—say, pleasure riding. This is the same marginal unit, with the same utility, as in the case of decreasing the stock from six to five. Thus, the law derived previously was simply another form of the law of marginal utility. The greater the supply of a good, the lower the marginal utility; the smaller the supply, the higher the marginal utility. This is true whether or not the marginal unit is the unit of decrease of stock or the unit of addition to stock, when these are considered by the actor. If a man's supply of a good equals *X* units, and he is considering the addition of one unit, this is the marginal unit. If his supply is *X* + 1 units, and he is considering the loss of one unit, this too is his marginal unit, and its value is identical with the former (provided that his ends and their ranking are the same in both cases).

We have dealt with the laws of utility as they apply to each good treated in human action. Now we must indicate the relationship among various goods. It is obvious that more than one good exists in human action. This has already been definitely proven, since it was demonstrated that more than one factor of production, hence more than one good, must exist. Figure 4 below demonstrates the relationship between the various goods in human action. Here the value scales of two goods are considered—*X* and *Y*. For each good, the law of marginal utility holds, and the relation between supply and value is revealed in the diagram for each good. For simplicity, let us assume that *X* is horses and *Y* cows, and that the value scales representing those held by the individual are as follows (horizontal lines are drawn through each end to demonstrate the relationship in the ranking of the ends of the two goods): End *Y*-1 is ranked highest (say, cow one); then ends *X*-1, *X*-2, and *X*-3 (horses one, two, and three); *Y*-2; *Y*-3; *X*-4; *Y*-4; *X*-5; *Y*-5; *X*-6; *X*-7; *Y*-6; *Y*-7.

Now, the man's value scales will reveal his choices involving alternatives of action in regard to these two goods. Suppose