6. Beyond equilibrium economics: reflections on the uniqueness of the Austrian tradition

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Only those entirely blinded by the prepossession that economics must be a pale replica of mechanics will underrate the weight of this objection. A very imperfect and superficial metaphor is not a substitute for the services rendered by logical economics. ... Economics is not about goods and services, it is about the actions of living men. Its goal is not to dwell upon imaginary constructions such as equilibrium. These constructions are only tools of reasoning. The sole task of economics is analysis of the actions of men, is the analysis of processes. (Mises, 1966, p. 357)

INTRODUCTION

The renewed interest in Austrian economics has brought in its wake disagreement. To a large extent, the disagreement reflects a healthy state of growth. With new students come new ideas which work their way into scientific thought, and with new ideas come resistance through reflection, discussion, and debate. Fresh thought always meets resistance from established doctrine. A recent example of resistance to the new ideas has come from Murray Rothbard, who has charged some Austrians, such as Ludwig Lachmann, with nihilism. He says:

It is one thing to say, with Mises and his followers, and in contrast to the neoclassical economists, that equilibrium does not and can never exist on the market. It is quite another thing to say that the market does not even harbor equilibrating tendencies.

The upshot is really the scrapping of economic theory all together and the Lachmannian economist becomes a mere institutionalist and historian, recording past choices and trends. There is no question that Mises would have called such a doctrine anti-economics. (1985b, p. 284)

While avoiding the term nihilism, Israel Kirzner has also expressed serious misgivings about recent Austrian theorizing. He writes,

[T]o see the world as characterized by such extreme volatility is not only to deny the possibility of equilibrating tendencies, it is also to render economic science non-existent...

It would be a bizarre irony indeed if the modern revival of the Austrian tradition, begun over a century ago as a brave defense of economic theory (against a dominant tide of historicism), were to find its most sophisticated expression in the denial of any possibility of systematic market forces. (1985b, pp. 2–3)

While other economists have also recently expressed dissatisfaction with general equilibrium theory, and wondered whether it is possible to have a systematic science without it (see Hahn, 1973; 1981), this essay will concentrate on the Austrian debate.2 We will argue that dropping general equilibrium (or the evenly rotating economy) from economic theory is not equivalent to the abandonment of science. We will further argue that dropping general equilibrium analysis opens the way to an alternative theoretical approach, which we call “order analysis,” which we believe captures what is most distinctive and promising about Austrian economic theory. Although order analysis gives history and empirical work a more prominent place, the analysis itself is not historicism. It is theory at its relevant best.

EQUILIBRIUM AND ORDER

To question the value of equilibrium analysis is not to question the value of economic science. Systematic thought is not equivalent to equilibrium analysis. The Austrian debate blurred the distinction. One can have a theory of the market without postulating that the market is always moving toward general equilibrium. One point we wish to emphasize is that this particular debate is one over methods, not over the status of economic science. “The specific method of economics,” as Mises says, “is the method of imaginary constructions” (1966, p. 236). Since there is no justification for any imaginary construction except for its success in aiding science, any particular construct can be questioned without destroying the scientific nature of analysis. The debate, therefore, turns on whether or not the imaginary construction of general equilibrium is an appropriate and helpful tool for understanding the world. It is our belief that much of the current confusion results from the failure to remember the metaphorical status of general competitive equilibrium.

In science, as in everyday life, we rely on metaphors to express our ideas (McCloskey 1983). Economic equilibrium is a metaphor, developed under the influence of the physical sciences, in particular Newtonian mechanics and
nineteenth-century physics. In the attempt to explain the interconnectedness of market activity, economists developed the imaginary state of system-wide equilibrium. The metaphor describes a logically consistent system, but the conditions necessary, such as full relevant knowledge and zero transaction costs, never exist. If they did, there would be no market process as the Austrians understand that term.

Rather than simply a metaphor, Rothbard claims that equilibrium “is an ever-present force, since it is the goal toward which the actual system is always moving, ... [the] concept, then, is of legitimate and realistic importance” (1970 [1961], p. 236: emphasis added). But is this position tenable? The Austrian emphasis has always been on changing market conditions. Movement toward the evenly rotating economy is only imaginable if value scales are fixed and technology and resources are held constant. Cowen and Fink (1985), however, have argued that freezing tastes, technology and resources is an exercise which illegitimately restricts the full force of the market process. Such a restricted view says little about the actual course of market adjustments.

If one argues that the equilibrating tendencies of markets are an empirical regularity, then human society must be tending toward a state of affairs without money, without firms, without any market institutions. As Fehl (1986) has argued, the very existence of coordinating processes in markets depends upon non-equilibrium situations. Moreover, the closer one gets to an equilibrium state the less effective the coordinating role of institutions becomes. What, then, does this say about the theory of spontaneous order? It seems that the very ordering processes that arise spontaneously in a market are undermined by the mechanical metaphor of equilibration.

If the imaginary construction of the evenly rotating economy (ERE) is useful at all, it is only as a foil where the theorist contrasts this imaginary world with the real world in order to elucidate the complexity of reality. As Mises states, “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” (1966 [1949], p. 237). While Mises characterizes the use of such imaginary constructs as indispensable, he also warns of the danger of their careless use. “It leads along a sharp edge; on both sides yawns the chasm of absurdity and nonsense. Only merciless self-criticism can prevent a man from falling headlong into these abysmal depths” (ibid.).

Much of neoclassical economics has fallen into one of these chasms with an exclusive concentration on equilibrium states. By forgetting the metaphorical nature of equilibrium, neoclassicists often view economic theory and equilibrium as synonymous. In other words, economics has become "equilibriums" (Woo, 1986, pp. 79–101). This "mechanomorphism" of economics is also found in what might be called neoclassical Austrianism. When Austrians refer to proximity to an end state in their treatment of entrepreneurship they may be relying too much on the equilibrium construct. In analyzing entrepreneurship, Austrians have traditionally postulated a world of Robbinsian maximizers, and allowed the entrepreneur to seek arbitrage opportunities which equilibrate the market. Such an entrepreneur need only exercise alertness to profit opportunities. But entrepreneurship is also characterized by judgments about imagined future opportunities (High, 1982). Once the role of judgment is added to alertness, expectations are granted full force and the satisfaction of some individuals’ expectations can come only at the expense of the disappointment of others. While High rightly stresses that equilibration is inadequate to explain the endogeneity of market change, he too seems to fall back on an implicit equilibrium benchmark.

The equilibrium benchmark can only be justified if we take "equilibrium" to mean market clearing, rather than general equilibrium. Certainly market clearing is essential for a theory of market order. In any given market there is a tendency for supply to meet demand, but this is quite different from the mechanical metaphor of equilibration. While equilibrium implies market clearing, market clearing does not imply equilibrium, with all of its questionable assumptions. It appears to us that the equilibrium metaphor has proven misleading and that the time has come to seek a less mechanical metaphor, one that does not trivialize the incessant change of market processes.

“Logical economics,” states Mises, “is essentially a theory of processes and changes. It resorts to the imaginary constructions of changelessness merely for the elucidation of the phenomena of change” (1966, [1949] p. 356). Following a Misesian research program, one is led to question any mechanical analogy to market processes. In particular, given the “mechanomorphism” of modern economics, Austrians need to move beyond the neoclassical paradigm, rather than try to fit into it. Neoclassical Austrianism merely attacks the status quo for concentrating on the long-run solution to the exclusion of the processes by which the result is achieved. Unfortunately, we do not fully reject the notion of an artificial and mechanical approach to the end state. We do not fully reject the mechanical metaphor. Underlying our reluctance may be an undue fear of destroying the scientific nature of economics.

Rejection of the equilibrium metaphor does not destroy the scientific status of economic theory. The development of a medium of exchange, the evolution of law, a growing division of labor, the relative price effects of the inflation process, and the calculation problem under socialism, are but a few of the Austrian insights that do not depend on the idea of proximity to general equilibrium. Rather they characterize order analysis.
CREATIVITY, COMPLEXITY, AND COORDINATION

Consider the development of a complex economy. Starting in a barter economy, people realize the gains to be made by the division of labor. Because this division increases productivity, people stand to benefit through specialization and exchange. However, coordinating barter exchanges becomes progressively more difficult because of the lack of double coincidences of wants, thus opening the door to the development of money.

Once a money is established, it facilitates further division of labor by making exchange easier and by permitting monetary calculation. Entrepreneurship drives this whole process. Not only does money emerge from exploiting the opportunities for indirect exchange, but the extensive division of labor results from attempts to capture profits. Increased specialization will continue until the added benefits of divided labor are outweighed by the increasing costs of complexity (High, 1986, p. 117).

In this story one clearly sees what Tyler Cowen has called the three characteristics of an ordering process. Creativity is the entrepreneurial element, both in the increased division of labor and in the development of money. The complexity aspect flows from the further division of labor. As economists have known since Smith, the division of labor increases the productive possibilities of a society and in so doing increases its complexity. Finally, the role of money is seen as a coordinating influence. By allowing profit and loss calculation, money enables entrepreneurs to use resources efficiently, and allows the division of labor to increase by facilitating the necessary exchanges. All of these three characteristics intertwine to form the "marvel" of the market (Hayek, 1980 [1948], p 87).

Most important though is the nature of this account. It is an evolutionary ordering process. It is a scientific alternative that works without reference to any equilibrium construct. An evolutionary process is open-ended, in that the process does not tend toward any end-state.

Consider what it would mean for human evolution to tend toward a final state. No biologist would ever say that we need to have a concept of a "fully evolved" human to understand the process of evolution. It would also seem questionable to attempt to explain evolution as a process "tending toward" such a being. That would necessitate both constructing the being and explaining the process. Similarly, the evolutionary process in economics does not refer to an end-state, but instead explains how creativity leads to complexity, while retaining a sufficient degree of coordination to make the complexity beneficial.

A serious concern raised by the preceding analysis is that by following this approach to studying market processes the economist will have trouble defending the market economy. For example, Kirzner has worried that by denying that market activity is strictly equilibrating one loses the ability to defend free markets. It seems to us, however, that the defense of the market becomes stronger when based upon analyses such as the above, without reference to any notion of equilibrium.

First of all, as scientists we must question our free market policy conclusions if they rely on an impossible world like the construct of the evenly rotating economy. If defending the market depends on movement towards general equilibrium, the case for the market would have to be declared both unrealistic and unpersuasive.13

Any defense of the free market which relies on the equilibrium state of market affairs misrepresents the ordering aspect of market activity and sets up an easy target for opponents.14 For example, the spread of Keynesian economics was facilitated by the confusion of Say’s Law with Walras’s Law’s.15 If J.B. Say had meant by his Law of Markets that supply always equals demand, then Austrians would have joined Keynes in its rejection. Say’s Law, however, can be understood as an ordering principle rather than an equilibrium condition.

An ordering principle describes the processes in market activity that produce mutually reinforcing sets of expectations, but does not deny that some expectations will be wrong. In the example of Say’s Law, the ordering principle is that production is the source of demand. As Say states: “A man who applies his labor to the investing of objects with value by the creation of utility of some sort, cannot expect such a value to be appreciated and paid for, unless where other men have the means of purchasing it” (Say, 1971 [1880], p. 133). Viewing market activity this way “leads us to a conclusion that may at first sight appear paradoxical, namely, that it is production which opens a demand for products” (ibid.). In this form Say’s Law does not rely on the assumption of perfect markets.

Profits, losses, bankruptcies, and money are necessary to the market process. They do not indicate inefficiency or market failure. The ordering principle view of Say’s Law is an example of a way of understanding these phenomena without recourse to equilibrium constructions.

The equilibration language also led to theoretical conclusions that had profoundly misleading policy implications during the socialist calculation debate of the 1920s and 30s. The lack of emphasis on the non-equilibrium nature of the Austrian argument allowed Lange et al. to answer Mises in the eyes of the profession (Lavoie, 1985b). The failure of both the orthodoxo and the Austrians to realize the unique contribution of Austrian spontaneous order theory led to this confusion. The real Austrian theoretical contribution, and its policy implications, lie between mere institutionalism and the arid formalism of much neoclassical economics (Lavoie, 1986b).
BETWEEN INSTITUTIONALISM AND FORMALISM

The challenge that Austrians face today is to show that Austrian theory lies between non-theoretical institutionalism and non-historical formalism, that its value lies in opening its theory to being informed by history, and in its ability to use theory to interpret history. The challenge is to show that Austrian economics is empirical theory.

Rothbard has criticized young Austrians for the way they defend the relationship between theory and history. It leads, he says, to an "abandonment of theory altogether in behalf of a vaguely empirical institutionalism" (Rothbard, 1985a).

Recognizing that history informs theory is not nihilistic. It does not deny the importance of theory. Rather, it corrects the insufficient attention Austrians have paid to history. This is why the charges of nihilism are so dangerous; they miss the point of the problem with modern economics, both Austrian and neoclassical. It is not that economists undervalue theory; it is that they undervalue history.

Theory and its relationship to history have long concerned Austrian economists. Menger (1883), launching the famous methodological debates known as the methodenstreit, argued that an economic theory of "exact laws" was necessary for understanding the complex historical record, a point which is now generally understood. The particulars of economic phenomena can only be made intelligible through a background of general, abstract theory.

Austrians have progressed since Menger, and over time the rivals have changed from the German historicists to the contemporary modernists. In the interim, a bold defense of Austrian theory was put forward by Mises. He pointed out that Austrian economics is a product of Continental thought. Mises was strongly influenced by this tradition, as evidenced by his favorable references to Bergson, Collingwood, Croce, Dilthey, Husserl, and Schutz. Unfortunately, Rothbard fails to understand these Continental roots, and recently dismissed these philosophers as "muzzy minded nihilists."

But it is not possible to dissociate Mises from his continental roots. Austrian economics cannot be defended as a linearly deductive apodictically certain string of syllogisms, a Euclidean system presumed to be free from all the prejudices and ambiguities of historical research. To claim apodictic certainty for an entire science is to claim the end of discussion, for either one believes in logic or one doesn't. Indeed, once one realizes the primordial fact of human action, one need only deduce to one's heart's content, never once confronting the real world. The claim that theory is completely immune from historical refutation is a particular understanding of what theory is, and represents only one variant in the diverse Austrian methodological tradi-

Mises, for example, says that "Reasoning and scientific inquiry can never bring full ease of mind, apodictic certainty, and perfect cognition of all things" (1966, [1949] p. 25). Instead, "All that man can do is submit his theories again and again to the most critical reexamination" (ibid., p. 68).

Deductive logic is a necessary component of scientific inquiry, but it is not sufficient to establish a theory's relevance. What if, for instance, we are confronted with another theory which purports to be logically tight, but rests on a different set of axioms, say, like that of Debreu, or of Hollis and Nell? As Bruce Caldwell (1984) rightly observes, "apodictic certainty" is not the issue. He asks: "How does one choose between competing theories, all of which claim to be logically deduced from true premises?" Theory choice depends on which questions scientists consider fruitful, and therefore which theories are more pragmatic, i.e., more successful at answering the questions scientists consider interesting and worthwhile. Mises, in fact, defends praxeology on pragmatic grounds stating that: "The practice of considering fellow men as beings who think and act as I, the Ego, do has turned out well; on the other hand, the prospect seems hopeless of getting a similar pragmatic verification for the postulate requiring them to be treated in the same manner as the objects of the natural sciences" (1966, [1949], p. 24).

In addition to appealing, internally, to the formal structure and validity of a theory, Austrians must also appeal to its relevance. That is, theory choice should be contextual. Austrians must risk comparing their theory to other approaches, past and present. To judge the worth of a theory requires a process of interpretation and reflection, as well as logical ratiocination. This process is the means by which scientists persuade their contemporaries about the usefulness of their theory. Science succeeds when the guiding idea of the scientific process is the free flow of ideas in a reasonable communicative environment.

One important method of keeping theory relevant is to employ its principles in the interpretation of concrete events. Mises's classic work of 1912 stands as a shining example of the integration of theory and history. The Theory of Money and Credit shows that theory and history are complements, not substitutes. There is nothing nihilistic in recognizing this. On the contrary, using theory to interpret history, and history to inform theory, can only improve both. It is thus high time to reconsider our description of the relationship between theory and history. There is a distinction between theory and history, not a dichotomy. Thus Austrians lie somewhere between anti-theoretical institutionalism and ahistorical formalism.
CONCLUSION

Much of modern economics is trapped in an ahistorical equilibrium world, unable to render intelligible the purposive action of human beings in the real world. The value of Austrian analysis has always been its realism. It is a human-centred approach, recognizing fallible humans acting in a world of constant flux. By moving beyond equilibrium theorizing and the dichotomization of theory and history, Austrians can advance the heritage passed on to us by Menger, Mises and Hayek.

As Austrians examine and debate these issues, we should recall Hayek's neglected The Sensory Order (1976, [1952]), and recognize that the mind is always in the process of becoming. The way we understand our theory, the way we put it to use, and the way we defend it changes as the nature of our knowledge and the problems we want answered change. Theoretical knowledge, like the market process, is neither equilibrating nor disequilibrating; it is rather an orderly process of change.

As Mises said:

It is customary for many people to blame economics for being backward. Now it is quite obvious that our economic theory is not perfect. There is no such thing as perfection in human knowledge nor for that matter in any other human achievement. Omnicience is denied to man. The most elaborate theory that seems to satisfy completely our thirst for knowledge may one day be amended or supplanted by a new theory. Science does not give us absolute and final certainty. It only gives us assurance within the limits of our mental abilities and the prevailing state of scientific thought. A scientific system is but one station in an endlessly progressing search for knowledge. It is necessarily affected by the insufficiency inherent in every human effort. But to acknowledge these facts does not mean that present-day economics is backward. It merely means that economics is a living thing—and to live implies both imperfection and change. (1966, p. 7: emphasis added)

NOTES

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1. More recently Rothbard (1986b, p. 17) has stated his concern in the following manner:

In recent years, there has been an attempt by nihilists within Austrian theory to downgrade Boehm-Bawerk and pay allegiance to Menger alone. The nihilists, who in the name of subjectivism deny objective reality and therefore all economic law, are dead wrong, however. Boehm-Bawerk, like Menger, saw Austrian theory as analyzing indi-

vidual human beings subjectively evaluating objective reality. But Menger's work was fragmentary and therefore subject to misinterpretation; Boehm-Bawerk's mighty architectonic stands as undying testimony to the ability of Austrian methodology and subjective value theory to arrive at objective economic law. And Mises' great work stands, alongside Boehm-Bawerk's, as the Twin Towers of the Austrian system. He who denies Boehm-Bawerk, denies Mises, and repudiates the best of what economics has to offer.

It appears to us, however, that this is a misinterpretation on Rothbard's part of the modern developments in Austrian theory. No one is denying objective reality or truth. On the contrary, modern developments in Austrian economics are a truth seeking. To the Austrian the emphasis is "individual human beings subjectively evaluating objective reality" as Rothbard states. The modern developments in Austrian theory, however, are attempts to refine and extend this analysis, not deny the possibility of economic science. As an economist Rothbard should realize that choices are on the margin. To find fault with Boehm-Bawerkian concepts such as the average period of production, does not mean the denial of other crucial insights made by Boehm-Bawerk, such as time preference theory of interest or his analysis of price formation in the horse market. Boehm-Bawerk does stand as one of the pillars of the Austrian system along with Mises, but so do Menger, Wieser, Hayek, Kirzner, Lachmann and Rothbard himself.

2. For a discussion of the historical origin of the debate see Lavoie (1978a, 1978b, 1979a and 1979b). Also see the exchange between Lachmann and White (1979) and Lachmann and White (1979).


3. It is interesting that Rothbard chooses to describe market equilibration with reference to the analogy of a dog chasing a mechanical rabbit. This analogy is similar to one employed by Kenneth Boulding, who uses the story of a dog chasing a cat to describe the direction of change in an economy. Equilibrium for the dog is where the cat is, but the dog might never catch the cat. The concept, however, is useful to explain the direction in which the dog is running. Even though we don't agree with this target use of the equilibrium metaphor, it seems to us that Boulding's analogy is better, because it incorporates the changing conditions—the dog becomes aware of the cat and moves away. With the mechanical rabbit analogy, this process of endogenous change is lost.

4. Mises' description of the ERE, in fact, points to why it is of no other use in analyzing the market processes that result from purposive human action:

[In the evenly rotating economy there is no choosing and the future is not uncertain as it does not differ from the present known state. Such a rigid system is not populated with living men making choices and liable to error, it is a world of soulless unthinking automations; it is not a human society, it is an assemblage. (1966, p. 248)]

5. Roger Garrison in his article, "Time and Money," demonstrated this belief in the equivalence between theory and general equilibrium in the following manner: "[T]he notion of 'money as veil' ... allows us to identify the underlying general equilibrium relationships with which any theory, macroeconomic or otherwise, must ultimately be reconciled" (1984, p. 203, fn). While we consider Garrison's article one of the most important contributions to modern developments in Austrian economics, we cannot follow him on this equivalence of theory and general equilibrium, if general equilibrium is understood as it usually is within the modern literature. If, however, Garrison is merely suggesting that all economic theories must recognize the interconnectedness of economic activities and
that changes in real variables have real effects while changes in nominal variables affect the market.

6. Mittermaier explains the adoption of mechanomorphism by the human sciences in the following manner:

Mechanomorphism has emerged in economics due to the high respect held for the physical sciences. The physical sciences have largely succeeded in purging anthropomorphism from within their domain. That is, eliminating reference to mind and purpose in physical phenomena. Social scientists, who dwell in the phenomena of mind and purpose, have not attempted to purge the human sciences of their very object of study, the plans and purposes of human actors.

A scientist engages in anthropomorphism when he ascribes human attributes to what is otherwise recognized as inanimate or at least not human. By analogy we may say that an economist engages in mechanomorphism when he ascribes mechanical properties to what is otherwise recognized as an aspect of human affairs or when he treats an economic system as though it were a mechanical system. (Mittermaier, 1986, p 237)

It is a paradox that Austrian economics, which has always stressed human purposes and plans in economic analysis, would fail prey to the mechanistic language of equilibrium. As Menger states: "The so-called social organisms ... simply cannot be viewed and interpreted as the product of purely mechanical force effects. They are rather the result of human efforts, the efforts of thinking, feeling, acting human beings" (1985 [1883], p. 133). See also Mises (1949) and Hayek (1964 [1955]).


8. Ironically, in his recent work on the history of thought Rothbard finds "brilliance" in the very anticipation by theorists, such as Turgot, of these Austrian insights into market processes. As Rothbard states "in his [Turgot's] analysis of human action as the result of expectations, rather than in equilibrium or as possessing perfect knowledge, Turgot anticipates the Austrian emphasis on expectations as the key to actions on the market. Turgot's very emphasis on expectations of course implies that they can be and often are disappointed in the market" (1986c, p. 11).

9. This may be called a "partial market clearing" analysis as opposed to a partial equilibrium analysis.

10. Market clearing arises when quantity supplied equals quantity demanded. Market equilibrium is achieved when the above holds, as well as an equality of marginal rates of substitution between all goods and factors, thus allowing price to equal marginal costs. Viewed as such, partial equilibrium is essentially sectorial general equilibrium theory. States Hirschleifer (1984, p. 19), "microeconomics concentrates mainly upon equilibrium states of particular markets, presuming an equilibrium of the market system as a whole." Also, consider Friedman's interpretation:

The distinction commonly drawn between Marshall and Walras is that Marshall dealt with 'partial equilibrium,' Walras with 'general equilibrium.' This distinction is, I believe, false and unimportant. Marshall and Walras alike dealt with general equilibrium; partial equilibrium as usually conceived is but a special kind of general equilibrium analysis - unless, indeed, partial equilibrium analysis is taken to mean erroneous general equilibrium analysis. (1953, p. 89)

To the extent, however, that partial equilibrium theorists are analyzing markets consisting of firm, the use of money, etc., their analysis is inconsistent given the (at least implicit) assumptions of general equilibrium theory. For more on this see Fink (1983, 1984-5 and 1989) and High (1983-4 and 1984-5).

11. The calculation debate suggests a way in which we can defend the market as the best way of organizing society. As we discuss later in the essay, the equilibrium defense is inadequately put forward by Hayek. That argument is, however, simply a criticism. Through space does not permit us to delve deeply into it, an alternative positive defense of the market can be hinted at.

The thrust of this argument is that the reason the market generates a high degree of order is that it effectively processes the bits of knowledge scattered among market participants (Hayek, 1980 [1948]). Since much of this knowledge is of particular circumstances (ibid.), or even tacit (Polanyi, 1958), it cannot be accessed by, or articulated to, government agents (Lavoie, 1985a, p. 54ff). Without such knowledge, no government action can improve upon the order generated in the market.

12. We argued above that there is a definite difference between order and equilibrium. The point we wish to add here is that the notion of order and coordination are similar, they are also quite distinct. Both concepts concern themselves with ex ante expectations. While coordination emphasizes the limit where individual plans actually dovetail, order reflects the broader notion of internal predictability of the elements of an order to the individuals who are part of that order. As Hayek states, "Order with reference to society thus means essentially that individual action is guided by successful foresight, that people not only make effective use of their knowledge but can also foresee with a high degree of confidence what collaboration they can expect from others." (1972, 1960, p. 160).

Coordination implies that the plans and actions of different individuals are mutually compatible. The internal predictability necessary for social order, on the other hand, corresponds to the less limiting notion that individuals are capable of forming more or less correct expectations about the actions of others. Order encompasses, but is not synonymous with, coordination.

Thus, spontaneous order explanations of market activity are not concerned solely with the coordination of economic phenomena. Rather, spontaneous order explanations attempt to explain the being, becoming, and maintenance of social institutions that bring about order, with all of their diversity and complexity. For a fuller elaboration of these ideas see Cowen and Fink (1983).

13. For the 'Clyde-Wicksteed exhaustion theorem can be viewed as a quick response to Marxian exploitation theory. This theorem, however, makes an equilibrium solution to the problem of wage earners receiving wages below their marginal product. An answer based on this line of reasoning merely substitutes a long-run state for the present and does not explain the processes by which wages equate with the value of the marginal product. Essentially, the exhaustion theorem apologizes for current discrepancies by asserting that in the long run such inequalities will disappear. In reality, however, it is the very existence of such discrepancies that drives the market process. Rather than apologize for the existence of differing prices and wages, economists could analyze the importance of wage and price inequalities in the processes which bring about social order.

14. That such an eminent theorist as Professor Lachmann could fall under the sway of such arguments is tribute to their power.

It puzzles me that White fails to see that, by pretending to see 'spontaneous order' everywhere, we are playing right into the hands of our opponents who merely have to point to obvious instances of malcoordination to win debating points. Every case of malinvestment can be held against the market economy. Does it not show malcoordination? The 'absence of universal future markets' in Arrow and Hahn as an argument against the market economy makes sense only, but, alas, does make sense, against such universal affirmations as I am now asked to subscribe to. (Lachmann and White, 1979, p. 7)

The difficulty here is that Lachmann is confusing the concepts of equilibrium and spontaneous order. It is not inconsistent with the notion of spontaneous order that there is malcoordination and no universal future markets. Spontaneous order describes the processes which bring about degrees of order, it does not describe an equilibrium. Lachmann's confusion perhaps stems from an earlier article by O'Driscoll (1978), in which he makes a similar mistake.
15. The point is demonstrated by Keynes's exclusive concentration in The General Theory (1936) upon the Cambridge economists, for example Marshall and Pigou, as the representatives of the Classical School, and his lack of references to the monetary disequilibrium economists, such as Thornton, Brown, Davenport, and Warburton. On the different understandings of Say’s Law see Leijonhufvud (1981), Cowen (1982), and Garrison (1984). Also see Mises (1980a [1912]) and say (1980a) and say (1980b [1912]), pp. 132–40.

16. By saying, however, that one’s theory is composed of “exact” laws seems to free it, unjustifiably, of any criticism. Thus Knut Wicksell, although an admiral of the Austrian school, complained that exact “means finished or complete, and a science is not finished until it has completed all its tasks; so it is never really exact in the strictest sense of the word” (1904, 57). Certainly Menger did not consider economic theory to be finished, but the way he defended it seemed to render the existing, incomplete theory immune from criticism.

17. The specific citations in Mises are (1976 [1960]) p. 46; 1966 pp. 24, 33, 100, 219; 1985 [1957], pp. 308, 312; 1978, [1962] pp. 47, 135–6. In addition to these citations, it must also be noted that Mises organized and led a seminar in the philosophy of Husserl while living in Vienna. Mises was also good friends with Schutz and it was Schutz who met Mises at the dock when Mises arrived in the United States. Mises himself often reads like this (see, for example, 1966 [1949] p. 39). This presents the theorist with the difficulty of interpreting “what Mises really meant.” Bettina Bien Greaves shed light on Mises's view of interpretations of his work when she described the atmosphere at his New York seminar: “Mises encouraged participants in his seminar to ask questions. They should not accept his every statement as absolute truth, or, he said, he might as well be a dictator” (Greaves, 1981, p. 24).

18. In choosing between the different interpretations of Mises, it seems plausible to see that understanding of his meaning that best fits within his general theory of human action. It is the “spirit of the text” which speaks to us, and it is within this context that we hope to understand the Misesian system.

19. Though admittedly starting from a different set of axioms, namely, utility maximization, economists have in a way witnessed this in the works of such mathematical economists as Debreu, whose Theory of Value (1959) exemplifies the Euclidean position.

20. Austrian economists have never had a homogenous methodological position. For example, Menger could be described as an Aristotelian essentialist, Mises a Neo-Kantian a priorist, Hayek a Popperian, Lachmann a Weberian hermeneuticist and Rothbard a “radically empirical” neo-Thomist Euclidean. Each member of the school has put forward their own defense of a subjectivist approach to the social sciences. For a survey of the different Austrian methodological positions see White (1984). More recently, new defenses of the Austrian approach have come from Lavoie (1985c and 1986a). Ebeling (1986), O’Driscoll and Rizzo (1985) and Przychitko (1986), some of which is influenced by Bernstein (1983) and Gadamer (1985).

21. While Austrian theory is based on the “fundamental axiom” of human action, Hollis and Nell (1975) deduce their theory from the “primary fact” of “the reproduction of the system.” Both sides argue that empirical testing of the theory is out of the question. For an Austrian response see Lavoie (1977).

22. Since the value of scientific theories is imputed from their applicability in answering the questions that science considers important, it is crucial to continue discussion within the scholarly community over what constitutes a good question and a good answer. Moreover, it would be interesting to analyze the distortions or benefits that have resulted from interventions by the government within this process.

23. The primary condition for a successfully truth-seeking scientific process is that the participants are reasonable. As Van Dun (1986, p. 22) says, “That we ought to be reasonable is the most fundamental, the most indubitable fact of all – the fact without which nothing else can be a fact.” To deny that we should be reasonable itself requires an attempt to be reasonable. Hans Hoppe (1988) posits a similar line of thinking based on the primacy of argumentation.

24. By reasonableness, Van Dun means that scientists should follow the ethical norms of purposeful dialogue, including openness to disagreement, not using rewards or threats, not compromising one’s views, and respecting all of these in norms in other scientists (1986, p. 24). In sticking to the rules of dialogue, scientists allow the scientific process to achieve a high degree of truth, much like the unfettered market process generates a high degree of order. See also Lavoie (1985a), Polanyi (1969), and Przychitko (1985).

25. Among the best examples of Austrian historical work are Rothbard (1975a, 1975b), Armentano (1981), and Crane (1984). In addition, the Workshop in Austrian Empirical Studies at George Mason University has begun a series of historical studies which apply Austrian theory. For example, see Horwitz (1986). The White book and the historical section of Selgin (1985), are examples of historical works that have informed Austrian theory. The theory of free banking is much better articulated because of such historical investigation.

REFERENCES
Equilibrium, evolution and market process


Beyond equilibrium economics


— (1985b), "Review of The Economics of Time and Ignorance," Market Process, 3(2), Fall. (Reprinted as Chapter 3 in this volume.)


— (1985), "Review of The Economics of Time and Ignorance," Market Process, 3(2), Fall. (Reprinted as Chapter 4 in this volume.)


Lavoie, Don (1977), "From Hollis and Nell to Hollis and Misses," *Journal of Libertarian Studies*, 1(4).


— (1985a), Preface in Mises, 1985 [1957].

— (1985b), "Professor Hebert on Entrepreneurship," *Journal of Libertarian Studies*, 7(2), Fall.


