

## 18. Progress in Austrian economics from Menger to Lachmann

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### INTRODUCTION

No doubt progress in economics is not a linear process. The establishing of the Austrian tradition offers one of the most striking instances of this peculiarity. The principles expressed by Menger were not taken up again from the outset by his followers. The first two generations of Austrian authors somehow deviated from the Mengerian originality and it was not until the 1940s that the Mengerian tenets were rediscovered by Mises and Hayek and, later on, in the 1970s, reorganized into a coherent framework.

The aim of this paper is to appraise how much road has been covered between Menger's embryonic statements and modern formulations of Austrian economics. The question is, apart from deviations and cul de sacs, how much has been added to Menger's original contribution?

In order to answer this question it is first necessary to identify what constitutes the core of the Mengerian originality. Dynamic subjectivism, the causal-genetic way of thinking and non-determinacy, it will be argued, represent the bases of the Austrian school as Menger founded it. We will then examine to what extent his followers have been improving on each of these principles. The perspective of the paper is thus rather general, mainly dealing with methodological and conceptual considerations, the objective not being to provide a detailed account of the evolution of particular theories such as business cycle theories or market process theories.

### THE MENGERIAN ORIGINALITY

In Menger's view, economics belongs to the group of theoretical sciences, which means that it automatically receives the status of an exact science. This concept of economics as an exact science clashes directly with the position of the German historical school, which favours a historical approach with the intention of highlighting empirical regularities. For Menger, on the contrary,

the status of exact science stems from the fact that it is possible to develop precise and universal theoretical laws explaining economic phenomena. More precisely, the scientific approach defended by Menger is purely analytical and consists in breaking down complex economic phenomena into their most simple elements, a logical decomposition in terms of relations of causality. On a methodological level, his objective is:

to reduce the complex phenomena of human economic activity to the simplest elements that can still be subjected to accurate observation, to apply to these elements the measure corresponding to their nature, and constantly adhering to this measure, to investigate the manner in which more complex phenomena evolve from their elements according to definite principles. (Menger, [1871] 1950: 46–7)

Now, what are these simplest elements that Menger has in mind and which constitute the essential causes of complex economic phenomena? At the simplest level of the individual choices, the primary cause explaining behaviour reflects the human need to have certain goods at one's disposal in order to live, this translating into the search to satisfy one's needs. Throughout his work, Menger emphasizes the individual as a starting point for causal explanation of all economic phenomena. The author considers human behaviour which seeks to satisfy needs as the most simple premise upon which everything may be built, thereby defining economics according to a strict subjectivist base. This is defined as the principle of 'economizing'.<sup>1</sup>

In his 1883 work, Menger continues and goes deeper into the methodological foundations which, in his opinion, should underlie any theoretical science and economics in particular. Essentialism and universalism, the two principles at the core of Menger's methodology which were already introduced in the *Grundsätze*, are here confirmed and justified. The scientific approach, whose ultimate aim is to acquire general knowledge on phenomena, consists in systematically researching ultimate causes which are the very essence of these phenomena, by establishing general laws having a universal character, that is, knowing no exceptions:

The goal of scholarly research is not only the *cognition*, but also the *understanding* of phenomena. We have *gained cognition* of a phenomenon when we have attained a mental image of it. We understand it when we have recognized the reason for its existence and for its characteristic quality (the reason for its *being* and for its *being like it is*). (Menger, [1883] 1963: 43)

Understanding an economic phenomenon means identifying the causal process which brings it into being, starting from its most elementary cause – economizing – to the most complex manifestation of the phenomenon under analysis.

### The Focus on Economic Process

Clearly, Menger's conception of economics clashes with marginalism. The opposition was first made explicit by Hans Mayer. Mayer ([1932] 1994: 57) distinguishes between two types of theoretical approach to the question of how economic prices are formed: *causal-genetic theories* which, 'by explaining the formation of prices, aim to provide an understanding of price correlations via knowledge of the laws of their genesis', and *functional theories* which, 'by precisely determining the conditions of equilibrium, aim to describe the relation of correspondence between already existing prices in the equilibrium situation'.

Through this interpretative framework, Mayer examines the cognitive value of the major functional theories on price formation.<sup>2</sup> The capacity of these theories to explain reality and to widen the theorist's knowledge is restricted, according to Mayer, to describing quantitative relations between prices which, in turn, describe the situation of equilibrium, the central reference. According to Mayer, these theories do not increase the understanding of the economic system since formal relationships depict a particular situation – a state of equilibrium – in which the price formation process has already taken place implicitly. Mayer criticizes what is fast becoming the major approach in economics, namely, the formalist approach:

Equilibrium equations . . . are obtained from previously established definitions and identity statements drawn explicitly or implicitly from one another. These are then used to derive, through purely logical inference, a nexus of substitution relations which can evidently give no more knowledge of reality than was already contained in the premises. This is real 'derivation' in the sense of 'proofs' in pure logic and mathematics, and not the acquisition of new knowledge about correlations in the real world. (Mayer, [1932] 1994: 148)

Menger's scientific approach well illustrates the causal-genetic way of thinking as defined by Mayer.<sup>3</sup> The price theory developed in the *Grundsätze* is not a theory of equilibrium prices but a theory of the *process of price formation*. It will be remembered that, within the Mengerian logic, the real level of exchange prices could a priori not be calculated in a univocal manner by the theory. The real level depends on the way in which a particular trading process takes place and the theory can merely fix the limits of a price interval. Menger's theory of price determination is particular in that it gives no explanation of the equilibrium level of prices. Indeed, in line with the methodological approach guiding his developments as a whole, the author goes into the determination of the *essential causes* at the origin of the mechanism of price determination. In this context, the essence of the explanation of monetary exchange lies in the economizing behaviour of man.

## A NON-DETERMINIST VIEW OF ECONOMICS

Menger's methodological position is at the origin of deeper divergences with marginalism on analytical grounds: causality in itself involves the idea of time, whereas the marginalist analogy with mechanics provides economics with a static analytical framework centred on the study of equilibrium positions.<sup>4</sup> The simple assertion that economic action takes place in real time allows the introduction of two fundamental factors into the analysis: uncertainty and knowledge. These two factors, in turn, form the basis of the non-determinacy of economic phenomena. Let us consider the consequences of the introduction of real time within Menger's logic.

In this respect, the privileged area of analysis concerns production: as we know, Menger characterizes production as a causal process which connects goods of different orders. This process is sequential and definitely refers to a temporal perspective: 'The idea of causality, however, is inseparable from the idea of time. . . . However short the time periods lying between the various phases of this process may often appear, . . . their complete disappearance is nevertheless inconceivable' (Menger, [1871] 1950: 67–8). There is a fixed time lapse between the moment when goods of higher order are gathered and obtaining the good from the corresponding first order. At the outset of the process, there is uncertainty as to the quantity and quality of the good that will finally be available to satisfy the needs in question. This type of uncertainty is, in Menger's opinion ([1871] 1950: 71), 'one of the most important factors in the economic uncertainty of men'. The fact that production is described as a temporal process also leads to an emphasis on the role of producers' expectations. To be precise, economic activity for the agents consists in providing goods which are directly or indirectly necessary to satisfy needs: 'the concern of men for the satisfaction of their needs thus becomes an attempt to *provide in advance* for meeting their requirements in the future . . .' (Menger, [1871] 1950: 79). Agents must anticipate future needs before beginning the production process. Taken in this light, the production process forces the Mengerian economic agent to gather a certain quantity of information before being able to go ahead with planning economic activity. More exactly, the individual must have at his disposal not only the information relative to the quantity of goods of the first and higher orders necessary to meet his future needs, but also the information relative to the quantity of goods actually at his disposal. Uncertainty comes again into play. A priori, the quantity of first order goods is a direct function of the intensity of the individual's needs. This, again, may vary between the moment the agent carries out his forecasts and the moment when the causal production process comes to an end. Moreover, the factor of uncertainty arises in the quantity and quality of goods of the first order that will actually be produced.

The fact that economic activity occurs over time also leads us to look at the question of the information and knowledge of agents from a dynamic point of view. Indeed, within a Bergsonian conception, the passage of time does not take on the neutrality of a Newtonian concept. It is more a question of time turned, in a causal manner, towards the efficiency of decision-making. The passing of time, indeed, does not leave the state of agents' knowledge unchanged. From this point, Menger's conception of time turns out to be heterogeneous and subjective. The passage of time enhances the individual in an unforeseeable and continuous manner. It is in itself a source of change and novelty which alters the information the economic actors take into account when drawing up their expectations and making their economic decisions.

If it is generally correct that clarity about the objective of their endeavors is an essential factor in the success of every activity of men, it is also certain that knowledge of requirements for goods in future time periods is the first prerequisite for the planning of all human activity directed to the satisfaction of needs. . . . The second factor that determines the success of human activity is the knowledge gained by men of the means available to them for the attainment of the desired ends. Wherever, therefore, men may be observed in activities directed to the satisfaction of their needs, they are seen to be seriously concerned to obtain as exact a knowledge as possible of the quantities of goods available to them for this purpose. (Menger, [1871] 1950: 89–90)

Menger's *homo-economicus* has little in common with the calculator–maximizer of Walras. It does not refer to an actor with perfect information. The Mengerian *homo-economicus* makes his decisions on the basis of his perception of the economic world around him and constantly reviews his expectations as his knowledge changes with time and as he realizes the mistakes he may have made in the past.

## DYNAMIC SUBJECTIVISM

As we have just argued, the adoption of a Bergsonian concept of time is at the root of the deep rift between Menger and marginalists. The Austrian tradition concentrates on analysing the evolutionary processes of economic phenomena whose indeterminate nature is in no doubt. Marginalists, on the contrary, concentrate their interest around the static positions of equilibrium of economic systems. Moreover, Menger's conception of time gives rise to a second fundamental difference with marginalists. This concerns the form and nature of subjectivism in the analysis.

*Static subjectivism*, present in the marginalist tradition, should be distinguished from the *dynamic subjectivism* of Menger's approach.<sup>5</sup> The subjectivist dimension of marginalist analysis is restricted to the introduction of

subjective factors on the demand side, the aim being to counterbalance the importance of objective factors passed down from the classical theory on the supply side.<sup>6</sup> Moreover, given his preferences, decision-making by a marginalist *homo-economicus* is completely mechanical and predetermined. From an analytical point of view, the agent is totally defined by his preferences. Austrian subjectivism, as Menger introduces it, is much more radical than the marginalist conception: it is not limited to preferences but is rather enlarged to expectations, costs, the conception of time (Bergsonian) and knowledge perception. According to O'Driscoll and Rizzo (1985: 22), dynamic subjectivism 'views the mind as an active, creative entity in which decision-making bears no determinate relationship to what went before', whereas static subjectivism is characterized by the fact that 'the mind is viewed as a passive filter through which data of decision-making are perceived. To the extent that the filter can be understood, the whole process of decision-making is perfectly determinate'.

The Mengerian conception of subjectivism is, from many aspects, of dynamic nature: the means–ends framework is at the core of Menger's definition of economizing; agents are engaged in a process of acquisition of knowledge in order to modify and improve their plans of action; knowledge depends on the information agents could acquire about causal connection between their desires and economic goods; Mengerian agents live in a world of uncertainty where the occurrence of errors is indeed possible; decisions should be based upon expectations agents make about an unknown future, leaving room for their creative abilities. Jaffé describes the Mengerian *homo-economicus* as follows:

Man, as Menger saw him, far from being a 'lightning calculator', is a bumbling, erring, ill-informed creature, plagued with uncertainty, forever hovering between alluring hopes and haunting fears, and congenitally incapable of making finely calibrated decisions in pursuit of satisfactions. Hence Menger's scales of the declining importance of satisfactions are represented by discrete integers. In Menger's scheme of thought, positive first derivatives and negative second derivatives of utility with respect to quality had no place; nothing is differentiable. (Jaffé, 1976: 521)

To sum up, Austrians have inherited from Menger a particular conception of economics: economics, considered as a social theoretical science, requires an approach which is radically distinct from that used in natural science and in particular distinct from formalism; as a social science, its aim is to understand the process of emergence of economic phenomena such as value, prices, money, firms and so on, as the result of the interaction between individual plans; the Austrian approach thus develops theories of a causal-genetic nature in contrast to functional theories; this approach falls into the framework of the subjectivist paradigm to the extent that the essence of socio-economic

phenomena is restricted to achieving individual plans (principle of economizing), these plans being built upon agents' subjective knowledge and perceptions of their environment.

## MODERN IMPROVEMENTS

The next question is: how much has been done since Menger with respect to the traits constituting the Austrian originality? What improvements have been made as regards subjectivism, the causal-genetic way of thinking and the rejection of the omnipotence of the equilibrium diktat? I propose here to put aside the numerous mistakes and deviations that have punctuated the process of constitution of the Austrian tradition and to concentrate upon progress proper.

### **Causal-genetic Thinking, Mathematical Tools and the Reference to Equilibrium**

The adoption of a causal-genetic way of thinking in economics has a direct consequence as regards the use of mathematical tools; contrary to a widespread idea, Austrians are not against any incursion of mathematics into economics, but reject the use of certain kinds of mathematical tools such as functional mathematics.<sup>7</sup> Indeed, according to Mayer (1932), Menger does not dogmatically reject any recourse to mathematics in economics, but he rejects mathematics in the only form that was available at the end of the nineteenth century, that is, functional mathematics, which is not adapted to economics as Menger defines it. The Austrian position against formalism is the result of an ontological investigation, of an investigation of the nature of economic phenomena and economic understanding. Menger's position in this respect is straightforward:

My opinion is that the method that should be adopted within pure economics cannot simply be called 'mathematical' or 'rational.' We should investigate not only relations between magnitudes but also the *essence* of economic phenomena. But how can we know this essence – the essence of value, entrepreneurial profit, labour distribution, bimetallism and so on – in a mathematical way? Even if the mathematical method was purely and simply justified, in any case, it would not fit with the solution of the part of the economic problem mentioned above.

However, I cannot accept the mathematical method at all, even for the determination of the laws of economic phenomena.

The problem which many consider to be the most important is the formation of the *laws* according to which goods are exchanged for goods. Among goods, we German people include means of production as well as products, more precisely all the things that contribute directly or indirectly to the satisfaction of human needs.

Are the quantities of goods which we exchange in trading (quantities that change according to time and place!) arbitrary or are they ruled by fixed *laws*? This is the question.

Now, it is at the same time clear that the purpose of our investigations will never be reached through the mathematical method. It is necessary rather that we come back to the simplest elements of phenomena which are generally very complex - therefore that we determine *analytically* the last constitutive factors of phenomena.

Let us consider the theory of prices. If we want to have access to knowledge of the laws which rule goods exchange, it is first necessary to come back to the motives which lead men to act within exchanges, to the facts which do not depend on the will of traders, which have a causal relation with goods exchange.

We should come back to the needs of men, to the importance they give to the satisfaction of needs, to the quantities of different goods which different economic agents own, to the subjective importance (subjective value) that different economic agents confer on given quantities of goods and so on (translated from Antonelli, 1953: 279–81).

As soon as the aim of the theorist is to understand the process of emergence of a phenomenon through causal decomposition into its primary elements, formalization in the form of a system of simultaneous equations is inappropriate since it turns a blind eye to the sequence leading to the formation of the phenomenon, focusing exclusively upon the ultimate outcome of the process. Rejection of mathematical formalism by Austrians is thus justified because a direct correspondence exists between formalist tools (mainly functional relationships, derivatives and systems of simultaneous equations) and the functional approach defined by Mayer. Menger's refusal of functional mathematics should thus be analysed as an ontological awareness of the specificity of the economic explanation rather than as evidence of the formal weakness of the Austrian leader; in that sense it represents decisive progress. The next step would consist in acknowledging the symmetrical correspondence that exists between constructivist mathematics and causal-genetic theories; such recognition would open the door to the introduction of a particular type of mathematical tool in the modern Austrian framework. However, modern Austrians have been reluctant to commit themselves in that direction, justifying to some extent the criticism of dogmatism addressed towards them.<sup>8</sup> Don Lavoie (1994) has warned Austrians about their chilly attitude towards the use of mathematical tools. Such an attitude is nowadays hardly justifiable to the extent that theorists have at their disposal a wide array of techniques, no longer confined to the formal tools of equilibrium analysis. We are referring to computational simulations, genetic algorithms and evolutionary games and models and more generally to the whole set of techniques of a constructivist nature that might allow us to formalize the Austrian analysis of the market process and offer new avenues fully compatible with the causal-genetic way of thinking. Contrary to neoclassical models, the objective is not to appeal to formalization in

order to find a solution to a given problem, such as the optimal vector prices associated with a specific economic configuration, but rather to bring about simulations of the economic process under analysis, with, first of all, a heuristic intention.

Contrary to Weintraub (1985: ix) who, after having distinguished between functional and causal explanations, affirms, without any doubt, that economics leans on the first category of relationships, modern Austrians pick up again the Mengerian agenda, thereby relying on a causal-genetic approach to phenomena: Understanding an economic occurrence thus means identifying the (essential) causes at the origin of the process the outcome of which is the phenomenon under analysis. The analysis of the market process soon imposes itself as the main theme of investigation. Menger investigated the causes of economic progress and more generally the dynamic elements of change. The forces of change in his analysis flow from the principle of economizing and from his analysis of the role of knowledge. Progress and change depend on the way in which agents acquire new knowledge about the relationships between goods of different orders and between goods and individual satisfaction. The analysis of the market as a process was deepened later on by Hayek (1978b), who defined the market as a process of discovery and diffusion of knowledge. Kirzner (1973) then developed the well-known theory of entrepreneurship in order to try to justify analytically the convergence of the competitive process towards a situation of general equilibrium. Finally, Lachmann provided a non-deterministic view of the market process as the result of the conjunction of both equilibrating and disequilibrating forces. Despite their own specificities, these authors all belong, explicitly or not, to the causal-genetic tradition. At this point, let us note for instance the formal similarity of the approaches of Lachmann and Kirzner. The point of departure for Kirzner is the criticism regarding the over-preoccupation of the standard theory with the concept of equilibrium. Kirzner's aim is thus to complete this approach with a theory of the *market process* leading to the equilibrium analysed by neoclassical authors. If the reference to Mayer is obvious, the similarity is however only formal, with Lachmann and Kirzner developing two different interpretations of the causal-genetic approach. Indeed, Lachmann (1982) states that the question is that of explaining the process of formation of market prices which are not necessarily equilibrium prices, whereas the theory of entrepreneurship explains how the economic system converges towards the full compatibility of individual plans, that is, ultimately towards equilibrium prices.

This rapid confrontation witnesses the absence of consensus among modern authors on the question of the place and status of the concept of equilibrium in Austrian theories. The opposition emerges even more explicitly when examining the issue of subjectivism.

### The Subjectivist Paradigm

The subjectivist paradigm can be defined as a research programme whose aim is to explain social phenomena in terms of their inherent meaning, that is, in terms of what they represent for the participating actors.<sup>9</sup> Taken in that sense, subjectivism is often depicted as being the basic and unifying feature peculiar to the Austrian tradition and also the locus for progress in economics (Hayek, 1952: 31).<sup>10</sup> Indeed, following Lachmann, the evolution of the Austrian tradition can partly be described as a three-step story in which the subjectivist dimension has continuously been intensified.

The first stage is related to Menger, of course, and with what it appears legitimate to call the Viennese subjectivist revolution. As already stressed above, Menger develops from many aspects a dynamic kind of subjectivism. However, there is no doubt that the conception he proposes remains to some extent incomplete and stuttering. Remember in particular how Menger describes in the *Grundsätze* the consumption structure of an economy through a sort of social hierarchy of individual needs and wants, or how he distinguishes between imaginary and real wants, thereby confronting the subjective opinion of agents with an objective reality. It has been the task of the successive generation of Austrian authors to get rid of these contradictions and to explicitly define Austrian economics according to a dynamic subjectivist base.

The post-planning-debate analyses of Mises and Hayek may be interpreted as the second stage of the evolution of the subjectivist paradigm. By means of the notion of the individual plan, the subjective dimension extends the concept of needs towards the means–ends framework guiding the economic actions of agents. An individual plan is drawn up by the agent on the basis of his own subjective knowledge. The agent's knowledge stems from his personal interpretation of the information at his disposal. Therefore, the dynamics of the market process arises from the way in which knowledge is spread, modified and subjectively acquired over time. Knowledge is the foundation upon which agents formulate and alter their plans.

The subjective nature of knowledge is at the origin of the difficulties of functional approaches in dealing with the analysis of the market process. A priori, orthodox theories can take only the concept of objectively quantifiable information into account but not that of knowledge, which, in a Mengerian perspective, may be defined as the subjective interpretation of available information at any given moment. In the same way, by definition, human action takes place within time, time being the dimension in which all changes in agents' knowledge take place: 'as soon as we permit time to elapse, we must permit knowledge to change and knowledge cannot be regarded as a function of anything else' (Lachmann, 1976a: 127–8).

The third stage in the process of development of the subjectivist paradigm

concerns the extension of subjectivism to individual expectations; this has been stepped over by Lachmann, who finds sufficient premises in the works of Mises and Hayek witnessing the reappearance of the Mengerian originality. The first chapters of Mises' *Human Action* provide a first important insight for Lachmann to take the subjective nature of expectations into account. In Chapter 5 in particular, where the necessarily temporal dimension of all human action is examined, Mises develops a Bergsonian conception of time whose direct consequence is to associate a certain degree of uncertainty to the result of action. 'Every action refers to an unknown future. It is in this sense always a risky speculation' (Mises, 1949: 106).

Lachmann interprets the speculative dimension inherent in all human action as the result of the subjectivism of individual expectations directed towards an unknown but imaginable future. However, Mises never mentions expectations and never goes into the consequences of the speculative dimension inherent in all human action. Lachmann develops the idea of Mises by drawing his inspiration from Shackle's conception of a kaleidic society characterized by the occurrence of unexpected changes that disrupt pre-existing decision-making patterns.

Hayek's analysis of knowledge deals with expectations, but only in a static perspective, removing any appeal to imagination and individual speculation during the formation of plans. Knowledge, defined as the interpretation of past experience, is the element in which subjectivism of economic actors manifests itself. The concept of individual plan nevertheless enables an extension to expectations in the sense that a plan is the result of two distinct types of knowledge: knowledge originating from subjective interpretation of past experience *and knowledge directed towards the future*, this, according to Mises, being the speculative part inherent in all human action. Concerning this second element, however, Lachmann notices that in Mises and Hayek 'expectations were, on the whole, treated as a mode of foresight, a rather unfortunate but inevitable consequence of imperfect knowledge' (Lachmann, 1976b: 58).

Accepting the full implications of dynamic subjectivism means getting rid of any reference to equilibrium, the market process being described as a continuous indeterminist process. Indeed, inconsistency of plans is the direct consequence of the introduction of subjective expectations. Plans are divergent because subjective expectations are based on the image that agents form about an 'unknown though not unimaginable' future (Lachmann, 1976a: 59). Competition may lead to diffusion of new knowledge, but appropriate expectations cannot be diffused in any way, for once they have revealed themselves relevant they are already obsolete and need to be revised; no *ex ante* criterion of success exists. Inconsistency of plans challenges the traditional view of a tendency towards equilibrium. Market is an undetermined process governed by the interaction of balancing *and* disturbing forces. The economic configuration

emerging from the interaction of individual plans is definitely one of disequilibrium. In that perspective, there is no more reason to emphasize the equilibrating function of the market. Divergence of plans is the consequence of the extension of subjectivism to expectations and represents, within the Lachmannian view, the propeller of change. This seems to be the logical outcome of the consistent application of subjectivism.

Progress in Austrian economics thus leads to a serious limit: taking account of the full implications of subjectivism leads economists to question any reference to the traditional concept of equilibrium, taking the risk of being criticized, as Lachmann and radical subjectivists are, of theoretical nihilism.

### **The Equilibrium Reference**

It follows from the above analysis that finding an alternative concept to the equilibrium reference is the most challenging issue Austrians have faced since Menger's dissent from marginalist determinacy. Such a concept should allow us both to reject a determinist view of economic phenomena and to avoid the pitfalls of theoretical nihilism. From this perspective, progress in Austrian economics may be described as the continuous deepening and clarification of the concept of economic order: Menger first gives the orientation through his investigation of the nature of organic phenomena; from 1937 onwards, Hayek replaces the reference to equilibrium with the notion, albeit somewhat still vague, of order; in the 1970s, Lachmann reaffirms the Mengerian legacy with his analysis of institutions as orientation schemes; O'Driscoll and Rizzo define the concept of pattern coordination as a fruitful synthesis of Hayek's spontaneous order and Lachmann's orientation scheme.

In his 1883 book, Menger begins an analysis of socio-economic (organic) institutions, opening the door to the Hayekian concept of spontaneous order. More generally, the concept of economic order represents a relevant alternative to general equilibrium and constitutes one of the base of the modern Mengerian approach. An order is a state of affairs in which a multiplicity of elements of different nature are connected in such a way that knowing some of the spatial or temporal components allows us to form acceptable prognostics about the rest (Hayek, 1973: 42). Economics should be limited to predicting general characteristics of interacting structures between economic agents; that is, it should be restricted to determining the nature of the order which is susceptible of emerging from a specific institutional setting, whereas the prediction of particular facts goes beyond the competence of economists (Hayek, 1978a: 181).

In Lachmann's analysis (1970), institutions are defined as the set of rules of conduct and behavioural norms guiding agents in a world of radical uncertainty. Institutions provide *orientation schemes* in which human action takes

place. In a kaleidic society, human action is not determined but neither is it arbitrary, the individual's free will fully expressing itself only in the context of specific limits provided by the institutional environment. From an analytical viewpoint, the theory of institutions developed by Lachmann aims at reducing the indeterminacy emanating from the extension of subjectivism to expectations in a context of radical uncertainty. Taking institutions into account enables the process of formation of individual plans to be specified more accurately. Institutions are recurrent patterns of conduct which limit the volatility of actions, henceforth providing a kind of fixed reference point within the kaleidic society in which individuals interact (Lachmann, 1970: 49–50).

O'Driscoll and Rizzo (1985) develop an approach which, despite having a stronger link with the concept of equilibrium, follows the perspective of Lachmann. Their work is interesting for two reasons: it seeks to provide an answer to the criticism of nihilism whilst at the same time indicating a possible way out for the development of Menger's subjectivist tradition towards a theory of institutions.

*The Economics of Time and Ignorance* fits into the extension of the subjectivist paradigm, dynamic subjectivism being, according to O'Driscoll and Rizzo, the essence of the Austrian tradition. Although the authors do not use the term 'radical subjectivism', they nevertheless stick to a similar idea: the fact that human action takes place within time and that individuals act in a world of ignorance (in the sense of Shackle, not in that of Kirzner) implies the explicit introduction of the dimensions of uncertainty and speculation into the analysis. Within this context, the aim of the authors is to demonstrate that the fact of taking account of real time does not necessarily lead to chaos and pure indeterminacy. O'Driscoll and Rizzo propose in that perspective the concept of *pattern coordination* as an alternative concept of equilibrium. This concept is based upon the distinction Hayek draws between the typical and unique characteristics of events. 'The plans of individuals are in a pattern equilibrium if they are coordinated with respect to their typical features, even if the unique aspects fail to mesh' (O'Driscoll and Rizzo, 1985: 85).

This alternative concept of economic order is based upon the coordinating role assumed by the set of rules and institutions of the system at hand. Social rules and institutions are able to reduce the level of uncertainty faced by agents, without necessarily being able to eradicate it entirely. Institutions offer general and stable rules of conduct, which are the typical characteristics of the system and influence agents when forming their expectations. Institutions thus constitute a limit regarding differences in interpretations; they are guiding points in a world of ignorance which agents may use to find their way.

Lachmann's (1970: 37) statement that 'human action is not determinate but

neither is it arbitrary' finds concrete development in the concept of pattern coordination. The work of O'Driscoll and Rizzo does indeed contribute to deepening the orientation principle anticipated by Lachmann, providing, in this way, a further step in the attempt to reconcile the kaleidic view of Shackle with the idea of the existence of a market order.

## CONCLUSION

The above analysis highlights how the role of institutions takes paramount importance within the Austrian tradition, giving consistency to the view of the market process as a non-determined but non-chaotic phenomenon. The Austrian tradition revives in that way an old conception of economics, perceived as a social science whose essential purpose, as Menger ([1883] 1963: 147) put it more than a century ago, is closely connected with the question of theoretically understanding the origin and change of organically created social structures.

## NOTES

1. The term used by Menger ([1871] 1950: 116) is *Bedürfnissbefriedigung*, literally the satisfaction of needs and desires.
2. In particular, Mayer analyses the theories of price formation developed by Cournot, Jevons, Walras, Pareto and Cassel in detail.
3. For a more general analysis of the causal-genetic way of thinking in economics, see. Cowan and Rizzo (1996).
4. This does not mean that the temporal dimension is absent in the Walrasian logic; but Walras's conception differs from that of Menger and refers to a logical view of time whereas a real approach of temporality is developed in the *Grundsätze*. O'Driscoll and Rizzo (1985), more precisely, place *the Newtonian conception of time*, which was adopted by marginalists following the logic inherent in the analogy with mechanics, in opposition to the *Bergsonian conception* which highlights the subjective and discontinuous nature of time for economic agents in the Mengerian framework.
5. Cf O'Driscoll and Rizzo (1985: Ch. II).
6. Objective production costs still determine the supply curve in the analysis of Jevons and Marshall, the latter rejecting the theory of opportunity costs offered by Wicksteed (1910) and Davenport (1908).
7. More generally, what is questioned is the use of formalist mathematics as it was instituted by Hilbert in the 1920s.
8. Some of the few engaged in that direction are Langlois (1992) and Koppl (1994), who have tried to pull the Austrian tradition towards a neo-institutional logic and use to that purpose the framework of iterative games to explain the emergence and evolution of institutions; and Witt (1989, 1992), who has tried to pull the Austrian analysis towards the evolutionary framework.
9. Lachmann (1990) borrows this definition from Shackle (1972).
10. In this respect, White (1977: 4) defines the Austrian tradition in the following words: 'What unifies this school of thought – what might be called its theme – is the methodological outlook of its members: subjectivism'.

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