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**THE CONNECTIONS BETWEEN THE AUSTRIAN TRADITION AND
SOME OF THE RECENT DEVELOPMENTS RELATING TO THE
ECONOMIC ANALYSIS OF INSTITUTIONS**

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developments relating to the economic analysis of institutions**

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Abstract.

This paper has two aims. First, it studies the way the Austrian theory of institutions evolved from the main works of Menger. Second, and most significantly, it tries to justify the idea that the economic analysis of institutions was inspired more or less explicitly by Menger's thesis but more generally by the Austrian intuitions and thesis. These intuitions and theses are however amended in order to make them more formalized as well as testable.

Keywords : Menger, Austrian tradition, emergence of the institutions, economic analysis of institutions.

JEL Codes: B25, B3, D0

Introduction.

The specificity of the Austrian tradition regarding the analysis of institutions is based on the manner in which it was developed by Menger, in 1871 then in 1883 and 1892. In 1871, Menger took an interest in the emergence of money, throughout chapter VIII of the *Principles*. He started with the idea that originally trade was carried out in the form of a direct barter between individuals. He believed that the direct barter would be quite costly since each potential trader would need to know the individual he would be trading¹ with and would therefore have to find this individual prior to the trade. It would also be costly due to the fact that the prices may vary in time and space². He therefore considered it to be more efficient, since it was less costly (search costs and loss of value), for an individual, to proceed with an indirect barter instead of a direct barter, in other words, he would trade his goods for another that would be more tradable (in other words, goods that would be more available and for which the risk of loss of value would be more reliable)³. Based on this idea, Menger put forth a first hypothesis that a restricted number of individuals⁴, supporting this reasoning, tried to supply themselves with goods that were more tradable than the others. They therefore obtained a higher gain than those who did not act according to this reasoning. The second hypothesis that Menger introduced was that the other individuals would see that the individuals in question were obtaining higher revenues and in turn would imitate their behaviour⁵. They would therefore trade their goods for more tradable goods, and accordingly as the goods would be traded more often, they would then become more tradable. This phenomenon would progressively result in the selection of a single product that would be more tradable than all others: money. This very simple reasoning, since it was founded on two hypotheses (Vanberg, 1996) allowed Menger to show how

¹ “Think, indeed, of the peculiar difficulties obstructing the immediate barter of goods in those cases, where supply and demand do not quantitatively coincide.” (Menger, 1892, p. 242). It is in fact the same problem as that considered in the “double coincidence of demands” of Jevons.

² “The price at which any given individual can at pleasure buy a commodity at a given market and at a given point in time, and the price at which he can dispose of the same commodity at pleasure, are two essentially different magnitudes.” (Menger, 1892, p. 243).

³ “A commodity is more or less saleable according to how we are able, with a more or less prospect of success, to dispose of it at prices corresponding to the general economic situation, at *economic* prices.” (Menger, 1892, p. 245).

⁴ “It is only in the first instance that a limited number of economic subjects will recognize the advantage of such a procedure.” (Menger, 1892, p. 249).

⁵ “There is no better method of enlightening someone concerning his economic interests than if he perceives the economic success of those who use the right means to secure their own.” (Menger, 1892, p. 249).

the *organic* institutions emerged, in other words, institutions that are not the result of one individual's will, nor the realization of a collective objective, contrary to *pragmatic* institutions that are the result of an individual or group of individuals realizing an intentional goal. It is important for this discussion that we clarify that, for Menger, organic institutions, on the one hand, are suited to satisfy the common well-being and, on the other hand, the pragmatic institutions do not compare to the organic institutions since they do not come under the same level of analysis⁶. It is also necessary to distinguish between the "spontaneous" emergence of organic institutions and the efficiency of an intervention on their evolution (the role of the State in setting and protecting the value of the money was essential for Menger. We will see the importance of this question later).

In this contribution we will develop two points. On the one hand, we will study the manner in which the Austrian theory developed from Menger's theses as we have just briefly mentioned⁷. On the other hand, and above all we will try to justify the idea that the economic analysis of institutions is partly inspired, more or less explicitly, from Menger's theses and more generally the Austrian theses, and are amended to make the propositions more testable.

⁶ If the analysis of organic institutions comes under "the exact orientation of economic research", the analysis of pragmatic institutions refers to "an empirical realist approach". Concerning this point cf. Vanberg (1996) and Garrouste (1994a).

⁷ For a more complete analysis of Menger's theses regarding the emergence of money, cf. O'Driscoll (1986), Garrouste (1994a) and Alvarez (2001).

1. Developments regarding the Austrian theory of institutions.

In this section we will not go into detail concerning all the different aspects of the Austrian approach of institutions. We will present only 1) the fact that certain specificities and internal fault lines of the Austrian tradition in the sense that they seem important when we consider the non Austrian developments regarding the economic analysis of institutions and 2) the main contributions of the “Austrian” authors in the area of institutional analysis.

1.1. Specificity and heterogeneity of Austrian contributions.

We will present the following elements: the first will be methodological. This seems important since it impacts the two others. The second element will concern the hypotheses made regarding the individual’s behaviour and the third concerns the problem of efficiency of the institutions.

1.1.1. Some methodological aspects of the Austrian tradition.

Menger (1883) is considered to have developed an Aristotelian approach (Kauder, 1957, Parsons, 1990, Dufourt, Garrouste, 1993) to the scientific activity in economics (he speaks of an “exact orientation of economic research”). He considers, apart from the German Historical School (it would be the beginning of a “dispute over the methods”) that it is possible to highlight exact laws, in other words for him, universal since they constitute synthetic propositions *a priori*. Due to this fact, the principles that guide the scientific explanation are valid as much in economics as in law, politics, exact sciences and social sciences because they support the idea of methodological monism. This vision is shared by a certain number of contemporary “Austrians” (Mises, 1966, Rothbard, 1957, Selgin, 1988), sometimes with subtleties (for example, as is the case of the Mengerian monism) that we will not elaborate on at this time⁸. Conversely, Hayek, for example, does not share this same conception⁹. He believes on the one hand, that there exists a difference in nature between the physical reality and the social reality and that the latter is much too complex to be analysed using methods also used to study the first element. On the second hand, economic theories

⁸ Cf. for example Selgin (1988) Dufourt, Garrouste (1993)

⁹ Cf. Selgin (1988) Dufourt, Garrouste (1993)

must propose refutable¹⁰ conclusions (empirically or theoretically). In addition, for Lachmann¹¹ for example, we arrive at an essential non-determination of the result of individual's action, because we are unable to show neither the rational character of the result nor anticipate this a fortiori result (in accordance with that of Hayek)¹². This would naturally render the efficient character of the institutions debatable, among other things, as we will see later. In fact, if the individual's behaviour is determined by the expectations they have regarding the behaviour of others and if these expectations are incorrect, then we may defend the idea that a radical uncertainty exists and the *kalideic* conception of Lachmann and Shackle is justified, except for the consideration of the existence of a *Deus ex Machina* intervention to render these expectations compatible.

A second important aspect of the methodological basis of the Austrian analysis of institutions resides in a subjective point of view that it develops. The Austrian tradition, often on a rather diverging basis, supports the idea that there is a fundamental heterogeneity in individuals. The idea put forth is that the value of the goods is based on the satisfaction that each individual gets or hopes to get and not the objective characteristics of the goods themselves. The value of a product is therefore subjective in the sense that it is specific to each individual. For the supporters of the "praxeological" approach (Mises, 1966, Selgin, 1988) to the Austrian conception, the concept of stable preferences is not pertinent in itself since if the preference is revealed by a rational action (praxeological category), it does not constitute a praxeological category and therefore does not exist *a priori*.

The third important element of the Austrian conception of institutions resides in the role it attributes to time. This idea has led to numerous theoretical productions regarding equity and capital theories or regarding the analysis of economic fluctuations (Hayek, 1931). Economic analysis has for some time already integrated this important element. However the Austrians have their own particular conception of time. They oppose real time to what they call a Newtonian time (O'Driscoll, Rizzo, 1984)¹³.

¹⁰ Cf. Hutchison (1981) or Aimar (2001). This position is however the object of a debate among the supporters of the Austrian tradition.

¹¹ Cf. Gloria-Palermo (1999)

¹² For an analysis of the differences between Hayek and Lachmann, cf. Aimar (1999) and Gloria-Palermo (1999).

¹³ According to O'Driscoll and Rizzo (1984) Hayek supports the notion of analytical time therefore Newtonian.

The notion, also put forward by Nicholas Georgescu-Roegen (1971) regarding the distinction between mechanical time and thermodynamic time, has its origin in the distinction made by Bergson between time and duration. For the Austrians, real time is synonymous with duration and cannot be measured in the same manner as Newtonian time. It goes without saying that this is one of the hard cores of the Austrian program that poses the most problems when we want to produce a formal model since time must be indexed to take into account the fact that it differs according to the individual.

Finally, the last element, according to Menger¹⁴, the Austrians are generally and often for different reasons¹⁵, hesitant to use mathematic formalism. This refusal is however the subject of a debate within the community of Austrian economists.

1.1.2. The individual's behaviour.

The Austrian analysis of individual behaviour may not be distinguished from the dual notion of subjectivism and temporality. This leads to the conclusion that on the one hand, individuals are heterogeneous and do not have the same type of behaviour and on the other hand that they live in a radically uncertain¹⁶ world. The one person, among Austrian authors, who proposed the most influential conception regarding individual behaviour is indisputably Hayek in *The Sensory Order* (1952)¹⁷. This analysis is based on the distinction between information and knowledge¹⁸. The subjectivity of individual knowledge finds its foundation, with Hayek, in the explanation he gives regarding the construction of the mind¹⁹. He has a connectionist conception, inasmuch as he considers that the neurons are grouped into maps constituting links between the physical world and the sensory world and that the mind emerges from the complexity of these connections. A mental representation is therefore characterized by a nervous excitement

¹⁴ Cf. Garrouste (1994b).

¹⁵ For example if Lachmann (1986) and Shackle (1972) justify this by the incompatibility between subjectivism and formalism. Menger considers mathematics as a means of exposure but not as a means that would allow access to the essence of economical phenomenon.

¹⁶ For a certain number of aspects see Selgin (1988).

¹⁷ Edelman therefore writes; "I must say that I have been deeply gratified by reading a book (Hayek's *The Sensory Order*) of which I have been aware when I wrote my little essay on group selection theory... I recommend this book to your attention, as an exercise in profound thinking by a man who simply considers knowledge for its own sake." (Edelman, 1982, p. 24). In Edelman (1989), we also find proximities with the Hayekian theses.

¹⁸ "Many economists have professed to analyze information; relatively few have considered carefully the problem of knowledge. Among those who have, Hayek is pre-eminent." (Loasby, B.J., 1989, p. 38). See also Lachmann (1986, p. 43 and after).

¹⁹ Cf. Rizzello (1999).

within the neuronal structure. This is caused neither by the nature of the stimuli, nor by the transmitting impulse. (Hayek, 1952, p.12). It is as though the complexity of the cerebral “syntax” produces a “semantic”. Therefore, “what we refer to as knowledge is mainly a system for rules of action supported and modified by rules indicating similarities and differences between combinations of stimuli”. (Hayek, 1978, p. 41). Action patterns allow the individuals to act and a process of selection of production mechanisms of these action patterns is implemented. Individuals understand each other since they are equipped with similar systems for production and selection of action patterns. Therefore in a given context we understand the actions of others “that may be physically different and we are unable to make a comprehensive list but that we know “signify” the same thing”. (Hayek, 1980, p.62). Based on this system of abstract rules, individuals have different experiences and these experiences determine their conception of the world. In fact, each new conception is linked to a process of classification into categories. If no past experience corresponds to this new information, therefore, either the information has not been compared or a process of “recombination” is necessary to permit classification. This process explains the fact that conceptions are subjective since they are linked to the entire history of an individual’s confrontations with a changing environment²⁰. These processes are abstract, according to Hayek, and in other words for him they are not conscious (in the sense of meta-consciousness), we are unable to communicate the information or the results, which portrays a large part of our knowledge as being something idiosyncratic and therefore non communicable (Hayek, 1980). Here, the Hayekian version of subjectivism explains that the analysis of the coordination of individual actions is the main problem for economists supporting the Austrian tradition (O’Driscoll, 1977, Lachmann, 1986).

1.1.3. The problem of efficiency of the institutions.

For Menger, an organic institution possesses the characteristic of being optimal in the sense that it satisfies the well-being of everyone. This result is surprising *a priori* (especially during the period that his work was written) because individuals who choose a tradable product may not make the best possible, or optimal choice. In other words,

²⁰ This is why it is possible for Caldwell to write: “though the structure of our minds are the same, there is a physiological basis for the notion of a dispersion of perceptions and experiences and, ultimately, of knowledge.” (Caldwell, 1997, p. 1874).

optimality of the result does not imply optimality of the decisions that produce the result. However, Menger makes no particular hypothesis regarding the optimality or non optimality of pragmatic institutions, which are the result of a collective will and points to an “empirico realist” orientation of economic research and not an “exact” one. He believes however that an intervention on the evolution of organic institutions may be efficient and he attributes, for example, an important role to the State in regards to monetary regulation²¹. Inversely, the supporters of the Austrian tradition have greatly linked the nature of institutions to their efficiency. This link seemed to have been outlined during the “debate on socialist computing” in which Mises and Hayek²² actively participated. The organic institutions are considered not only as being optimal, but also as the only ones that are. Pragmatic institutions are efficient inasmuch as they concern a small group of individuals and are related to organisations. As we will see later, this leads to a very “liberal” view of institutions. This conception is debatable inasmuch as its Hayekian foundations are also open to debate²³. The foundations that Mises has given are more solid because they are founded *a priori* and are much more difficult to debate. Buchanan (1989-90) or Vanberg (1996) have criticized this conception, Buchanan by considering that Hayek unduly extends his conception of the spontaneous order of the market to the underlying institutions (Buchanan, 1989-90, p.182). As for Vanberg, he shows that Menger and Hayek do not have the same way of perceiving institutions, the first devoted to explaining their methods of emergence while the second puts an accent on the nature of the underlying rules. Therefore, when these two approaches converge, we may show that these organic organisations can exist, as well as a pragmatic order can exist, while, for Hayek, the organisations are pragmatic and the orders are definitely organic. We will see in the second part that pragmatic institutions may be efficient and that organic institutions are, most susceptibly, not.

²¹ “On the other hand however, by state recognition and state regulation, this social institution of money has been perfected and adjusted to the manifold and varying needs of an evolving commerce, just as customary rights have been perfected and adjusted by statute law... The fixing of a coinage so as to include grades of value (Werstufen), and the establishment and maintenance of coined pieces so as to win the public confidence and, as far as possible, to forestall risk concerning their genuineness, weight, and fineness, and above all the ensuring their circulation in general, have been recognized everywhere as important functions of state administration.” (Menger, 1892, p. 255).

²² For an in-depth analysis of Hayek’s commitment in this debate, cf. Bensaïd (2000).

²³ Cf. Ege (1992) or Garrouste (2001).

1.2. The principal Austrian contributions regarding the economic analysis of institutions.

These contributions are numerous but the market and money constitute two institutions that are a central preoccupation of the Austrian authors. We will study them successively.

1.2.1. The market as an institution.

For the economists who support the Austrian tradition, the market constitutes the institution that is the foundation of the capitalist economy. It is the sine qua non conditions of the possibility of viewing individuals coordinate their plans for action. However, considerable variances exist between the Austrian authors. As we have recalled earlier, the Austrians try to explain the emergence of the market as an institution and at the same time they try to show that it is the only possible, or optimal, institution. The Austrian author most renowned for trying to analyze the emergence of the market and its optimal character is undisputedly Hayek²⁴. Through an evolutionist conception of society he shows how the archaic society, characterized by the implementation of concrete or conscious rules, was transformed into an open society that relies on the use of abstract rules. For Hayek, this evolution is necessary as of the moment the size of the society no longer allows to define or achieve the collective objectives. The development of the market is one expression of this evolution inasmuch as it makes possible a progressive adjustment process of individual action plans through a negative feed-back type mechanism. The large society produces a dual phenomenon that Dupuy (1992) identifies more precisely as that of a dual autonomy: “the autonomy of the modern individual otherwise released from all connection to traditional subordination, devoted to the State and to social totality. Social autonomy, which does not mean that people have control over society but completely the opposite, society has slipped out of their control and seems to have a life of its own, foreign even to those who are part of it.” (Dupuy, 1992, p. 247). This evolutionist view is not however without numerous problems.

²⁴ For an analysis of the Hayekian conception of institutions based on an isomorphism with his conception of the human mind, cf: Rizzelo (1999).

The most devastating criticism is undoubtedly that of Ege (1992) when he believes that “either the “archaic society” is comprised of unconscious abstract rules, as in all other forms of human societies, or it is not yet a truly human society.” (Ege, 1992, p. 15). Another type of criticism insists on the difficulty of understanding the optimality of the open society by distinguishing between abstract and concrete rules (Garrouste, 2001). No matter the significance of the criticisms, the Hayekian analysis is no less than an attempt to reconcile an analysis of the emergence of the market as an institution and an evaluation of its efficiency.

This view of uniqueness of an open society within the framework of spontaneous macro-order and that is greatly accepted by contemporary authors who support the Austrian tradition (par exemple Kirzner, 1973), is however brought into question by many “Austrians”, with Lachmann on the top of the list (1986)²⁵. “Entrepreneurs will encounter different circumstances on different markets. Due to this fact we must distinguish between the different markets.” (Lachmann, 1986, p. 116).

In fact, Lachmann shows that the evolution of the markets is linked to an economic phenomenon of price reduction generated by the standardisation of products, which reduces the time necessary for price negotiation, and excludes consumers from the production process and confines them to a barter economy (Lachmann, 1986, p.122). Due to this they become “price-takers” and everything happens as though they are living in an economy of fixed prices while the entrepreneurs (especially the shumpeterian entrepreneurs) are “price-makers” and participate in an economy of flexible prices. On this basis, it is therefore possible to specify the markets according to their level of organisation and their location, their methods of negotiation and the more or less flexible character of the prices²⁶. In conclusion, it is necessary for Lachmann to study the evolutions differentiated from and on the various markets²⁷.

The Austrian analysis of the market, and more generally of institutions is marked by an insufficiency: its difficulty to clearly define the relationships between voluntarily created institutions (pragmatic) and emerging institutions (organic), or concerning the market, its relationships with the organisations. It is only recently that

²⁵ Cf. Arena, Festré (2001) and Gloria-Palermo(1999).

²⁶ Cf. Arena, Festré (2001).

²⁷ “In different markets, different classes of such agents confront each other, for example in asset and consumer goods markets. Hence the market processes engendered in such markets will be affected by these differences.” (Lachmann, 1986, p. 122).

the conceptions of the firm and not only the entrepreneur have been proposed by the Austrian and neo-Austrian authors (Lewin, Phelan, 2000, Iaonnides, 1999, Klein, 1996, Foss, 1994), for example the conception that renders organic institutions (the market) and pragmatic institutions (organisations) as two complementary realities, and not concurrent as they are often perceived (Dulbecco, Garrouste, 2000). Such an interpretation may otherwise be based on certain Hayekian intuitions (Hayek, 1990, p.37).

1.2.2. Money.

Menger's theses regarding the problem of the emergence of money, strictly speaking, were not very extensive in terms of the works relating to the necessity (or not) of managing this institution. The debates regarding "free-banking" and the monetary "laissez-faire" are but one example. However a few works exist that have tried to evaluate Menger's theses. They are all the more interesting as they are in tune with certain works that we will present in the second part. Jones (1976) applies a model very similar to the search models to analyze the origin and the development of money, from a Mengerian point of view²⁸. He shows that from hypotheses, some of which have strayed away from the Mengerian approach²⁹, a barter method appears. From a different approach, Klein and Selgin (2000) believe it is possible to make money emerge by using a "Polya Urn" type model. They show that the emergence of a general equivalent is the result of a non-ergodic process, in other words, depending on the path. Finally, Alvarez (2001), and we refer to elements of our second part, shows that by using the works of Wright (1995), Kiyotaki and Wright (1989) and Iwai (1996) there exist many possible balances, that the merchandise that is to become money does not necessarily have the best trading qualities and therefore the expectations of individuals with regard to this merchandise are essential.

The other important research field concerning money as an institution relates to its organisation. Numerous Austrians, following Hayek, have insisted on the fact that money should not have been administered. This literature is abundant. For example,

²⁸ In fact it resolves only one of the problems. "How have certain commodities come to be exalted into general media of exchange?" (Jones, 1976, p. 750). He does not show that there it could be profitable to use money instead of the barter.

²⁹ For example, the fact that prices are fixed while in a Mengerian point of view, they are the result of a negotiation.

Selgin and White (1994) try to show that the monetary “laissez-faire” is the best way to avoid the malfunctions that its administration may cause.

2. Economic analysis of institutions and their connection to the Austrian tradition.

It may seem strange to want to make the Austrians prevalent, contemporary leaders in matters of economic analysis of institutions³⁰. We will try to defend this point of view by starting with a few quotes.

“Our conception of the role of economics in social science is very close to Menger’s, and it is on this conception that we will base our definition of *economics* as *the study of how individual economic agents pursuing their own selfish ends evolve institutions as a means to satisfy them.*” (Schotter, 1981, p. 5). He defines institutions as “regularities” of behaviour that are accepted by all the members of a society and that specify the behaviours in specific recurring situations.” (idem, p. 9)³¹.

“The notion that economic institutions and patterns of behaviour can be explained as the product or outcome of many individual decisions is scarcely a new idea in economics. It is perhaps most prominently associated with members of the Austrian school, notably Menger, von Hayek, and Schumpeter.” (Young, 1998, p. 4)³².

“No one has characterized market mechanisms better than Friedrich von Hayek.” (Simon, 1981, p. 41).

“Hayek’s discussion of the rational economic order is of interest in several respects.” (Williamson, 1975, p. 4).

These few quotes show the importance of the Austrian explanation for the emergence and evolution of institutions.

³⁰ We will not presume here to make a comprehensive presentation of these prevailing matters and if the criticisms made by Bernard Walliser about his kaleidoscopic character may be justified, it does not seem necessary to question the basis for our reasoning.

³¹ He distinguishes social institutions from social conventions as Lewis does, that are “self-policing”, while the social institutions may require the intervention of an outside authority to ensure respect.

³² He adds, “though elements of the approach are implicit in the writings of earlier authors, including Adam Smith, David Hume, and Edmund Burke”.

Beyond these quotes, we may consider that the proximity between certain recent analyses of institutions, if founded, may be so based on taking into account the behavioural hypotheses, the evolutionary processes and the problem of efficiency of the institutions.

2.1. Behavioural hypotheses.

Contemporary works regarding institutions are all or almost all based on an analysis of individual behaviours that integrate the fact that their rationality is limited³³. With regard to the Austrian tradition we must however note two elements. On the one hand, these analyses try to define the individual rationality in such a manner so as to permit a formalisation of the behaviours³⁴, that can be justified by the will to obtain testable propositions, and on the other hand, they are not all based on a distinction between information and knowledge.

The most widely known conception of rationality that is close to the Austrian viewpoint is that proposed by Simon through concepts of “limited rationality” and “procedural rationality”. The first of these two concepts was quickly integrated by economists while the second, having a dynamic connotation, took longer to circulate. To show the interest of this concept, you need only take into account the numerous works that have shown the importance. Williamson made, with opportunism, one of the two behavioural hypotheses on which the Transaction Costs Theory was constructed³⁵. The works of Rubinstein (1998) develop the different models that can be proposed through this idea that individuals are limited with regards to their rationality and Conlisk (1996) lists the works that justify and illustrate this limited character. It seems that the most developed analysis regarding the rationality of economic agents is thanks to Walliser (1996) who specifies two forms of rationality (instrumental and cognitive) and is interested, on the one hand, in the consequences of a reduction in the perfection

³³ We are not considering making a summary on the concept of rationality in economics, a summary that, to our knowledge, does not seem to exist. We are content with presenting a few solutions that were found in regards to this problem and relating to our subject at hand.

³⁴ Cf. the introduction of Kirman, Salmon (1995).

³⁵ We may think that one of the explanations of the static character of the Williamson theory comes from the fact that he borrows only Simon’s concept of limited rationality.

of these two forms with regard to coordination³⁶ processes and on the other hand, in the definitions of the training they imply.

In fact, the manner in which the problem of limited rationality is treated, is to propose a unique and general definition of this concept or to define it in a more or less *ad hoc* manner, which is not in itself debatable but no longer allows obtaining a general model, only local models³⁷ with their pertinence being conditioned by the definition of rationality that is proposed. Therefore Young (1998), in order to give content to this concept presumes 1) that the agents may not choose the best response to the strategy of others, 2) to have only a limited memory of all the past actions and 3) to take into account the strategies of only part of the population. Orléan (1998) proposes a solution that is very similar to that of Menger by considering a population divided in two: one sub-population who is informed and reacts accordingly, in other words on the basis of the signals they receive from their economic environment, and another sub-population that imitates the latter. Yates (2000), in order to model the market process through a Kirznerian viewpoint, also considers two types of entrepreneurs, one type being the “standard vendors” who consider having a complete decision model and request a price equal to the median price and the second type, the “entrepreneurial vendors” who believe their decision model is incomplete and remain attentive to the information that may be relayed to them. These entrepreneurs are supposed to make negative or positive corrections with regard to the actual market price.

Kirman (1999) emphasizes the heterogeneity of individuals on a market by proposing an objective function based on simultaneous benefits of past trading experiences and on a parameter displaying the fidelity of the buyers to the same vendors.

All these hypotheses made in regard to individual behaviours are concerned, in a comparative viewpoint that we share, on the one hand with moving closer to the Austrian conception and on the other hand, with allowing the production of testable models.

³⁶ Cf. also the axiomatics proposed by the Bayesian revision of Walliser, Zwirn (2000)

³⁷ “Part of the attraction of the highly rational models is the idea that there may be many ways to be less than rational, but only one (or in the light of the equilibrium refinement literature perhaps only few ways) of being highly rational.” (Erev, Roth, 1998, p. 848).

2.2. The evolutionary process.

Menger does not really specify the process by which individuals are able to coordinate their actions to obtain an optimal result. As well as per the writings of Schotter (1992), we must wait for the appearance of the game theory for this intuition to be formalised. However many types of solutions have been proposed and some are not related to the development of the game theory. In any case, the idea of analyzing the interactions between individuals and the results of these interactions is typically the object of this theory and it is not a coincidence if there is an Austrian name associated to its creation³⁸.

More recently, the first writings in the field of evolutionary games have shown the pertinence of the Hayekian intuition. In fact, these models are not part of any particular hypothesis regarding rationality since population models have yet to be constructed. Only the implementation of a stable evolutionary strategy, no matter what the reason for this “choice” of strategy, assures the sustainability of the population who implements it. In other words, the individuals do not deliberate on which strategy is the best one to follow. This approach is very Hayekian in the sense that Hayek (1990) proposes an evolutionist explanation for the development of the open society, based on a group selection. The abstract rules are selected without the knowledge of the individuals, which means that the emergence of an order may be similar to the selection of a stable evolutionary strategy.

This type of model has been criticized, by Young (1998) among others, who opposed a solution based on a concept of a stable stochastic strategy, in other words resistant not only to a single shock (invasion by another strategy) but also to recurring shocks. The idea comes from the “fictitious play” type of model, “disrupting” it by introducing three parameters: a probability of not giving the right response, a limited memory and the size of the population taken into account by the individual in order to define the frequency of other individual’s strategies.

³⁸ We will not discuss here the history of the game theory (cf. Weintraub, 1992) nor its methodological characteristics (cf. regarding this point - Schmidt (2001)).

The technological competition models of Arthur, retaken by David (2001) have shown that multiple balances may result from a non ergodic process of the “urnes polya” type and that these solutions are dependant on the initial conditions and smaller events (or stochastic shocks).

Finally from a different viewpoint, Bonini and Egidi (1999) build a dynamic model based on the works of Kaufman to show that going from a given solution to a global optimal solution, taking into account the amount k of interdependencies in the elements N of a system, passing through local sub-optimal balances, is impossible. In other words, the local sub-optimal balance may be stable.

2.3. Efficiency of institutions.

It is regarding this point that the contemporary works are most distinguished from the Austrian analysis of institutions. Some put the accent on the fact that organic institutions may not be efficient, in other words they are sub-optimal. As we use non deterministic dynamic models, it is possible to obtain multiple, non optimal results. The non ergodic element that characterizes the “path-dependent” process allows us to obtain different paths from identical initial situations, paths that do not converge towards a unique absorbent state. This phenomenon is important as it does not assure the optimality of organic institutions. The solution chosen, in other words, selected as a result of an evolutionary process, is not necessarily the best. The writings regarding the choice of standard (David, 2001) indicate such a possibility.

In similar fashion, we may obtain local sub-optimal solutions by using landscape models as per Kaufman where we define a number k of interdependencies between elements N (genes according to Kaufman). Egidi and Bonini (1999) therefore show that the number of mutations necessary to routinely pass from a sub-optimal solution to an optimal solution is linked to the value k . Egidi (2000) however emphasizes a counter-example by obtaining the transformation of a non optimal solution to an optimal solution with a mutation of $k > 1$.

Young (1998) shows that if we disturb a regular process of Markov then it supposes at least a stable stochastical balance. This points out that the disturbed dynamic system is not cyclic and it converges towards a final state within a definite number of periods. The absorbent states of the process are defined as conventions, in

other words states corresponding to balances as per Nash for a game, G , to n individuals, when we define an adaptive training by introducing the parameters for probability of error, of limited memory and of the size of the referenced population. This being so, there is nothing that can assure that the convention is Pareto-optimal.

Conclusion.

We have tried to show in this article that the analysis of institutions proposed by Menger did not only lead to extensions within the only Austrian School but that a certain number of basics of the Mengerian intuition, to use Schotter's terms, were reviewed and developed through certain economic analyses of contemporary institutions, with results that were sometimes more conclusive than those of the "Austrian" authors.

References.

- Aimar, T. (2001) "Coordination, Survival and Normativity: A Hayekian Perspective Revisited", in Birner, J., Garrouste, P., Aimar, T. (eds) *Hayek as a Political Economist: Economic Analysis and Values*, London: Routledge.
- Aimar, T. (1999) « Temps, coordination et ignorance : la confrontation Hayek-Lachmann », *History of Economic Ideas*, 1-2 :
- Alvarez A. (2001) « Money and exchange : what can Carl Menger and search monetary theory still learn from one other ? » Contribution à l'Université d'été d'Histoire de la Pensée Economique, Nice, septembre.
- Arena, R., Festré, A. (2001) "Markets and the 'New Economy': Elements for an Austrian Approach", Contribution au troisième colloque de l'AHTEA, Pise, 24-26 mai.
- Bensaïd, M. (2000), « Connaissance et coordination dans les systèmes économiques complexes. Une relecture critique de Hayek », thèse de doctorat en sciences économiques, EHESS, Paris.
- Birner, J., Garrouste, P., Aimar, T. (eds) (2001) *Hayek as a Political Economist: Economic Analysis and Values*, London: Routledge.
- Bonini N. et Egidi, M. (1999) « Cognitive traps in individual and organizational behavior : some empirical evidence », *Revue d'Economie Industrielle*, 88, 2 : 153-86.
- Buchanan, J.M. (1989-90) « Hayek et les forces de l'histoire », *Journal des Economistes et des Etudes Humaines*, 1 : 181-83.
- Caldwell, B. (1997) "Hayek and Socialism", *Journal of Economic Literature*, 35, 4: 1856-90.
- Conlisk, J. (1996) "Why Bounded Rationality?", *Journal of Economic Literature*, 34, 2: 669-700.

- David, P. (2001) “Path dependence, its critics and the quest for ‘historical economic’”, in Garrouste, P. et Ioannides, S. (eds) *Evolution and Path Dependence in Economic Ideas: Past and Present*, Hants: Edward Elgar, pp. 15-40.
- Dufourt, D. et Garrouste, P. (1993) “Criteria of Scientificity and the Methodology of the Social Sciences”, in Hébert, R. F. (ed.) *Perspectives on the History of Economic Thought*, vol. IX, Aldershot: Edward Elgar.
- Dulbecco, P. et Garrouste, P. (2000) « Structure de la production et structure de la connaissance : éléments pour une théorie autrichienne de la firme », *Revue Economique*, 51, 1 : 75-101.
- Dupuy, J.P. (1992) *Le sacrifice et l'envie, le libéralisme aux prises avec la justice*, Paris: Calmann-Lévy.
- Edelmann, G (1989) *Neural Darwinism, The Theory of Neural Group Selection*, Oxford : Oxford University Press.
- Ege, R. (1992) “Emergence du marché concurrentiel et évolutionnisme hayekien” *Revue Economique*.
- Erev, Roth, (1998) “Predicting how People Play Games: Reinforcement Learning in Experimental Games with Unique, Mixed Strategy Equilibria”, *American Economic Review*, 88, 4: 848-81.
- Foss, N. (1994) “The Theory of the Firm: the Austrians as Precursors and Critics of Contemporary Theory” *Review of Austrian Economics*, 7, 1: 31-65.
- Garrouste, P. (2001) “The Difference between Order and Organization and the Foundations of Hayek’s Liberalism” in Birner, J. Garrouste, P. et Aimar, T. (eds) *F.A. Hayek as a Political Economist: Economic Analysis and Values*, London: Routledge.
- Garrouste, P. (1994a) “Carl Menger et Friedrich Hayek à propos des institutions: continuité et ruptures, *Revue d’Economie Politique*, 104, 6: 853-72.

- Garrouste, P. (1994b) “Léon Walras et Carl Menger à propos de l’utilisation des mathématiques en économie politique”, *Economies et Sociétés*, Série (Economia, 20-21, 10-11: 11-27.
- Gloria-Palermo, S. (1999) *The Evolution of Austrian Economics – From Menger to Lachmann*, London and New York : Routledge.
- Hayek, F. A. (1990) *The Fatal Conceit; The Errors of Socialism*, London: Routledge.
- Hayek, F. A. (1980) *Individualism and Economic Order*, Chicago : Chicago University Press.
- Hayek, F : A. (1978) *New Studies in Philosophy, Politics, Economics, and the History of Ideas*, London : Routledge & Kegan Paul.
- Hayek, F. A. (1952) *The Sensory Order : An Inquiry into the Foundations of Theoretical Psychology*, London : Routledge & Kegan Paul.
- Hayek, F. A. (1931) *Price and Production*, London: Routledge & Kegan Paul.
- Hutchison, T. W. (1981) *The Politics and Philosophy of Economics : Marxians, Keynesians and Austrians*, New York : New York University Press.
- Iaonnides, S. (1999) “Towards an Austrian Perspective on the Firm”, *Review of Austrian Economics*, 11, 1-2: 77-98.
- Jones, R. A. (1976) “The Origin and Development of Media of Exchange”, *Journal of Political Economy*, 84, 4: 757-75.
- Kauder, E. (1957) « Intellectual and Political Roots of the Old Austrian School », *Zeitschrift für Nationalökonomie*, 17.
- Kirman, A. (1999) “Quelques réflexions à propos du point de vue des économistes sur le rôle de la structure organisationnelle dans l’économie », *Revue d’Economie Industrielle*, 88, 2 : 91-110.

- Kirman, A. et Salmon, M. (1995) *Learning and Rationality in Economics*, London : Basil Blackwell.
- Kirzner, I. (1973) *Competition and Entrepreneurship*, Chicago: University of Chicago Press.
- Kiyotaki, N., Wright, R. (1993) “A Search-Theoretic Approach to Monetary Economics”, *American Economic Review*, 83, 1: 63-77.
- Klein, P. G. (1996) “Economic Calculation and the limits of Organization”, *Review of Austrian Economics*, 9: 3-28.
- Klein, P. G., Selgin, G. (2000) « Menger’s Theory of Money : Some Experimental Evidence », in John Smithin, ed., *What Is Money?* London: Routledge, pp. 217-34
- Lachmann, L. M. (1986) *The Market as an Economic Process*, New York: Basil Blackwell.
- Lewin, P. et Phelan, S. E. (2000) “An Austrian Theory of the Firm”, *Review of Austrian Economics*, 13, 1: 59-79.
- Littlechild, S., Owen, G. (1980) “An Austrian Model of Entrepreneurial Market Process”, *Journal of Economic Theory*, 23: 361-79.
- Loasby, B. J. (1989) *The Mind and Method of the Economist*, Hants : Edward Elgar.
- Menger, C. (1871, 1976) *Principles of Economics*, New York: New York University Press.
- Menger, C. (1883, 1963) *Problems of Economics and Sociology*, Urbana: University of Illinois Press.
- Menger, C. (1892) “On the Origin of Money”, *Economic Journal*, 2: 239-55.
- Mises, L. (1966) *Human Action*, Chicago: Henry Regnery Company.
- O’Driscoll, G. P. Jr. (1977) *Economics as a coordination Problem: The Contributions of Friedrich A. Hayek*, Kansas City: Sheed Andrews and Mc Meel.

- O'Driscoll, G. P. Jr. (1986) « Money : Menger's Evolutionary Theory », *History of Political Economy*, 18.
- O'Driscoll G. P. Jr., Rizzo, M. (1984) *Time and Ignorance in Economics*, New York : Basil Blackwell.
- Orléan, A. (1998) “The Evolution of Imitation”, in Cohendet, P., Llerena, P., Stahn, H., Umbhauer, G. (eds) *The Economics of Networks: Interaction and Behaviours*, Berlin: Springer-Verlag.
- Parsons, S. (1990) « The Philosophical Roots of Modern Austrian Economics : Past Problems and Future Prospects », *History of Political Economy*, 18.
- Rizzello, S. (1999) *The Economics of the Mind*, Hants: Edward Elgar.
- Rothbard, M. N. (1957) “In Defense of ‘Extreme Apriorism’”, *Southern Economic Journal*, 23, 3: 314-20.
- Rubinstein, A. (1998) *Modelling Bounded Rationality*, Cambridge: The MIT Press.
- Schmidt, C. (2001) *La Théorie des jeux; Essai d'interprétation*, Paris : Presses Universitaires de France.
- Schotter, A. (1981) *The Economic Theory of Social Institutions*, Cambridge: Cambridge University Press.
- Schotter, A. (1992) “Oskar Morgenstern' Contribution to the Development of the Theory of Games”, in Weintraub, E.R. (ed.) “Toward a History of Game Theory” Annual Supplement to vol. 24, *History of Political Economy*.
- Selgin, G. (1988) « Praxeology and Understanding : An Analysis of the Controversy in Austrian Economics », *Review of Austrian Economics*,
- Selgin, G. A., White, L. H. (1994) “How Would the Invisible Hand Handle Money”, *Journal of Economic Literature*, 32: 1718-49.

- Shackle, G. L. S. (1972) *Epistemics and Economics*, Cambridge: Cambridge University Press.
- Simon, H (1981) *The Sciences of the Artificial*, Cambridge: Cambridge University Press.
- Vanberg, V.(1996) *Rules and Choice in Economics*, London : Routledge.
- Walliser, B. (1996) “A Spectrum of Equilibration Processes in Game Theory”, *Journal of Evolutionary Economics*, 8: 67-87.
- Walliser, B., Zwirn, (2000) “Can Bayes Rules be justified by Cognitive Rational Principles?”, Workshop on Cognitive Economics, Torino-Alessandria, 15-18 November.
- Weintraub, E.R. (ed.) “Toward a History of Game Theory” Annual Supplement to vol. 24, *History of Political Economy*.
- Williamson, O. E. (1975) *Market and Hierarchies: Analysis and Antitrust Implications*, New York: The Free Press.
- Wright, R. (1995) “Search, Evolution and Money”, *Journal of Economic Dynamics and Control*, 19: 181-206.
- Yates, A. J. (2000) “The Knowledge Problem, Entrepreneurial Discovery and Austrian Market Process Theory”, *Journal of Economic Theory*, 91: 59-85.
- Young, H. P. (1998) *Individual Strategy and Social Structure; An Evolutionary Theory of Institutions*, Princeton: Princeton University Press.