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ON MENGER, AUSTRIAN ECONOMICS, AND THE USE OF GENERAL EQUILIBRIUM

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On Menger, Austrian Economics, and the Use of General Equilibrium.

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Abstract

Nowadays mainstream economic textbooks maintain that economic laws can be established solely on the foundations of the exact sciences, such as mathematics or physics. The implication is that the historical date collected with the aid of statistics and other technical means can be used to scientifically unveil, explain, and predict mankind's behavior. Although economics today embodies individual tastes in the form of elegant charts that are depicted in text books as 'indifference curves', it has not gone further in characterizing the all important motivations, influences, or feelings of the acting individuals. If the sole purpose of economic research is to analyze the properties of general equilibrium in the conditions of perfect knowledge and perfect competition, this may well suffice. It seems as if all approaches to economic phenomena which do not follow this doctrine are quickly branded unscientific and repudiated. Rather than constructing a system of timeless general equilibrium prices, as is the goal of the mathematically oriented schools of thought, in our world of scarcity, lack or dispersion of knowledge, and ever changing degrees of expectations, the Austrians attempt to explain the forces and causes that stand behind the price formation. The two main pillars of the Austrian school of economics are methodological individualism (a term used by J.A. Schumpeter) and methodological subjectivism. This approach to economic phenomena builds scientific analysis upon the insight that every individual chooses and acts purposively and in accordance with his perception of the expected actions of others. In observing the actions of others we are aided by our ability to "understand" the meaning of such actions because we are human beings and thus have insights into the behavior of our fellow men.

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Introduction

"Since Ricardo's Principles there has been no other book not even excepting Jevons' brilliant but somewhat aphoristic and Walras' unfortunately difficult work - which has had such a great influence on the development of economics as Menger's Principles".[1]

In 1921 when Knut Wicksell wrote these lines about Carl Menger's first book, the Grundsätze der Volkswirthschaftslehre (1871), he was quite accurate. Despite the fact that the portrayal of 'Austrian' thought in the pertinent German methodological discussion had acquired something of a pejorative undertone[2], the influence of some of the core theses of the Austrian School of Economics in particular in the Austro-Hungarian Empire, in Italy, Scandinavia, England, and even the United States was hard to miss[3]. Already by the 1890s, the regard of economics as having nearer affinity with psychology than with mathematics and their sparing in the use of elegant models and graphical illustrations was set out to become widely acclaimed. The deductive methods used by the Austrians steadily gained attractiveness.

The success of the Austrian School between 1880 and 1930 was certainly neither only the work of Menger as its founder, nor of his indirect students Eugen von Böhm-Bawerk and his brother–in-law, Friedrich von Wieser, who were able to advance Austrian economics almost to the status of a mainstream school of thought. For them and the cohort of Menger's direct and immediate students by the turn of the century, Austrian Economics was not a field within economics but an alternative way of looking

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1 K. Wicksell, Selected Papers on Economic Theory, ed. E. Lindahl, Kelley Reprint, New York, 1969, p. 194.

2 Among countless other works,see Werner Sombart, Die Drei Nationalökonomien, Dunker und Humboldt, München und Leipzig, 1930. Mention should be made here that Sombart, by far the most dedicated of Gustav von Schmoller's students, succeeded to radically change his methodological and political positions at least three times, always according to the prevailing Zeitgeist. Also G. von Schmoller, "Zur Methodologie der Staats und Sozialwissenchaften," in Schmoller's Jahrbuch, VII, 3, 1883; or T. W. Hutchinson, A Review of Economic Doctrines, Clarendon Press, Oxford, 1962 are of interest here

3 See, for example, H.R. Seager, "Economics at Berlin and Vienna," Journal of Political Economy, Vol. 1, 1893, pp. 236-262; and Jacob Viner, "The Utility Concept in Value Theory and its Critics, " Journal of Political Economics, Vol. 33, 1925.

at the entire domain of the social sciences. To no minor account Eugen von Phillippovich's important, three volume text book Grundriss der Politischen Ökonomie (1893) also contributed very successfully to the spreading of Austrian ideas and was in 1920 already in its 15th edition. According to Hayek this much-read text was affectionately called "Grupolök" by many of his fellow students.

By the middle of the 1930s, however due to the politically volatile times, an increasing racist bias, and with not much hope for any decent academic position, most of the school's proponents have already left Austria as a matter of survival. Some were compelled to collaborate with the new political system, others had to take what ever inferior jobs there were, and a few of them committed suicide or perished during the Nazi regime. And when Hans Mayer, the editor of the "Zeitschrift für Nationalökonomie" in 1938 proudly welcomed "das weltgeschichtliche Ereignis der von allen Deutschen Österreichs seit Jahrhunderten erstrebten Wiedervereinigung der Ostmark mit dem grossen Deutschen Reich und damit auch der Wiederherstellung des dem einheitlichen kulturellen Leben des deutschen Volkes allein entsprechenden natürlichen Zustandes"[4], the school lost even its highly reputed theoretical organ. With Mises and Haberler in Geneva, Hayek and Rosenstein-Rodan in London, Machlup in Buffalo (NY), Schönfeldt-Illy in hiding, and many others dispersed all over the world, Vienna ceased to exist as the stronghold for Austrian economics. Furthermore, due to the overwhelming acceptance of the "Keynesian Revolution", the Austrian insights have been pushed to the sidelines of economic and political thinking. The firm non-interventionist position of the Austrian school simply could not compete with the politically much more appealing ideas of "under-consumption", "full employment", and "deficit spending". The attractiveness of the new Keynesianism ensured that it dominated most textbooks and of course policy making for something like a quarter of a century after WW II. The problems of varying individual information, uncertainty and lack of knowledge towards which F.A. von Hayek was devoting much of his efforts in

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4 See Hans Mayer, "Editorial", Zeitschrift für Nationalökonomie, vol. IX, 9, Aug, 19, 1938

his study of the price system in the subjectivist Austrian tradition were not deemed either critical for society nor useful for the career advancement of economists.

Although, never completely dormant, this condition more or less prevails until today. The Austrian School of Economics regretfully is still widely perceived as either unscientific, mostly because of its rejection of mathematical methods and techniques. Or at least it is viewed as not much more than a topic studied by historians of economic thought who are specializing in the development of economic theory in the second half of the 19th century. At many places the protagonists of the school are even regarded as aggressive ideologues of extreme free markets or worse, as members of a somewhat distant, anarchical sect. They may encounter outright opposition when it comes to academic hiring, promotions, or the placement of an article in one of the leading professional journals. It is here where most Austrian minded scholars are forced to make concessions and often engage in the questionable strategy of writing mainstream articles that may well get published in reputed periodicals but at the same time do little to advance the Austrian cause. And yet, faced with the apparent break-down of the welfare state and the failing of Keynesian strategies, the Austrian approach to economic phenomena seems to enjoy at last a modest resurgence at several universities and research institutions worldwide.

I

Why is it that in many articles and text books we still find Carl Menger, the founder of the Austrian School portrayed simply as one of those intellectual pioneers, who only attempted to solve some important problems of the classical period and to reconstruct economic theory as a holistic doctrine, based on a single system of logical principles? [5] One almost could get the impression that in order to lay down the

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[5] See, for instance, W. Lexis , Allgemeine Volkswirtschaftslehre, 3.ed, Teubner, Berlin und Leipzig, 1926, or more recent, Martin C. Spechler, Perspectives in Economic Thought, McGraw-Hill, New York, 1990; and A. Brusatti, Wirtschafts und Sozialgeschichte des Industriellen Zeitalters, Styria, Graz, 1967; and Robin P. Malloy, Law and Economics, West Publishers, St. Paul, MN, 1990; and M. Blaug, Economic Theory in Retrospect, Heineman, London, 1973. The list could be continued.

foundations of the school, Menger only needed to have a creative mind, the ability to build his ideas on the established theoretical concept of the classical school, and to be equipped with an appropriate dose of academic elbow grease and connections. This gross oversimplification certainly is not accurate as the Austrian School did not develop simply because Menger supplied these conditions.

It seems as if hardly anyone so far has taken the effort of systematically linking value theory before 1871 to the development of marginal utility. After all, the works of the Italians, such as Lottini, Davanzati, or Galiani and for that matter also the German Herrman H. Gossen, obviously contributed to the revolutionary breakthrough of the 1870s. It was Gian Francesco Lottini (1512 - 1572) who had already a rough idea of the fact that people value goods that are presently available much more than those available in the future, and, thus he more or less created the fundamentally important theory of time preference which later came to be associated with Eugen von Böhm-Bawerk's work. But also Bernardo Davanzati (1529 - 1606) reflected on subjective value and attempted to solve the famous 'paradox of value.' However, probably more than Lottini and Davanzati, it was Ferdinando Galiani (1728 - 1787) who contributed most effectively to the ultimate development of the modern theories of utility and value, ideas which are closely associated with the 'Austrians'. Born in Chieti, Galiani wrote his most noted book Della Moneta (1750) when he was only in his early twenties. This book contains his seminal contributions to the theory of subjective value and his interest theory. Galiani was also quite aware of the ranking of goods, substitution of goods, and diminishing marginal utility, topics which formed the core of Menger's thinking about one hundred years later. Mention should also be made of the work by Francesco Ferrara (1810-1900), another Italian thinker who expanded on subjectivism.[6]

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6 See James M. Buchanan, Fiscal Theory and Political Economy, Chapel Hill, University of North Carolina Press, 1960. Francesco Ferrara (1810-1900) was teaching in Turin because he was exiled from the Kingdom of the two Sicily.

H. H. Gossen's visionary and famous Entwicklung der Gesetze des menschlichen Verkehrs is even hardly mentioned.[7] Similarly, the cogent role of the specifically 'causal-genetic' approach on the development of Middle-European culture[8] is rarely mentioned, let alone systematically analyzed. The approach of the 18th century Austrian students of public finance, the "Kameralisten" was also quite influential to the thinking of the imperial bureaucracy during the time Menger began to work on his first book.[9] It is especially the general view of society that to an extent forecasts the approach of Menger and his followers.

II

Among the three eminent scholars who in the 1870s accomplished a strong renewal of interest in theory, the Austrian Carl Menger was surely in the most unfavorable position. While on the one hand Leon Walras of Laussanne had only been able to address a small selected group of like-minded people due to his exceedingly complicated work and mathematical expositions. The work produced by William Stanley Jevons of England on the other hand was essentially received with passive indifference. But Carl Menger, in this setting not only had to fight resistance in his own country, but also faced an active and aggressive opposition in and from the German Reich.

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[7] For an appropriate understanding of the influence, these precursors of the theory of subjective value had on Menger, refer to the interesting comments and annotations to Menger's first book which is preserved in Tokyo's Hitotsubashi University since 1961. See also, Carl Menger's first draft of his principle work, compiled by Karl Heinrich Rau in 1963 and also preserved in Tokyo's Hitotsubashi University.

[8] The term 'causal-genetic' is used by the Austrian School to refer to the holistic interdependencies of orders. In this sense, orders are simply reactions to purposeful actions. Thus, all human action is a priori and the reactions are the outcomes. As such, all action is linked in a causal-genetic relationship between observed action and subjective interpretation.

[9] See especially the detailed study by Louise Sommers, Die österreichischen Kameralisten, Wien 1920-25

For several reasons his revolutionary Grundsätze der Volkswirthschaftslehre, published in Vienna in 1871 was not given due attention[10].

On the one hand, virtually all universities of the German Reich were dominated by the then omnipresent "Younger German Historical School". The school's conscious rejection of all theoretical issues and approaches emerged as soon as this group was united under Gustav von Schmoller's mostly undisputed leadership. G. von Schmoller believed theoretical analysis to be useless or at best of minor importance since it is applicable only to artificially isolated fragments of the social reality he wanted to perceive in all its many facets. Unlike the older German historical school and despite the fact that Schmoller publicly disparaged Comte's positivism (perhaps mostly on grounds of its atheism and its French origin), this group of scholars was predominantly guided by the positivist philosophy of Auguste Comte[11]. Following this historicistic train of thought history thus is widely interpreted as an empirical study of society from which ultimate generalization would eventually emerge and through the discovery of some "laws of history" we can finally get the key to true historical understanding. This historicism is eventually leading to a predetermined end, and therefore history can be interpreted teleologically as a succession of achieved purposes. This peculiar "understanding" is accomplished through the collection of historical data and serves as the only legitimate method. The history of science shows that research is confined to the ordering of quantitative relationships. Auguste Comte's influential key methodological position briefly speaking had it that social wholes are better known than the elements of which they consist and social theory, therefore ought to start from our knowledge of the directly apprehended wholes. Since Comte went even so far as to

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[10] Although four professional journal existed in the German Reich at that time, only three of them published short reviews, but mostly missing the central ideas of the book. One exception could perhaps be made for N. Hack who at least appreciated its scholarship, see "Zeitschrift für die gesamte Staatswissenschaft", xxvii, 1872. For an almost exhaustive record of these book reviews, see R.S. Howey's The Rise of the Marginal Utility School 1870-1889, University of Kansas Press 1960.

[11] See especially Fritz Raab, Die Fortschrittsidee bei Gustav von Schmoller, Freiburg/Br. 1934; but also of interest here is Hans Wäntig, Auguste Comte und seine Bedeutung für die Entwicklung der Sozialwissenschaft, Stuttgart 1984; or W. Eucken, "Die Überwindung des Historizismus", Schmoller's Jahrbuch, LXII 1938

claim that only the society as a whole is real and that the individual is only an abstraction, his followers turned toward what they believed to be a biological and organic interpretation of social phenomena. From intuitively apprehended abstract concepts of society or civilization he deducted from it his knowledge of the structure of society. Hence, the social sciences must be treated as social physics, shaped according to the epistemological patterns of Newtonian mechanics. Thus economics, probably more than most of the other social sciences is prone to accept the prevailing tendency of using terms that are borrowed from physics or mathematics in order to describe social phenomena.

It seems useful to recall here that "understanding" for the Austrians is in sharp contrast to these ideas a method for the interpretation of typical courses of actions with the help of a so-called thought design[12]. In the theoretical cultural sciences the significance of typical courses of action is interpreted with the aid of "thought design", such as the logic of choice. This approach is fully justified by the fact that all human action is oriented to individual plans. It was the Austrian school that has gradually developed "verstehen" as a method within the theoretical social sciences. For the Austrians the thought design, the economic calculation of an individual's plan, always is viewed as the most important part of the theoretical interest. This statement does not diminish the significance of the concepts of methodological subjectivism and marginal utility.

On the other hand, the administration of the public universities, and hence the direction of research and teaching in the German Reich was systematically controlled by Friedrich Althoff, a political ally and friend of Schmollers[13]. This guiding supervision of scholarly work developed into the so-called "System Althoff" and

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[12] See Kurt R. Leube, "Begreifen and Verstehen" , An Austrian in France. Festschrift in Honor of Jacques Garello, K.R. Leube, A. Petroni, and J.Sadovsky, eds. Turin, La Rosa 1997.

[13] Friedrich Althoff (1839-1908) was one of Germany's three most influential administrators of science between W. von Humboldt (1767-1835) and C.H. Becker (1886-1933). He dominated higher education from 1882-1907 and systematically manipulated and controlled all professional appointments. See Bernhard vom Brocke, "Von der Wissenschaftsverwaltung zur Wissenschafts- politk. Friedrich Althoff 1839-1908". Berichte der Wissenschaftsgeschichte 11, Marburg 1988.

severely interfered not only with the ideal of academic freedom, but unlike in the natural sciences proved especially problematic with regard to the social sciences. According to L.von Mises "one of the most eminent German scientists, Emil du Bois-Reymond, boasted that the University of Berlin was 'the intellectual bodyguard of the House of Hohenzollern'"[14]. Thus, formally well into the last century it was virtually impossible for a scholar devoted to the Austrian tradition to attain a professorship at any decent German university[15].

One additional hurdle was of course that Menger's book was quickly out of print and quite difficult to obtain. It should not surprise then that under these circumstances, Menger's "anti-classical" work did not become particularly well known. However, this state of affairs lasted only until Menger's second book, his seminal Untersuchungen über die Methode der Sozialwissenschaften und der Politischen Ökonomie insbesondere (1883) was published. This work must be regarded as the opening blast for the famous "Methodenstreit" between the Schmoller school and Menger and many of his loyal students. This heated academic conflict was passionately, but not always tactfully fought by both sides, and was eventually won by the Austrians. According to Ludwig von Mises, the frequently used term "Methodenstreit" is truly distorting. For Mises, "the issue was not to discover the most appropriate procedure for the treatment of the problems commonly considered as economic problems. The matter in dispute was essentially whether there could be such a thing as a science, other than history, dealing with aspects of human action."[16]

However, all things considered almost gloatingly one might add here that this bitter academic controversy which involved most of the leading scholars of the time,

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[14] L.v. Mises, The Historical Setting of the Austrian School of Economics, Arlington House, New York, 1969

[15] Since Schumpeter's methodological position followed naturally from his view that Walras' accomplishments represented the true height of economic thought he cannot be counted as a 'pure' Austrian. The appointment of F.A. von Hayek at the University of Freiburg/Br. to succeed Walter Eucken in 1962 must therefore be regarded as the sole exception to date.

[16] See Ludwig von Mises, The Historical Setting of the Austrian School of Economics, Arlington House, New York, 1969

did much to make the Austrian approach well known and can be seen as an example of Menger's own idea of the "unintended consequence"[17] of action.

III

Menger's book Grundsätze has played a decisive role in the course of the history of economic thought and even after 131 years offers an inexhaustible wealth of pathbreaking insights and a distinctive vision of economics as a science. Suffice it to summarize here some of his most important points. Carl Menger started his elaboration by clearly distinguishing between free and economic goods, whereby the former are viewed as present in excess, because the assured supply exceeds the demand. In the case of economic goods the supply is at least equal but mostly less than demand. It is obvious that only economic goods call for planning and prudence as they are scarce, must be used with care, and should be protected. These goods alone can establish private properties, only they are produced, exchanged, and finally and most importantly, only they can be assessed and valued. Menger also showed how the most marketable good becomes the medium of exchange or in the long run even turn into money. Carl Menger used the term "organic" as opposed to "pragmatic", to refer to phenomena which were generated by "institutions which serve the common welfare and are extremely significant for its development [but] come into being without a common will directed towards establishing them".[18] A "pragmatic" phenomenon is the product of legislation, contract, or an agreement to a specific conscious end. In F.A. von Hayek's words such phenomena are "the result of human design".

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[17] The direct translation of the title would be : Inquiries of the Method of Social Sciences and Political Economy in Particular. Nevertheless, there are two translated versions of this book. One has been entitled in English as Problems of Economics and Sociology, one under another title. See also, Samuel Bosthaph, "The Methodological Debate Between Carl Menger and the German Historicists'" Atlantic Economic Journal, Vol. 6, 3, 1978, pp. 3-16. Also, James Bonar, "The Austrian Economists and their View of Value, "Quarterly Journal of Economics, Vol. 3, 1988, pp. 1-31; not quite as informative, George J. Stigler,"The Economics of Carl Menger," Journal of Political Economy, Vol. 45, 2, 1937, pp. 229-250.

[18] Carl Menger, Problems of Economics and Sociology, University of Illinois Press, Chicago 1960, p. 146

The three concepts, subjectivism, atomistic method, and these "organic phenomena" form the basis of the Austrian tradition.

Although there is a lot to be said of the many attempts to relate the Austrian school of economics to the supposedly Aristotelian features of the Austrian mind, suffice it to say that most of these attempts seems almost like free associations[19]. At any rate, in seeking the Aristotelian essence of economic relationships, Menger looked for the necessary characteristics of these relationships and intended to determine laws that rule economic events. These principles are derived from the essential factors involved, and are according to Menger invariably true regardless of time and place. At every step of his very detailed story, Menger emphasizes the subjective nature of the properties, their dependence on the individual's knowledge of time and place, and his attitude towards his wants and the ability of the objects to satisfy his needs[20]. His subjectivist approach allowed Menger to carry his analysis even to the evaluation of capital goods which he called "goods of higher order". Menger's subjective revolution amounted to the recognition that value has never been nor will it ever be a property or a substance inherent in goods. The basis for property is the protection of ownership of economic goods. As their character can shift with changes in supply and demand, there is nothing inherent in goods that makes them economic or noneconomic. According to Menger then, a good is said to have value if economizing men perceive that the satisfaction of one of their needs (or greater or lesser completeness of satisfaction) depends on their command over the good. Utility therefore, is the capacity of a thing to satisfy human needs and a prerequisite of goods character.

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19 See, among other works, especially Emil Kauder, "Intellectual and Political Roots of the Older Austrian School", in Zeitschrift für Nationalökonomie,vol. 17, 1957.

20 F.A. von Hayek, "The Place of Carl Menger's Grundsätze in the History of Economic Thought", The Essence of Hayek, K.R.Leube and Chiaki Nyshiyama, Eds. Hoover Institution Press, Stanford 1984.

The central concept of Menger's value theory, therefore is evaluation, an act of the intellect. The value of any good is simply the relationship between an appraising mind and the objects appraised. Menger thus has introduced the method of subjectivism into economics, and his essentialism concurrently led him to reject the mathematical method.

IV

Carl Menger never made any direct reference to mathematics as an useful research method in his published works. Nevertheless by looking at his sporadic correspondence with Walras and a few annotations which he scribbled into his own books, we can assume that he did not have a particularly strong mathematical bent. There is some uncertainty about the level of mathematical expertise which Menger was able to achieve. His only son Karl, himself a mathematician once claimed that his father's strong distaste for mathematics and its methods, had its origin in the poor, if not inadequate mathematical training he had received in his rural Galician "Gymnasium" years during the 1850s[21]. But even if this statement were true, his and later on, his followers' methodological objections against the use of mathematics as a research tool must be much deeper.

For both, Walras and Jevons, the merit or value of mathematics and the marginal utility concept was the power in demonstrating the conditions for an equilibrium in a given social environment where exchanges usually take place. Thus the economic analysis derived from their works took on an essentially static quality that basically must be viewed as an attempt to determine the necessary prerequisites for an equilibrium state of affairs[22].

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[21] Karl Menger, jun. made this comment at a luncheon which I have organized in the 'Ancora Verde' in Vienna in 1983 to celebrate the centenary of L.von Mises birthday. In addition to Menger, also M.St. Browne, G.von Haberler, F.A. von Hayek and his wife, Margit von Mises, Max Thurn, myself and my wife were present. The records are in my possession.

[22] See among other works, William Jaffe, "Menger, Jevon and Walras De-Homogenized" in Economic Inquiry, Dec. 1976

It was especially Walras who emphasized that any passage of time before the equilibrium is achieved must undermine that very equilibrium, because all data-changing events that might happen on the way to the equilibrium necessarily will contribute to determine that state of affairs. All transaction undertaken in the course of achieving the equilibrium thus must be invalidated. Menger's approach on the other hand had in comparison essential dynamic qualities that set it apart from any other school of thought. For Menger an equilibrium was purely a useful limiting case that portrayed the circumstances under which no further motivations for exchange among traders would exist. The importance of marginal utility for Menger was precisely its value in enabling an analysis of the exchange process itself, regardless of the concrete manifestation of any eventual equilibrium outcome.

Although the correspondence between Menger and Leon Walras consists of only four letters, two by each man, they should be sufficient here to show the central point which Menger attempted to make. This point which involved an objection to the use of mathematics as a tool, and in Walras' case the most important tool, of economic analysis. From his atomistic point of view Menger made it clear to Walras that "we do not simply study quantitative relationships but also the *nature* [das Wesen] of economic phenomena. How can we attain to the knowledge of this latter (e.g., the nature of value, rent, profit, the division of labor, bimetallism, etc.) by mathematical methods?"[23] He described the task of economics to Walras as "...the tracing back of the complex phenomena of the economy to their true causes, to their constitutive elements, and the investigation of the laws according to which these build themselves up into complex phenomena of the economy."[24] In other words, Menger's real objection to mathematics was that it simply amounted to an auxiliary tool of exposition which in no way enhanced the ability of the economist to deal with the most basic of the task which he had to face.

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[23] Leon Walras, Correspondence of Leon Walras and Related Papers, ed. William Jaffe, 2 vols. Amsterdam: North Holland Publishing Co., 1965.
[24] Ibid,.

A few significant notes which Menger scribbled into the German translation of John St. Mill's Grundsätze der politischen Ökonomie (1864) can yield even a bit more. In one of them he rejected the theory of equilibrium. He argued that because Walras assumes that the different elements of the economic processes are interrelated they must be linked by static functional relations, his causal-genetic method renders incompatible with Walras' position.[25] Another significant, yet widely neglected source for insights into Menger's position are his two essays which appeared in the Wiener Zeitung of March 7 and 8, 1889 [26]. Here he critically reviewed several new books on economic topics that were published in Austria. Among them was the important work Zur Theorie des Preises (1889), by his outstanding direct student, Robert Zuckerkandl (1856-1926) and the Untersuchungen über die Theorie des Preises (1889) by Rudolf Auspitz and Richard Lieben. This work was praised by J.A. Schumpeter as one of "the outstanding contributions to mathematical economics and especially to the geometrical treatment of economic problems"[27]. Although, the authors of this book were overall sympathetic to the theory of subjective value, Menger's review of it carried a somewhat impatient tone (in Menger's copy of this book we can find a few additional sketchy notes). His distinct methodological critique of the Auspitz and Lieben can be summarized here in three interrelated points. Firstly he accused the authors of the use of mathematics as a research tool, rather than only as a device to display or to illustrate certain phenomena. Secondly, he maintained that Auspitz and Lieben have not only adapted the "Suppositionsmethode" instead of having used a pure analytical approach. Menger also argued that they took their statically assumptions of an equilibrium simply as data. And finally, Menger wrote sarcastically that although the authors have presented their essentially wrong messages in a graphically correct way, they nonetheless failed to overcome the ultimate deficiency of their suppositions.

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[25] see Emil Kauder, A History of the Marginal Utility Theory, Princeton, Princeton University Press 1965, p. 99 and the literature there.

[26] C.Menger "Neuere nationalökonomische Literatur I /II" Wiener Zeitung, March 7 and 8, 1889.

[27] Joseph A. Schumpeter, "Auspitz, Rudolf (1837-1906)", The International Encyclopaedia of the Social Sciences, ed. by Sills, New York, Macmillan, 1968

V

The application of mathematical methods in economic science is probably as old as the theoretical thinking about the subject, and regretfully seems to follow the popular 'Zeitgeist' of intellectual trends and cultural developments. Ernest Mach's characterization of the 'equilibrium' as the physical status that is equal to a static condition probably has also contributed to the widespread use of these terms[28]. The vast majority of today's professional economists seem to believe firmly that the utilization of "objective" mathematics can warrant a clear and consistent methodology. In order to be considered truly scientific like the natural sciences, economics apparently must be shunned from such concepts as personal purposes, goals or even the ideas associated with studying or learning. Only in the natural sciences can experiments allow us to verify or falsify a hypothesis and to draw conclusions from past experiences. Economic research is confronted with a number of uniform or homogenous bits of events that can be investigated for quantitative regularities and constants. Hypotheses are framed in order to explain classes of behavior or motions, and furthermore, various propositions are then deduced by which theories can be tested against the empirical facts of these observable uniform or homogenous bits of events. The theory is therefore either "verified" or "falsified" by empirical checks. If we were not able to investigate the dependence or independence of the elements of any natural phenomenon through the variation of one or more components in the experiment, then we probably would not be able to grasp the relations that govern nature through empirical laws. But the methods used in the natural sciences must consistently also abandon men's mind and in the model of positive economics, describe only mere events. The taxonomic approach to quantify relations between different subjects of investigations thus seems the task of economics.

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[28] See Ernest Mach, Die Mechanik, Wien 1883, pg. 8. On the role Mach's ideas have played in the intellectual circles of fin-de-siecle Vienna, see especially F.A. von Hayek's interesting remarks about "Ernest Mach und das sozialwissenschaftliche Denken in Wien", in Ernst Mach Institut ed. Symposium aus Anlass des 50. Todestages von Ernst Mach, Freiburg/Br. 1967. Ernest Mach lived from 1838 til 1916.

Mainstream economic theory thus applies mathematical methods, mechanical images, and technical terms or phrases, like equilibrium or static to describe events and circumstances without the all important dimension of time. Whereas the role of time is absolutely essential for Austrian economics, equilibrium theory is meaningful only in a framework of timeless static. The Austrian focal point however are the transactions undertaken in the course of time. And yet, should it not be obvious that all human actions are dynamic actions that involve plans and therefore require a real time dimension? This cannot be resolved by splitting actions into several successive equilibria as these render sense only if they are used for the analysis of the actions of an individual.

Human actions can only be viewed as being in an equilibrium if they are part of a plan. Only if all these human actions were to take place at the same time and under identical circumstances could we substantiate our claim about the links of which we reach a conclusion from our assumption of the knowledge and the subjective preferences of an individual's action. All data which led to an individual's action are in their totality necessarily only subjectively known by him and thus cannot be objective facts which are as such recognizable to all. For any social interaction or transfer to take place, the information on which an individual grounds his plans necessarily must represent the expectation that others are going to act in a certain way. Hence it is a necessary precondition for the compatibility of the different plans that the planned actions of one individual contain the data for the strategy of the other.

Such an assumption seems highly impossible. The attempt to circumnavigate this serious flaw by assuming that all participating individuals possess the same pits and pieces of information[29] at the same time does not contribute to resolve it. It is exactly this assumption which Menger called the "supposition-method" when he criticized the Untersuchungen über die Theorie des Preises (1889) by Auspitz and Lieben mentioned above. It is misleading to believe that all data relevant for the decision making

[29] See F.A. von Hayek's seminal book, Preise und Produktion (Wien, Springer 1932/1976) where he treats this important subject for the first time; his "The Use of Knowledge in Society" (AER, Sep. 1945 and reprinted in The Esence of Hayek, K.R. Leube and Ch.Nishiyama, Eds., Hoover Press, Stanford, 1984) is probably the best known and most quoted essay on this topic.

processes are objectively the same for all and as such also available for all at the time of undertaking the 'logic of choice'. As mentioned above, the categories of the logic of choice are always means and ends. The distinction between logic and factual knowledge is justified in the realm of nature where no meaning is instantaneously accessible to us and in which care must constantly be taken to distinguish between the individual plans and the reality. This means that every singly transaction must depend on the expectations of the market participants. In accepting the logic of choice we can only speak of data known only to the acting person. As soon as the analysis of one individual's equilibrium is applied to the entire society the definition of the equilibrium necessarily must acquire a different meaning.

We are faced with a similar dilemma when it comes to the interpretation of the term "data". Obviously, by definition data are always known and a given. The decisive question in economics which boils down to who knows and who controls them, however remains unresolved and not even tackled. Is it assumed that the analyst studying the transaction possesses this knowledge or is it taken for granted that the individual whose actions are to be analyzed has this information? This means however, that terms such as "price" or "data" cannot be used to identify a certain thing or a physical good. Instead, the "price" necessarily is a phenomenon that is defined only by the interactions of people and as such has no other properties as those which are reflected by these exchanges. From an Austrian point of view, the price theory thus cannot tell us anything substantial about the behavior of prices of different goods or services, it can only advise us about the prices of goods or services of which the acting people have formed a certain opinion and about how people are going to use the goods. In other words prices serve only as a signal. The mainstream economist thus cannot explain the phenomenon of prices or why prices may change only through his own accumulated knowledge of the good. Only through the "understanding" and "begreifen" of the opinions people who are involved in the transaction have formed of the good, could the economist fully explain the phenomena of prices. In the social sciences all

objects are defined never by their specific properties, but always through the judgment and assessment of people. After all, things are what people think they are!

VI

In our world of scarcity and uncertainty the utilization of the terms of the mechanical sciences serves in no small part to pretend that we already possess or at least soon will have accumulated an exact knowledge about the social environment, human action, and future demands. But since we have started to construct models of ideal type settings, economists have been compelled to include in this scenario the image of the perfectly informed and always rationally acting "homo oeconomicus". As it turns out, this super hero however is mostly a mindless and lifeless construction. In order to remain consistent within the models we even have learned to portray entire social systems with the same technical terms as if these societies, groups, or families were equally homogenous social wholes in which the individual is only an abstraction. The impression that many economists follow Comte's methodology and thus conjecture their world as a result of some great design but not as a "result of human action"[30] can hardly be suppressed. Civilization, societies, culture, or languages however are neither the result of a planning mind nor of any super human ingenious plan: These social institutions evolve without any known purpose, direction or design[31].

In the natural sciences the particular properties of rocks, planets or molecules can be analyzed and their course of action can at least in principle be measured or predicted. The essence of human beings yet remains that people purposefully aim at the ends they have chosen. Human beings unpredictably can and will change their minds or attitudes, depending on circumstances far beyond their control.

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[30] See especially F.A. von Hayek "The results of human action but not of human design" in his Studies in Philosophy, Politics and Economics, London, Routledge&Keagan Paul 1967.

[31] See Carl Menger, Untersuchungen über die Methode der Sozialwissenschaften und der Politischen Ökonomie insbesondere, Wien 1883, p. 208

This distinct Austrian approach has emerged slowly and gradually in an evolutionary process and is by no means restricted to economics rather it is applicable to all social sciences. It transcends economics and allows us to "understand" and "conceptualize"(begreifen) the formations of spontaneous social orders and is geared toward the interpretation of cultural facts [32].

On the one hand side every change concerning the relevant knowledge of an individual will destroy the state of equilibrium that existed in all actions the individual has undertaken either prior or after the change of knowledge took place. An equilibrium will thus only exist in a period of time in which the so-called rational expectations prove to be correct. On the other hand the time factor become essential as any equilibrium needs to be defined as a relationship between at least two actions that necessarily take place one at a time. However, if the time factor is neglected in the mathematical illustration, the explanatory value of the exposition is quickly reduced to zero.

Conclusion

It is assumed that because all human actions inherently carry the tendency towards a final state of equilibrium, that under certain conditions the intentions of individual market participants will always move towards an ever increasing higher degree of consent. In other words it is taken as known that the rational expectations of people will prove more accurate the more they move towards the equilibrium. This claim not only seems to make good common sense, but also to follow from empirical observations and thus ought to prove correct. However, this thesis neither is able to deliver the prove that there is such an intrinsic tendency towards an equilibrium, nor does it explain under what conditions and why the individuals involved in the transaction will change their decisions as soon as they acquire new information. The inherent equilibrium theory thus may only be accepted if the ever changing knowledge

[32] This was already clearly seen by Carl Menger, in his Grundsätze der Volkswirthschaftslehre, Wien 1871, p. 135-145.

that people gain through their transactions is taken into account. However, as it has been shown the entire equilibrium story is not much of a help to explain the reasons for changes were there even the lightest modifications of the data involved in the transaction. Mathematical economics thus is forced to turn a blind eye to all important institutions on which our social order and institutions rest, such as the law, morals, ethics, or the language. It seems as if the phantom of the "homo oeconomicus" which Carl Menger and his followers have so successfully started to drive out of the social sciences has returned in the form of mindless assumptions such as perfect competition, complete information, perfectly rational men, and a perfect market equilibrium.

It is time to focus again on the fact that in economics we never study the state of an equilibrium but always processes.