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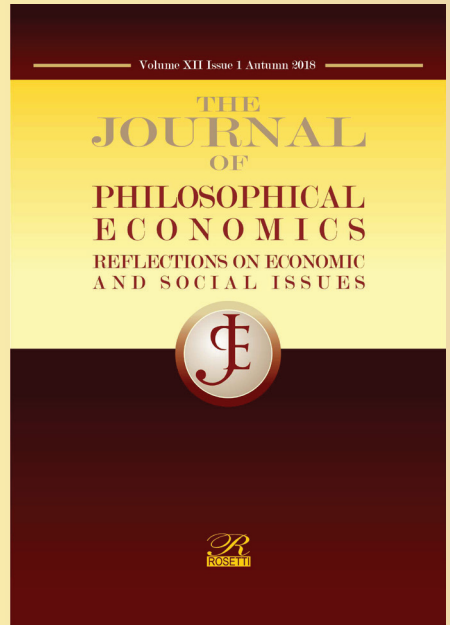
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action'*

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The logo features a large, stylized, calligraphic letter 'R' in a dark red color. Below the 'R' is the word "ROSETTI" in a bold, black, sans-serif font, enclosed within a black rectangular border.

Critical comments on the philosophical context of Ludwig von Mises's 'Human action'

Alexandru A. Popovici

Abstract: Mises's work of 'Human action' is analyzed in relation to the methodological conceptions of his predecessor C. Menger and of his successor F. von Hayek. Also, it is placed in the continuation of one of his previous works and in contrast to one that followed it. Some of his ideas can be better understood in such a way, while others show themselves as contradictory. It results that his attempt to combine apriorism with scientific realism explains some of major difficulties of Mises's argumentation.

Keywords: philosophy of economics, Austrian School, apriorism, realism, historicism, neopositivism

The philosophical context

Ludwig von Mises (1881-1973) tried to establish the foundations of sociology, within the 'Austrian School', using an individualist methodology, and combining the rigorous approach (promoted by C. Menger in his philosophy of economics) with the anti-physicalism orientation (of the neo-Kantian and Weberian historicism). Here, I shall summarize and adapt my analysis from a much larger paper (Popovici, 2014b).

The Austrian School was a name given to rally the 'originality' of the economic theory proposed by C. Menger, as opposed to the German one, but instead it became renowned and his theory was continued by E. von Böhm-Bawerk and F. von Wieser, then later by L. von Mises and F. A. von Hayek.

Carl Menger (1840-1921) published his book *Principles of Economics* in 1871, which along with the mathematical models of W.S. Jevons in his book, *The Theory of Political Economy*, created the marginalist theory of value, based on

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subjective utility. This opposed the classic English economic theory of value based on labor. However, Menger's main fight was not with classic theory, but with the German school (and to its organicistic/holistic approach), in his 1883 publication, *Investigations into the Method of Social Sciences: With Special Reference to Economics* (Menger, 1883). Openly or implicitly, Mises positioned his work mainly in relation to Menger's investigations, so I shall try to briefly describe his basic ideas.

Menger maintains that *economy* is 'the precautionary activity of humans, directed towards covering their material needs,' and is based on the objective natural resources and needs, which remain over time more or less the same, that is – relatively independent of social-historical development (pp. 86-87, 216).

The purpose of *scientific investigations* into phenomena within a domain of reality is, on the one hand, intuitive – their cognition through a mental image building (as a model), and on the other hand, ontological – understanding the reasons behind (or causes of) the existence and specific qualities of phenomena (p. 66).

Within each scientific domain, these studies are divided into three *orientations*: theoretical, historical, and practical; they are not confounding, all are necessary (for economy – economic theory, economic sociology and history, political economy), and only together do they constitute the science of a domain (pp. 61, 66, 98).

Theoretical (abstract) orientations search the regularities of phenomena, of the connections between them and their changes (evolutions), which they express by *types* (classifications), *laws* (descriptive or causal), and *conditions* (of their applications). They assure the *control* (experimental reproducibility) and *prediction* of phenomena (pp. 77-78, 116, 168-70).

By their approaching methods (inductive or deductive), theoretical sciences are divided into *realist-empirical* and *exact*. *The realist-empirical approach* is inductive and tries to express phenomena and their laws in all their complexity, but the resulting types and laws are not strict. *The exact approach* (a mathematical one) is deductive and may have two forms: 1) a priori and axiomatic, shortly and ironically dismissed by Menger, as pertaining to some unrealistic Frenchmen (p. 60), or 2) a form assimilated to the exact one. In the second form, by analyzing reality, the researcher has to determine and measure the simplest elements ('atoms') of the phenomena; later he must reconstruct, from these elements, the exact quantitative laws of the more complex phenomena (pp. 83, 85, 86). Exact sciences build exact

(without exceptions) types (concepts) and absolute exact laws (independent of space and time; in sociology – of historical age) (pp. 82-83, 131).

Contrary to the restrictive interpretation of his disciples (starting with Böhm-Bawerk), Menger's concept of the exact approach signified, as one can see, not only a rigorous deductive method, but also a quantitative mathematical approach, not necessarily experimental or at least measurable (a task he assigned to the realist-empirical approach). For Menger, the basic elements of economic activity were 'natural need and available quantity of goods [for consumption and as production means] on the one hand, and the possible completeness of satisfaction of the material needs, on the other.' Therefore, they are a biological, objective (qualitative and quantitative) basis for establishing the exact laws for the entire economy. They have 'a significance analogous to that which the exact natural sciences offer us in respect to natural phenomena' (pp. 86-87). The exact economic theory shows us 'what *quantitative effects* would be produced by a definite *quantity* of the influence in question' (p. 110).

'[Empirical] realism, in theoretical research, is not something higher than the exact orientation, but something different,' and the exact theory cannot be tested by the empirical one, nor, for example, the axioms of geometry – by practical measurements (p. 93). From this point of view, 'no *essential* difference between the ethical [social] and natural sciences exists but at most only one *of degree*' (p. 81). It seems that this means a *methodological monism* (applicability of a single scientific method for all domains of reality). On the other hand, Menger explicitly states the necessity of method adequacy to the domain (pp. 49-50, 158-160). The seeming paradox can be resolved by considering that in his conception, all methods and approaches (sciences) – exact, empirical, historical, and practical – are necessary in each domain, and the proportion of each one in the ensemble depends on the domain complexity, the result of their combination being unique. The possibility of an exact approach increases as the complexity decreases. I should name this conception *methodological gradualism*. Menger warns against the tendency toward attempting 'to expand theoretical economics... into the phantom of a universal theory of social phenomena' (pp. 101-102), as Mises will try.

Society and national economy are, in fact, 'aggregates of institutions', they are *complexes* (structures) of some individual and group micro-components, which act one upon another.

'Each one of these serves the normal function of the whole, conditions and influences it, and in turn is conditioned and influenced by it in its normal nature and its normal function. Also, in a number of social phenomena, we meet with the appearance of the reciprocal conditioning of the whole and its normal functions and the parts, and vice versa' (p. 170).

Hence, *methodological individualism* (which Schumpeter credited to Menger in 1908) is valuable only as the starting point of his sociological approach (as we shall also see with Hayek), and his entire social conception could be named *interactionism* – among parts and between parts and the whole, a sort of Hegelian synthesis of reductionism and holism (Popovici, 2014a).

By striking coincidence, Wilhelm Dilthey's *Introduction to the Human Sciences* (1883) appeared in the same year as Menger's book, laying the foundations for a new method of social-historical sciences, based on a 'critique of historical reason,' such as the one Kant stated for natural sciences.

W. Dilthey (1833-1911) also proposed a methodological individualism, not based on efficient causal *explanation*, but on the *understanding* of final causes, of the internal purposes of human individuals. The knowledge of man must start from *introspection* and from *observation* of other people, and lastly – it has to be based on the *interpretation* of individual expressions and works (as objectifications of their innerness). So, one could get to *communication* between people and to an inter-subjective knowledge, but based on a real, ontological *community* of human cohabitation and interaction, through which people could create themselves as similar beings.

Max Weber (1864-1920) had, initially, ideas close to those of H. Spencer, but he had a sharper sense of the specificity of human sciences. He followed the paths of Dilthey and H. Rickert (from the neo-Kantian school of Baden), but preferred, instead of unsure/unreliable intuition, the study of *individual behavior*, which incorporates meaning and cultural values, with social structures being (contrary to E. Durkheim) only nominalist fictions. However, it remains unclear how a social entity, with a fictitious independent existence, acts upon individuals. Moreover, if the action occurs from person to person only, where is the source of this entity? Wishing to preserve the unconditional freedom of individuals, M. Weber supposed that values systems are strictly personal. Ultimately, this conception led him to an anarchy of human values. Based on qualitative typology, he attempted to understand individual behaviors, but he did not renounce any causal explanation. M. Weber divided human actions into

two overarching categories: *rational* (led by goals or by values) and *irrational* actions (led by organic, emotional reasons, or by social beliefs).

Ontology and epistemology of human action in Mises's pre-war writings

In spite of the multitude of writings, Mises is, in fact, a man of a single work, *Human Action* (1940), which he finished during his exile in Switzerland, and which was then adapted and improved for English translation in 1949. In this work, he exposed his ideas, by explaining and defending them through his other writings. Among the most important is the preceding one, *Epistemological Problems of Economics* (1933), and the one printed toward the end of his life, *The Ultimate Foundation of Economic Science: An Essay on Method* (1962). In these books, he delimited himself from historicism and from neo-positivism. Within the context of the preceding and the succeeding books, the concepts and intentions of 'Human action' are improved or even modified, that influenced their interpretation by Mises's disciples. However, they did not show the implied inner contradictions, too. In the beginning, we shall deal with the pre-war works, as they have a similar orientation.

Contrary to Menger's warning, Mises wants to base the social sciences on a rigorous science, by extending the exact approach in economics and the activity of *homo oeconomicus*, to all of sociology and to the active man (*homo faber*). *Human action* is defined as behavior oriented toward a goal, an attempt to obtain a state of greater satisfaction ([1940] 1998, pp. 11, 13) – an extension of the marginalist approach to economic values. Action is a display, by choice, of certain individual preferences and it is triggered by a free act of volition; it is a real thing and a total behavior. In analyzing action, although he is inspired by economic activity, Mises neglects the natural needs, the goods, and mainly, the employed material means. Therefore, he obtains an idealization of activities, against the approaches of Menger and Böhm-Bawerk.

E. von Böhm-Bawerk (1851-1914) described the relationships between economy and the other realms of reality: 'The whole world, as we know it, is subject to the law of cause and effect,' including economy – and its functioning proceeds by observing the laws of lower levels of complexity. *Economic goods*, as instruments of satisfying wants, are both *personal goods* (human actions – labor, services etc.) and *material goods*. The usage of the latter 'gives these goods no kind of immunity from complete subordination to the natural order.' In production, a *synthesis* of material goods and

personal goods takes place: man, 'himself a part of the natural world, combines his personal powers with the impersonal powers of nature, and combines them in such a way that, under natural law, the co-operation results in a definite, desired, material form.' (Böhm-Bawerk [1894] 1930, pp. 8-12)

Though neo-Kantian theory defined value mostly as object of a desire, Mises regards action (as we have seen – the result of a preference) as independent of values (probably the moral ones). Refusing psychologism and the Weberian classification of behaviors, Mises considers actions always rational (as total conscious behavior). The contrary appearance is due to a scale of values (used in action by the observed person) unnoticed by the observer (1933, pp. 24, 35-37). But, how we can reconcile this with the value independency of actions, the intelligibility of every man (one of the most difficult subjects of anthropological philosophy), and the 'identity' of human actions (simplistically proved by Mises, through the evidence of daily practices) – all of them asserted by the author (1940, p. 25)?

Mises pretends that the description of an individual's action may be 'independent of the [internall] motives that cause it and of the goals toward which it strives'. 'The rational and irrational concepts are not applicable to ends at all', 'such a usage has significance only from the standpoint of a definite technology' (1933, p. 36). Here, there is a split of the action, similar to that of its material factors, but less tolerable, due to the division of the internal ontological unity of man (the last being implied by methodological individualism). It results that actions are similar (hence, intersubjective, at least), but their valuations may be different between individuals, and unknowledgeable (that is, subjective, in accordance to the marginalist economic conception). Could we know them by analyzing actions and their results, as objectifications of the subjectivity, as Dilthey ([1883] 1989) recommended? So, we must enter deeper into the realm of epistemology.

For Mises, 'all that can be said with certainty is that there are relations between mental and physiological processes. With regard to the nature and operation of this connection, we know little if anything,' and must be regarded as a 'metaphysical' problem (in a Kantian sense). Therefore, he opts for the methodological dualism (of the neo-Kantian historicism), for using different methodologies in social sciences versus natural sciences (1940, p. 17).

Mises considers the concept of human action to be *a priori* and *the science of action* – as exclusively deducible from this concept (like mathematics and logic – from the Kantian categories of space and time) (1940, p. 13). In contradistinction

to M. Weber and the neo-Kantian School (but similar to Menger), he states that in sociology (and in the science of action) there are *laws*. Sociological *concepts* are not (Weberian) ideal types and, as sociological laws, they cannot be deduced by observing historical facts (as was supposed not only by the historical German school, but also by A. Comte, and J. S. Mill). Action, together with the concepts and propositions which are deductible from it, are universal, independent of space and time, and can be neither validated, nor invalidated empirically (as exact concepts and laws were to Menger, but these were built by analogy to natural sciences) (Mises, 1933, pp. 28, 79, 84).

In this way, Mises concludes (as Menger also did) to tinge over decisive differences, stated by W. Windelband (from the neo-Kantian School), between nomological (natural) sciences (directed to laws) and the ideographical (human) sciences (directed to oneness).

The *a priori* concept of action and the related propositions are analytical (in a Kantian sense) and (as to Menger) they 'hold to the extent that the conditions that they presuppose and precisely delimit are given'. To Mises, these conditions (which belonged to Menger's exact sciences) are not analytical, but they are defined step by step using phenomena (1940, p. 26) and could be synthetic or even empirical.

Not only action belongs to every human being, but also its rules, which are unique and necessary, Mises states. Every man owns this science of action, but in different degrees of awareness (1940, p. 24). However, in accordance with the Duhem-Quine thesis of the under-determination of theories by facts, from the evidence of actions one cannot deduce either the oneness of its theoretical concept, or its *a priori* character, as Mises would wish. There are other theories or philosophies of human action, and they use even the methodological individualism (as for example, the one of Hayek or the existentialism of J.P. Sartre).

Mises's post-war re-founding of economics

The science of action would be axiomatizable, as is Euclidean geometry by Hilbert's approach, Mises added, probably thinking that the latter has another content than the classical (1933, p. 16).

It seems that, before the war, Mises didn't know the problem roused in connection to classical geometry, posed by the appearance of non-Euclidean geometries and the theory of general relativity. They led to the refutation of the *a priori* character of

Euclidean geometry, stated by Kant (Reichenbach, 1920). Then, Mises's polemics regarding the possibility of a rigorous sociology was directed towards historicism. After the war, in the United States, his object was neo-positivism (logical positivism and logical empirism) and especially the works of H. Reichenbach (Popovici, 2014a)

Mises considered positivism to be the main adversary of apriorism and underlined the difficulty or even the impossibility of a total verification of scientific laws by inductive methods. He denied again, in 'The ultimate foundation...', the possibility of obtaining universal, exact laws by experience only (Mises, 1962, p. 21). However, I do not think that this impossibility implies the existence of universal laws and their *a priori* character, as Mises tends to assert. Moreover, this impossibility invalidates his witnessing of apriority by the evidence of daily experience. I think that scientific laws are an emergent mental synthesis of empirical facts and structures, based on a total (psychophysical) interaction of the subject and object, and using an inductive-deductive iterated method (Popovici, 2014a; Popovici, 2014c).

Overtaking the neo-Kantian arguments, Mises accuses the physicalism of neo-positivism, its unwarranted extension of the natural sciences epistemology, to the social sciences. Natural sciences are causal researches – of efficient causes, while the social sciences are teleological researches – of final causes (Mises, 1962, p. 19); but – I should add – also of efficient ones (implied by the effects of human actions), too. Hence, he contradicts his pre-war statements of the causal character of the science of action.

To Mises, man succeeds, by his action, to modify the natural and social environment, so showing his freedom of will, which, for the author, 'is the fact that the ideas that induce a man to make a decision (a choice) are, like all other ideas, not immediately "produced" by external "facts" (but mediated by the human mind structure and personality), and immediately – by internal factors (as inner determinations of decisions). 'However, it is not permissible to interpret this freedom as independent of the universe and its laws... Actions are directed by ideas, and ideas are products of the human mind, [...] of which the power is strictly determined by the whole structure of the universe' (Mises, 1962, p. 57). This is just that I named elsewhere the solution of *conditioned freedom* (a synthesis between indeterminism or absolute freedom and absolute determinism) and of *internal determination* of the freedom of will (Popovici, 2014a; Popovici, 2014c).

Mises analyses the hypothesis of the conceptual evolution of this science by the Darwinian selection of the more adapted individuals to reality and action (Mises,

1962, p. 15), and concludes that they are not innate (genetically transmitted), but they exist due to the human mind structure.

Neo-positivism would condemn methods other than the inductive-experimental one as metaphysical; however, it is itself unconsciously based on a metaphysics, on an *a priori* concept – the regularity of phenomena (stated by Menger, too) and that was the foundation of the science of action (Mises, 1962, p. 16). Therefore, in this late work, even the concept of human action loses its *a priori* priority.

He also reproaches neo-positivism (and implicitly, Reichenbach) the idea of the conventional character of geometry axiomatics (Mises, 1962, pp. 5, 13), although, in fact, this idea belonged to Poincarè, who was not a positivist, while Reichenbach dismissed it (as one had to). Against anti-apriorism and conventionalism, Mises raised the argument of technical practices (an empirical argument, which could prove, in fact, only the approximate adequacy of geometry to reality, but not the internal coherence of its axioms and even less, the apriorism of its content). This argument is contrary to the one used by Menger about the relationship between exact and empirical science, and also the contrary of particularization by H.-H. Hoppe (1994, p. 16).

Because he cannot deny the adequacy of non-Euclidean geometries to reality (proven by physicists), Mises prefers to assert the *a priori* character of all geometries, Euclidean or not (Mises, 1962, p. 14), which is an obvious impossibility (because they apply to the same physical reality, not to a terrestrial, and alternatively cosmic, as Mises believed). This impossibility can be proved by applying to these geometries just the criterion of *a priori* proclaimed by Mises himself – the impossibility of thinking their contrary: they are in a clear contradistinction, by the different content of the axiom of parallels, therefore they could not be *a priori*.

The attempts of his disciples to present the definition of action as an axiom (may be the single one in the foundation of this science), are wrong even formally, because axioms are propositions built by using primary defined concepts (as one can see in Spinoza's *Ethics*, if not in mathematical books). Moreover, in the form given by Mises, one cannot speak about verifying the conditions (consistency, completeness, and simplicity) settled by Hilbert for an axiomatic system (Popovici, 2014a). Due to the complexity of the domain, a real axiomatization of the science of action would imply not only important modifications of Mises's theory, but a longer evolution of social sciences (as Menger warned, too).

Another of Mises's arguments against neo-positivism is the probabilistic form of some microscopic laws, for bodies which have deterministic macroscopic laws (one can understand – the molecular statistical theory of gases and the laws of perfect gases) (Mises, 1962, p. 27). However, on the one hand, in the 19th century, the positivist physicists (W. Ostwald, E. Mach) refused to even accept molecular theory, due to the hypothetical character of atoms and molecules (since they were not proven experimentally). On the other hand, the two forms of these laws could be explained by synergetic effects of part interactions, to the upper level of the whole, as I tried to show when discussing the relation between necessity and freedom, in the philosophy of sciences (Popovici, 2014a).

Long ago, however, Mises had generally refuted the possibility of *statistical social laws*, since the statistical results are not truly constant, but inevitably vary (Mises, 1933, p. 56). The condition of constancy could be rightful in case of perfect deterministic laws and of a social reality without transformation and evolution. However, on the one hand, even in a deterministic case, reiterating a simple length measurement of a solid body may lead to slightly different results. On the other hand, the evolution of social reality was accepted, even by Mises. Hence, how this evolution can be conciliated with time independent of (*a priori*) the laws of action, an evolution which even Menger asserted must be reflected by the exact economic laws?

Mises also denied the applicability of statistical laws to human collectivities, due to the lack of homogeneity (identity) of the individuals pertaining to a population, as the principles of statistics requested (Mises, 1940, p. 25). This homogeneity is obviously an abstraction that is not perfectly fulfilled, also not by natural bodies, and a partial identity of individuals (based on natural laws) was accepted even by Mises.

Under the influence of the mathematical works of his brother, R. von Mises (a great statistician and probabilist with realist ideas, but influenced by empiricism), it seems that Mises did not notice the revolution initiated by R.A. Fisher in statistics after 1935, by founding it on probability theory, just after the axiomatization of the latter, by A. Kolmogorov, but without pretensions of apriorism (Popovici, 2008, p. 9).

The possibility of the existence of any *quantitative laws* in sociology (implicitly, in economy, too) is denied by Mises (in contradistinction with Menger), since 'in the sphere of human action there are no constant relations between any factors' (Mises, 1962, p. 62). Nevertheless, we have seen above a statement, which is totally different

and much more general: the regularity of all social phenomena, which would be the basis of the science of action (Mises, 1962, p. 16) and which served Menger as an argument for the possibility of an exact (mathematical and quantitative) approach in economics.

Finally, the impossibility of quantitative predictions in sociology and economy, by extrapolating the past, is debated by Mises (against neo-positivism and Menger), and negated by the existence of human freedom, that would impede the repetition of actions (Mises, 1962, p. 67). However, this freedom is bound, as he stated in agreement with Menger; therefore, the action is partially quantitatively predictable (at least, insofar as it is influenced by natural laws or by human interaction with material means and goods). I think that Mises understood predictions and laws as exact, certain and deterministic, while they are in fact statistic and probabilistic, and this character is due only to the partial limitation of freedom. An absolute liberty of men would have made not only any sort of deterministic or probabilistic laws impossible, but also the existence of production or economy and even of any form of society (Popovici, 2014a).

Hayek's outstripping from Mises's theory of human action

Friedrich August von Hayek (1889-1992) moved away from the reductionist approach of Mises, though they have methodological individualism and the specificity of social versus natural sciences in common. However, Hayek admits (like Menger) the real existence of *wholes*, of structures (even physical) built of some components linked by relationships. These wholes owe new, *emergent* properties (different from the properties of parts and even with a certain degree of independence toward their changes). He also admits the capacity of mathematics to describe such structures (Hayek, 1994, p. 57)

Within society, individuals are linked in *complex networks of relationships*, so one can see some corresponding social roles and attitudes. The decisions of any individual, even when he is separate and alone, are dependent on these roles, on social relationships, on the opinions and evaluations of other individuals, and on his actions. Therefore, the individual interacts with other persons and his behavior is modified, even if he has no direct contact with them. In social sciences, knowledge is based on the reciprocal understanding of individuals, by explicit observation, by empathy, and by reconstructing their intentions (Hayek, 1952, p. 31), that is – just as shown by W. Dilthey (1883).

The social whole is generated and maintained by men's ideas and the goals of their daily and repeated actions, not by their ideas about society and its general processes. The social whole, like Menger's complexes, doesn't exist without individuals and their actions (Hayek, 1952, p. 35). Because the whole and parts preserve their autonomy, even they interact, we can say that Hayek has neither a holistic, nor a reductionist conception of society and economy, but an *interactionist* one, as I identified it above.

Hayek shows that the social researcher can only access these elements and he must start his investigation from them, to identify the social whole, the social or economical ensemble, which is not directly accessible, and there resides the methodological individualism of social sciences. The whole must be reconstituted step by step, by successively re-compounding its structures, in a more and more complex manner, using a *synthetic method*. Contrarily, in natural sciences, the structural totality would be directly visible, and the research, in the view of explanation, consists in decomposing the structures until their elementary ('atomic') components are exposed, so that in such sciences an *analytical method* is used (Hayek, 1952, p. 36).

However, I must add that in fact, for social sciences, after the reconstitution of the whole, one has to follow the inverse direction – retrieving, through analysis and deduction, its parts and their relationships to the whole, while in the natural sciences – one only needs the synthetic method. In fact, I think that, for every natural and social science, the real research uses an analytical-synthetical iterated method.

Critical synthesis of Mises's theories

The major difficulties in Mises' argumentations derive from his attempt to combine a sort of Kantian apriorism with scientific realism. By choosing the first one, he risks falling into the agnosticism of the thing in itself; by choosing the second one, he must abandon the spatial-temporal independence of aprioric concepts and accept the necessity of their evolution, to a greater and greater suitability to reality, which is itself in transformation. However, their adequacy/suitability cannot be proved without accepting an empirical side to science, with the necessity and possibility of a quantitative-mathematical approach. We have seen that the same arguments, favorable to the possibility of Mises' deductive science, are valuable for its (probabilistic) mathematization. We can prove this possibility empirically,

by Jevons's and Walras's mathematical formalization of economic marginalism, without speaking of that of their followers, until the axiomatization desired by Mises.

Methodological individualism, used by Mises in sociology, is partially necessary, but is undermined by the bounding he initially accepted: the extension of *homo oeconomicus* to *homo agens*, in fact – a reduction of the latter to the former. This reductionism shows its poisoned fruit, through Mises's incapability to obtain by deduction (starting from his concept of action) nothing other than the results of marginalist economics, only in a more abstract form. If we make a comparison of the Kantian philosophy (one of his models) with Mises's theory, nothing important is obtained with regards to social-political action, scientific and artistic creation, not to mention ethics or religion (at least from a practical point of view). Nevertheless, within the framework of these limits, Mises's theoretical deductive effort is remarkable and I wish that his trust in reason and in a realist scientific science might be spread among many scientists. In conclusion, I would rally to Hayek's appreciation that many times he agrees with Mises's conclusions, but not with his arguments.

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