

Methodological individualism as anti-reductionism

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Abstract

The demarcation criterion of methodological individualism is not defined in relation to entities ultimately involved in explanation – individuals to the exclusion of structures – as supposed by its reductionist interpretations. It introduces an epistemological approach that distinguishes between causal powers representing driving forces – they arise from individual (trans-situational) rational capacities – and structural properties which do not exert a causal power but have nevertheless a crucial causal role – they define the situational properties on the basis of which individuals' rational capacities are developed. Whereas the forces in action in society are governed by the subjective meaning of/the reasons for individual actions, social structures have an explanatory or causal role insofar as they affect the subjective meaning of/the reasons for individual actions.

Keywords

Epistemology, explanation, holism, interpretive sociology, methodological individualism, rationality

The importance of methodological individualism (MI)¹ for explanation in the social sciences and the breadth of controversy surrounding it are only equaled by the misunderstandings of which it has been, and still is, the object. It is often interpreted as a reductionist approach advocating the explanation of social phenomena by individual actions alone. If such was the case, we can be sure that MI would not have merited the interest it aroused or even the slightest discussion insofar as, as is often stressed, such a reduction was never made. We hold that it was never even imagined by its proponents.

In this article, an analysis of the epistemological foundations of MI is proposed, the object of which is to show that it represents an essentially anti-reductionist approach.

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This analysis invites us to consider the interest of MI on these bases, otherwise there is a risk of losing its fundamental contribution to social sciences methodology.

An introductory section evokes the questionable shift in the dominant interpretation of MI from the issue of causal power in explanation to the issue of the exogenous entities of the analysis. The second section defends the unified and fundamentally anti-reductionist nature of MI. MI is first approximated to the method proposed in psychology by Lev Vygotsky, which calls upon the notion of basic units. The convergence of MI with the active epistemologies that interest the philosophy of science today is then stressed. It is shown that, in this respect, it introduces an epistemological approach that distinguishes between causal powers representing driving forces – they arise from individual rational capacities – and structural properties which do not exert a causal power but have nevertheless a crucial causal role – they define the situational properties on the basis of which individuals' rational capacities are developed.

On these bases, I propose to characterize the principles of MI by the following propositions (A) and (B):

- (A) The forces in action in society are governed by the subjective meaning of/the reasons for individual actions.
- (B) Social structures have an explanatory or causal role only insofar as they affect the subjective meaning of/the reasons for individual actions.

I discuss these propositions in the third section.

The changing interpretation of MI

Classically considered as arising from MI – notably by opposition to holistic types of approaches – are those approaches that impute the forces in action in society to the decision-making abilities of individuals. In this way, Joseph Agassi (1975: 144) defines MI as “the theory which ascribes the power to act to all and only to those who have the power to decide” specifying that the “methodological” epithet indicates that it is a mode of argument and not a thesis. Raymond Boudon characterizes in numerous texts the approaches that fall under MI by their denial that a social phenomenon might originate elsewhere than in the theoretically understandable motivations and reasons of the social actors responsible for the phenomenon. According to these conceptions, social structures take on a causal role essentially by defining the conditions under which the driving forces in play are exercised. Thus, Ian Jarvie (1972) explains that, according to MI, “institutions are social causes only insofar as they are part of a person's situation” (p. 124). Holism, by contrast, is conceived as the doctrine according to which “individual aims and decisions are created by social forces” (Agassi, 1975) or which explains behavior by forces that are external to the individual (see, for instance, Boudon, 2007: 46, 75).

Different characterizations appeared in texts, generally more recent ones, in which the dividing line between approaches that fall under MI and the rest is not defined on the basis of the forces in action, or else, on the issue of causal power in explanation, but on the exogenous entities of the analysis, that is, on the entities that play a causal role. Note here that the issue of causal powers refers to current philosophy of science literature. I

will return to this question later. Let us only state that if all the exogenous factors supposed to be in play in the determination of outcomes are reputed to have a causal role, only some of them represent causal powers through their genuine (trans-situational) capacity of acting and interacting.²

In a frequently quoted critique, Steven Lukes (1968: 120; see also, for instance, Kinkaid, 1986) defines MI as the doctrine according to which “facts about society and social phenomena are to be explained solely in terms of facts about individuals.” From the numerous examples of the same type of interpretation, it is worth citing Margaret Archer (2000: 464) who contrasts methodological individualists, who hold that social reality can be “reduced” to the doings and beliefs of “other people,” with methodological collectivists, who hold that “social facts” are irreducible, but nonetheless real and influential. Finally, Lars Udehn offers a summary under the banner of what he identifies as “strong” versions of MI. According to him, these strong versions “suggest that all social phenomena should be explained only in terms of individuals and their interaction,” whereas the weak versions “also assign an important role to social institutions and/or social structure in social science explanations” (Udehn, 2001: 347, 2002: 479). The evolution marked by the literature is therefore considerable and, we will see, out of step with current philosophy of science debates, since it amounts to going from a clear epistemological demarcation between individualism and holism associated with the imputation of causal powers to an untenable characterization of MI as refusing social structures any causal role.

On this basis, re-centering the distinction between individualism and holism on the exogenous factors involved is misleading and causes individualism to lose its true methodological requirements.³ This leads to the differentiation between a “strong” MI (in which structures have no explanatory role), which has never existed as a scientific approach—that is, not purely speculative⁴—and a “weak” MI, which grants an explanatory role to both individuals and structures. The absence of the crucial reference to the forces in action in society—that is, to the causal power of individuals—betrays its epistemological foundations, to the point that it would be presented today as a “mix, or synthesis, of individualistic and holistic elements” (Udehn, 2002: 502). According to Udehn (2001, 2002), the notion of “structural individualism” would then be more suitable: The sui generis reality of social institutions would constitute a sort of delayed taking into account of MI, which would consequently lose its terminological relevance.

Reductionist interpretations thus make the mistake of defining MI according to entities ultimately involved in explanation—individuals to the exclusion of structures. I propose to show that MI is in fact founded on an epistemological issue that distinguishes two essentially different kinds of causal function, where structures, if they have no causal power, nevertheless have a crucial explanatory role.

The anti-reductionist epistemological fundamentals of MI

Reductionism versus anti-reductionism

In a very general way, scientific “reductionism” involves the fact of explaining the constructs of a theory A from the constructs of a theory B. Reduction might hold in various cases, so that reduction does not always entail micro-reduction from a higher level to a

lower level of constructs. For instance, as specified by Van Riel and Van Gulick (2016), French structuralists reduce subjects or subjectivism to postulated structures: They explain the unconscious meaning of individual behaviors by the inner working of larger discourse. More specifically, in the case of micro-reduction, as for instance in the version of reductionism proposed by Oppenheim and Putnam (1958),⁵ B micro-reduces A if constructs of A are wholes which possess a decomposition into proper parts all of which are constructs of B and if B explains everything that A does.

Georg Simmel ([1892] 1977: Chapter 2) explains the erroneous character of micro-reductive reasoning that leads to a regression as far as the level of the “absolute atom,” which is supposed to represent all there really is, whereas it is itself a scientific construct: Unity and composite character are relative concepts. For this reason, it is fallacious to oppose elements that would be alone to be real to derivative/composite sets that would be combinations of real elements. Unity and composite character are epistemological categories that variably apply to phenomena. Units distinguished by a discipline depend on its specific requirements, not on ontological presuppositions. On these bases, I contend that, contrary to any reductionist standpoints, MI represents a form of anti-reductionism, according to which individuals and social structures are complementary constructs of the social sciences which, as such, cannot be reduced to one another. I propose to clarify this in the following by referring to an analysis by “basic units.”

An analysis by basic units

To account for the way in which MI epistemologically defines the basic constructs of explanation in social sciences, I propose to begin with a methodological reflection by Vygotsky ([1934] 1986: Chapter 1). The anti-reductionist principles expressed by Vygotsky to characterize his approach in psychology can be compared to those at the foundation of MI as, we shall see, is evidenced by the founding texts. This proximity is not fortuitous. In the specific domains of human and social sciences that belong to them, Vygotsky’s psychology and the approaches that fall under MI share a fundamental characteristic: They are sciences of consciousness.

Vygotsky starts from the idea that in scientific matters, each level of complexity possesses specific properties and that it is absurd to study a phenomenon by operating a simple dissection, a simple dismemberment of a set of elements located at a lower level of analysis. He writes that we can compare such a decomposition to the chemical analysis of water. This analysis results in products that are foreign to the whole under analysis, and which do not possess the specific properties of the whole as such but possess others. Thus, water extinguishes fire, whereas hydrogen itself burns and oxygen maintains the combustion. In the study of verbal thought, the mistake of scientific psychology was to consider thought and language separately, or else to identify thought and silent language. Failing to grasp the existing internal relationships of unity between thought and language, psychologists substituted for them the external mechanical relationships of two processes that are dissimilar and foreign to one another. Vygotsky explains that to understand a phenomenon, you have to resort to another type of analysis defined as the decomposition of a complex whole into basic units. Basic units are designated as products of

analysis that possess all the fundamental properties of the whole and are living parts of this unit that can no longer be broken down (what I will identify as “constitutive parts of the whole as a unity”). Therefore, to explain the singular properties of water, it is not a matter of operating a decomposition into simple elements, but of relying on the study of the water molecules and molecular movement. Likewise, the true basic unit of biological analysis is the living cell, which retains all the fundamental properties of life inherent to the living organism. The basic unit, which contains in its simplest aspect properties inherent to verbal thought and which, for these reasons, can explain its specific properties in varied contexts refers, according to Vygotsky, to the internal aspect of the word – to its meaning. The meaning of the word, the generalization that it represents is an act of thought in the true meaning of the term. But at the same time, the meaning is an inseparable part of the word as such, it belongs to the sphere of language as much as it does to thought. The meaning of the word concerns both language and thought at the same time and can be considered as the basic unit of verbal thought. The research method adopted by Vygotsky is, by virtue of these principles, the semantic analysis of language as a study of the meaning of the word.

With all the limits of the analogical connections between the different spheres of knowledge, Vygotsky’s approach makes it possible to encompass the fundamentals of the individualistic methodology. Far from considering social entities on one hand and individuals on the other as two realities that can be separated by a speculative path and whose relationships refer to a form of external mechanical interaction, the methodological approach adopted is an analysis in basic units – constitutive parts of the whole as a unity. From this perspective, individual entities and social entities are relative constructs. In the same way as in psychology, meaning can be considered as both a phenomenon of a verbal nature and a phenomenon falling within the sphere of thought, language and thought at the same time, in sociology the socially oriented action – that is, the subjective meaning of a social action – can be considered as both a phenomenon of a social nature and a phenomenon falling within the sphere of thought, social and thought at the same time; it represents the basic unit of social action.

The basic units of the analysis are located at the level of individual consciousnesses because they represent the smallest units of the social wholes, and are indivisible by virtue of the sui generis level of meaning they constitute or else, by virtue of the unity of consciousness. In this respect, I propose to show that MI can be characterized in the following way:

Methodological individualism uses as the basic unit of its analyses individuals as centers/producers of meaningful/rational actions with respect to the social wholes in which they participate.

Before this, it is worth noting that the basic units represent “living parts,” so they represent active or driving forces. They thus introduce an “active” epistemological approach escaping forms of Humean metaphysics, where the causal relationships represent external relationships between discrete particulars, that is, where things have no inherent tendency to behave as they do, so that causal powers do not exist (Ellis, 2002; Harré and Madden, 1973; Jacobs, 2017; Mumford and Anjum, 2012; Mumford, 2009).

Capacities, powers and structural properties

The epistemological approaches known as “active” use notions of “powers” or “capacities” as opposed to “passive” approaches, which characterize interaction using laws or some counterfactual assumption.⁶ The capacities or powers are not subjected to *ceteris paribus* conditions. As specified in Nancy Cartwright’s (2007) works, they designate causal tendencies which continue to produce their effects, in various situations, by interfering with the course of other factors or processes:

What my being irritable guarantees is that if triggered I can get angry easily. That is the causal law. What are the manifest results when the capacity is exercised, that is when I “get angry” – my feelings, my behaviour, my words, my body language, my facial expressions – all depend on the environment in which the capacity is exercised.

(p. 25)

These approaches, which today are the subject of numerous philosophy of science debates, find certain precursory conceptions in the first anti-positivist masters of interpretive sociology who consider the actors’ reasons as causes in scientific explanation, that is, rational capacity as “causal power,” so that they identify causal explanation and understanding:

[Sociology is] ... the science whose object is to interpret the meaning of social action and thereby give a causal explanation of the way in which the action proceeds and the effects which it produces.

(Weber, 1991: 7 see also Weber 1949 and Weber, [1922] 1968: 4)

On this basis, MI distinguishes two types of explanatory role, the driving forces – (trans-situational) causal powers or capacities, and structural properties – defining the situational properties on the basis of which the causal powers or capacities are developed. This can be approximated to the distinction made by Brian Ellis (2002, 2009, 2010) between causal powers and categorical properties.⁷ Causal powers or capacities represent the dispositional properties of the entities brought into play, and which scientists tend to interpret as real. In Ellis’ works, causal powers are defined by three conditions: Their instances must all have contingent locations, they have defining laws of action and, as stated above, are essentially dispositional – that is, they depend on what they dispose their bearers to do. The categorical properties, by contrast, play an essentially different role since there is nothing their bearers might be specifically disposed to do by virtue of these properties. Nevertheless, they play a vital explanatory (or else, causal) role: They represent properties fixing the circumstances for the action of causal powers. Ellis (2012) links them to the category of structures (in physics) which “must include all spatiotemporal and numerical relations, and all of the shapes, sizes, orientations, and so on, that are definable as structural relations between things or their parts” (p. 25). This distinction between driving forces – (trans-situational) causal powers or capacities – and structural properties defining the situational properties on the basis of

which the causal powers or capacities are developed is, as I defend it, inherent to the individualistic approach. MI considers rational capacities as causal powers on one hand, and social structures as the situational properties underlying the subjective meaning of/ the reasons for individual actions on the other hand. It is worth noting that the relationship between individuals and structures is essentially circular.

To clarify this idea, the concept of “social structures” deserves some development here. Even if it covers variable elements in social science literature, social structures are constructs that designate, in a very general way, the specific properties of social wholes and constitute a bridge between social wholes and individual actions. On these bases, what we today call structures, Simmel ([1892] 1977, 1971) in particular called “forms.” In their more observable relational patterns, Simmelian forms are objectivized into such social sub-systems as states, labor unions, educational systems, family structures, and so on but more generally, may be interpreted as representing synthesizing principles shaping all dimensions of social experience as well as the cognitive realm (see Boudon, 1984; Levine, 1971). Boudon (1984:11), for instance, explains that the example of politeness illustrates the circular relationship that exists between actions and structures. If I want to explain the existence of a courtesy code in a given society, I have to pay attention to macroscopic data such as the type of society, rural or urban, in which it prevails, but I will not understand the effect of these macroscopic differences unless I can perceive their impact on the meaning the social actors attribute to the rules of politeness in question depending on their situation, and from that point, I will be able to explain why these rules tend to stabilize in a given context, to constitute a form or a structure.

The explanatory factors defining the social situations under consideration can appear to evolve, the notion of structure therefore applying to situations that are more or less ephemeral. For instance, according to the principle of interactionism developed by Herbert Blumer (1969), and at the foundation of a counterpart school in sociology, social meanings are transformed in the process of interaction between individuals. In this framework, the social factors that serve explanation do not refer to “static” factors such as status and position, norms, values, and soon. They represent the evolutive system of mediating meanings that makes it possible to link up intentions and actions.

Finally, we may refer to the three major and complementary types of social structures distinguished by José López and John Scott (2000): “institutional” (cultural or normative patterns that define the expectations of social actors), “relational” (patterns of interconnections or interdependence conceived of as analytically separated from institutional patterns), and “embodied structures” (knowledge structured into bodily dispositions of action that generate normatively regulated social actions).

The first two structure types can be apprehended by their cognitive impact in terms of expectations, aims, perception, conceptions and, generally, by the socially constructed tools of thought and action which shape meanings and reasoning more or less attached to conscious thought. The third structure type refers to behavioral dispositions, or else, “schemes of action,”⁸ which govern people’s “situated responses” conceived of as “ways of thinking, feeling, and behaving as a result of their location in *social space*” (López and Scott, 2000: 90). These situated forms of social action, which are identified as “embodied structures,” are not wholly unconscious, but are *driven* by unconscious social formations. Therefore, the consequence of the assumption that MI focuses on the rational

capacities of individuals as irreducible causal powers, is that individualists do not consider embedded social structures, as defined, as fruitful social constructs.

We find such embodied structures, according to López and Scott, for instance, in the works of Michel Foucault, Pierre Bourdieu and Anthony Giddens. But where Giddens is interested in basic forms of social behavior – that is, routine social skills exercised without clear conscious awareness, Foucault and Bourdieu develop more inclusive conceptions.⁹ For instance, according to Bourdieu's theoretical explanations, social structures govern the logic of social action by deceiving individual conscious motives. Very briefly, the social groups' relative positions of power within the social space inform the symbolic systems that define an arbitrary social reality given as objectively real. The symbolic systems thus entertain social domination while allowing the social structures to be incorporated through the generic cognitive tool that the habitus represents – that is, a stable system of “patterns of perception, thought and action.” From the links defined between relative positions in the social space, symbolic systems and mental schemes (habitus), it ensues that agents hold as legitimate and natural the socially constructed reality they perceive, that is, in the end, the power relationships that are supposed to underpin all social practices. What happens at the conscious level entails legitimation of the relations of power, while the unconscious goals of individual actions are supposed to be driven by social power relationships and, accordingly, issues of domination over symbolic systems. Therefore, the meaning of social action is beyond individuals' control and ultimately determined by the social structures.¹⁰ Socialized dispositions or Bourdieusian habitus represent embedded social structures giving in fine causal power to social structures.

The hypothesis that an epistemology of capacities or causal powers inherently underpins MI can now be formulated. According to this hypothesis, MI is not characterized by entities assumed to be ultimately involved in explanation, but by forces in action resulting from the causal powers or capacities in play. In this case, individuals, as centers/producers of meaningful/rational actions, are sources of the driving forces in society. This can be translated as:

- (A) The forces in action in society are governed by the subjective meaning of/the reasons for individual actions.

Moreover, causal powers or capacities are not the only explanatory factors. Institutional, cultural characteristics and, more generally, all the products of social life that may be summarized by the term social structures, define for MI the situational properties on the basis of which the causal powers or capacities of individuals are developed. In this respect, social structures also have an explanatory role. We may translate this as:

- (B) Social structures have an explanatory or causal role only insofar as they affect the subjective meaning of/the reasons for individual actions.

In what follows, I propose to defend that the principles (A) and (B) mentioned above characterize MI.¹¹

The anti-reductionist sociological principles of MI

The forces in action in society are governed by the subjective meaning of the reasons for individual actions

The method sketched by Vygotsky for the study of verbal thought can be likened to the Weberian identification of interpretive sociology as considering “the individual and his action as the basic unit, as its ‘atom’.”¹² Max Weber goes on to say, “If the disputable comparison for once may be permitted. In this approach, the individual is also the upper limit and the sole carrier of meaningful conduct.” According to Weber, (overt or covert) action is “social” insofar as its subjective meaning is oriented in its course by taking account of the behavior of others.

We find in Weber’s words the notion of basic unit, as an ultimate, living unit. This idea of life refers, in Vygotsky as in Weber, to the notion of meaning, to the subjective meaning of the word (in Vygotsky), of the action (in Weber), and can be linked, I have defended, to an active epistemology relying on causal powers. It undertakes, as much in the field of psychology concerned as in sociology, to pay very special attention to the conscious activity of individuals or the fringes of this activity. On this subject, the assertion by Friedrich Hayek (1952):

... that he systematically starts from the concepts which guide individuals in their actions and not from the results of their theorizing about their actions, is the characteristic feature of that methodological individualism which is closely connected with the subjectivism in social sciences.

(p. 64)

might be mentioned. Hayek expresses the idea that it is at this lower limit of analysis, that marked by subjective individual activity, through “the concepts which guide individuals in their actions,” that the forces that account for social phenomena are deployed – which Weber (1958) had also expressed in the following way:

In general, for sociology, such concepts as “state,” “association,” “feudalism” like designate certain categories of human interaction. Hence it is the task of sociology to reduce these concepts to “understandable” action, that is, without exception, to the actions of participating individual men.

(p. 55)

In other words, in socially oriented actions, that is, starting from the subjective meaning of/the reasons for social actors.

It may be Georg Simmel (1910) who struck at the heart of the point in question here – without us having to completely adopt the Kantian point of view that underpins his argumentation. Taking subjective actions into account expressly reveals the fact that we hold them to be at an irreducible level. The reason is that, we have seen, human rationality introduces a sustained tendency to consistency and meaning, so that individuals are

centers/producers of meaningful/rational actions. With their own cognitive abilities, the scientists “explain” natural phenomena, postulating, in particular, the consistency of nature, which reveals the demand for consistency of their reason. Social actors assume at their own level this demand of consistency and meaning, which is reflected in understanding. The introduction of consistency and meaning is a *sui generis* product of consciousness (which is reflected in the idea of rationality, in a broad sense). In substance, it is what Simmel expresses when he writes that, unlike nature, the unity of society is achieved by its very elements, in other words through individual reasons (which Simmel relates to the conscious synthetic activity of individuals). This is not quite true. The analyst’s reason also intervenes to “explain” a given social phenomenon. In this respect, the analyst performs an additional synthesis, as notes Alfred Schütz (1962: 6), a synthesis in the second degree: The sociologist’s constructs are constructs of the constructs produced by social actors in the course of their actions and interactions. Conversely, according to the active approaches in the philosophy of science literature evoked above, the unity of each investigated part of nature is also supposed to be achieved by the capacities or causal powers in play.

According to Simmel, it is this specific “psychic energy,” developed by individual consciousness, that underpins the unity of society. It implies “the consciousness of constituting with the others a unity.” This does not mean an abstract consciousness of the idea of unity but “occurs with reference to particular concrete contents.” The point is that the unity of society rests on the minds of its members and their cognitive requirements in terms of understanding – that is, involving the unity of individual consciousnesses. According to the active epistemology of MI, the conditions of socially oriented, conscious, individual life thus account for the internal forces of unity of society. It is worth noting that MI does not exclude that under certain conditions one might legitimately treat a collective entity as an individual, such as a government or a political party, equipped with procedures allowing it to transform the individual opinions of its members into collective decisions issued in their name (Boudon, 1992: 27). But, as Ludwig von Mises states, a collective entity always operates through the intermediary of individual actions. It is through the subjective meaning of/the reasons for individual actions that its collective character can potentially be determined:

It is the meaning that marks one action as the action of an individual and another action as the action of the state or of the municipality. The hangman, not the state, executes a criminal. It is the meaning of those concerned that discerns in the hangman’s action the action of the state.

(Von Mises, [1949] 1966: 47)

Until now, I have defended that socially oriented individual actions – the basic units of the analysis – are the constitutive parts of social wholes as unities. Moreover, the rational “capacities” of social actors – which underlie the meaning of/the reasons for individual actions – are the driving forces in the analysis, or else: *The forces in action in society are governed by the meaning of/the reasons for individual actions (A)*.

These conceptions are obviously non-reductionist. In particular, the analysis of socially oriented individual action cannot rely on psychology as an independent discipline, whose object is the explanation of specific individual behavior. It entails

the development of particular conceptual constructions which constitute an “abstract” psychology. For proponents of interpretive sociology, initiators of MI, the forms of action and of thought of ideal type individuals – highly stylized models of individuals – “involve the highest possible degree of logical integration by virtue of their complete adequacy on the [subjectively intended] level of meaning” (Weber, [1922] 1968: 20). In this respect, sociology is a theoretical science. It does not aim at retracing biographical stories and connecting individual phenomena to one another, as in history, for example, but at abstracting the subjective meaning of/the reasons for individual actions in such a way that the abstract factors involved might account for the social phenomena engendered by these actions. Therefore, MI is not specifically interested in concrete processes or individual paths. The explanation can be developed, depending on the research subjects, at various levels of abstraction and relate to time periods of varying length. Weber developed main explanations in this way.

Let us take the example of his opposition to Nietzsche regarding the origin of Christianity. Nietzsche explains the success of Christianity among the lower classes based on the notion of resentment. The underprivileged are assumed to conceal their conscious or unconscious desire for revenge and their fear and hatred of life beneath a moral quest which, ideologically, overturns the domination-based relationship and promises compensation in the afterlife for the unequal distribution of mundane goods. Conversely, Weber ([1920] 1993) explains that the overall success of religious beliefs can be explained by “intellectualism as such”:

the metaphysical needs of the human mind as it is driven to reflect on ethical and religious questions, driven not by material need but by an inner compulsion to understand the world as a meaningful cosmos and to take up a position toward it.

(pp. 116–117)

It is based on such an aspiration for meaning, and by virtue of the knowledge and beliefs carried by social actors that Weber ([1904–1905] 1992) offers an explanation of the origin of the “spirit” of capitalism, bringing into play Lutheran pietism, teaching the conception of work as an end in itself, vocation (*beruf*), and the Calvinist belief in predestination. This explanation inverts Marxian logic, which views objective material conditions as the driving force behind the birth of capitalism.

The reference to the meaning of/the reasons for individual actions implies an idea of rationality that does not play a normative role. It expresses a tendency that allows, in particular, to assess the relative pertinence of interpretations of these supposed meaning/reasons and, accordingly, their explanatory power. Different interpretations of it can be distinguished in approaches arising from MI. In particular, the rational choice theory (RCT), rooted in neoclassical economics, refers to individuals motivated by the consequences, as they perceive them, of their actions on their own wellbeing and maximizing their expected usefulness. Works relying on RCT minimize social and cognitive structures in favor of utilitarian and optimizing individuals. Their scientific goal is more descriptive or predictive than explanatory, allowing formal expedients but at the price of limiting prediction by *ceteris paribus* conditions. On this basis, RCT can

be considered an extreme approach and, in this respect, not exemplary of MI. A broader conception, including individual beliefs, appears in the “beliefs-preferences-constraints” approach that lies at the theoretical core of mainstream economics and in the “desires-beliefs-opportunities” version today proposed by proponents of analytical sociology (Hedström, 2005; Hedström and Swedberg, 1998).¹³ Still more generally, MI has tended to make progress with the widening and deepening of the idea of rationality, especially by developing interest in the values that animate socially oriented individual action (Boudon, 1999).

One consequence already evoked of proposition (A) attributing the forces in action in society to the meaning of/the reasons for individual actions, is that the latter are not under the domination of unconscious forces.¹⁴ As Weber ([1913] 1981) states in one of his first texts on method: “Explaining” an activity of this type [oriented by a subjectively targeted meaning] could never mean making it derive from psychic “conditions.” Any explanations using cultural, biological (“automatic” behavioral responses to environmental factors, for instance) or psychological forces are therefore beyond the scope of MI. This does not mean that any action is carried out wholly consciously, but that any action can supposedly be justified on the basis of reasons. Therefore, explanations bringing to light reasons that meet the criteria for understanding, beyond apparently irrational behaviors, are held to be epistemologically superior. The justification for this epistemological bias is, we have seen, rooted in the idea that their need of consistency and meaning makes individuals *sui generis* active social forces. In this respect, even if in experimental settings individuals appear to exhibit forms of inconsistent choices or illogical inferences (Kahneman et al., 1982; Herrnstein et al., 1997), explanations based on forms of irrational bias are superseded by explanations based on individual rational capacities (in a broad sense): Choices prove consistent and reasoning proves logical by a simple redefinition of the appropriate choice spaces or interpretive frames (see, for instance, discussions in Boudon 1990 and in Gintis, 2007).

Certain misguided reflections supported in the 1950s by an ardent defender of MI, the philosopher John Watkins, interfere with the anti-reductionist condition stated by proposition (A). Watkins evokes the formation of social personalities in the form of sets of “dispositions” developed during individuals’ biographical stories. These dispositions are assumed to arise from the laws of psychology, even though those that interest the sociologist take on public and institutional forms:

An individual’s personality is a system of unobservable dispositions which, together with his factual beliefs, determines his observable behavior [...] Individualistic ideal types of explanatory power are constructed by first discerning the form of typical, socially significant, dispositions, and then by demonstrating how, in various typical situations, these lead to certain principles of social behavior.

(Watkins, 1952b: 42)

Therefore, it is acquired dispositions that would “explain” decisions made in given situations:

The subsequent occurrence of an appropriate decision will both confirm, and be explained by, the existence of the dispositions.

(Watkins, 1957: 117)

Watkins has been reproached for ignoring the cultural conditioning of these dispositions (Jarvie, 1972, Appendix: 173–178), social context then having to play the role of explanatory factor. The “anonymous dispositions” that Watkins discusses are nevertheless socially induced. Watkins (1957: 110) only demands that the explanation of social training should be “individualistic,” so that the explanation might not short-circuit what is going on at the individual level. One mistake made by Watkins (1952a) is to be found elsewhere: His psychologism undermines MI by relying on non-rational factors such as “acquired dispositions.” This obscures the central, controlling, role of subjective meanings. Moreover, he seems to exclude, in certain passages, structures as explanatory factors.¹⁵ The inappropriate characterizations of MI that we come across in the literature often refer directly or indirectly to Watkins’ texts.

However, Watkins’ errors do not totally explain the reductionist interpretations of certain critics of MI. The latter are tempted to not consider Watkins as a methodological individualist, any more than those sociologists who are closely linked to MI, such as Weber, Boudon, and so on, when social structures appear in their thinking as non-endogenous variables of explanation. This is the case for the critique by Lukes (1968):

It is worth adding that since Popper and Watkins allow “situations” and “interrelations between individuals” to enter into explanations, it is difficult to see why they insist on calling their doctrine “MI.”

(p. 129)

In reality, this criticism stems from the false idea that a reductionist epistemology is at the roots of MI, according to which social phenomena can be “reduced” to descriptions in terms of individuals and their interaction.

The explanatory power of social structures lies in the subjective meaning of/the reasons for individual actions

I have defended that MI introduced an epistemological approach that distinguished alongside driving forces – (trans-situational) causal powers or capacities arising from individual rational capacities – “structures” defining the situational properties on the basis of which the causal powers or capacities are developed. In this perspective, social structures have no causal power as such, but they have a crucial explanatory power: *Social structures have an explanatory or causal role only insofar as they affect the subjective meaning of/the reasons for individual actions (B).*

To understand the explanatory role of social structures for MI, I propose to consider the three levels of complexity likely to intervene in the explanation of a social phenomenon: the psychological level associated to individual experiences where the

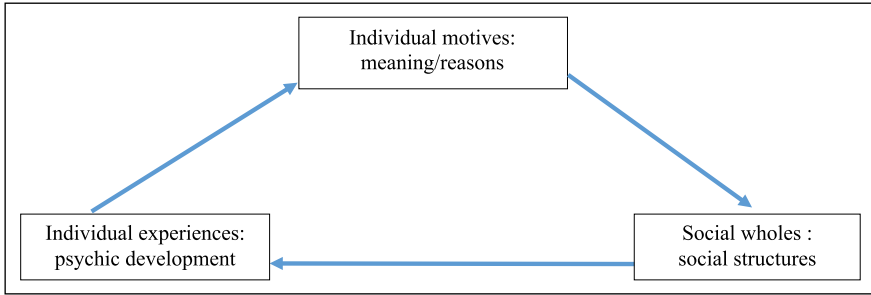


Figure 1. Three levels of complexity in the analysis of human action.

neurological, cognitive, and, in a general way, psychic development processes intervene; the individual level of motives where the subjective meaning of/the reasons for individual actions are distinguished; the social level including social phenomena, institutional, cultural, non-institutional and normative relational systems, and everything that may be understood by “social structures” (Figure 1)

According to the postulated links between these various levels of complexity, three general cases can present themselves.

1. Either, the role of specific individual stories or of social structures is conceived of as entailing an “inculcation” of meanings, of behavior or else, of more or less generic schemes of action. By incultation is involved the idea that tools of thought hold the role of pre-defined programs, in whatever form they might take, the consciousness of individuals only intervening as an interface with reality, for internalization, adaptation and instantiation of these programs. In this case, there is a form of reduction of the individual, this latter being on the whole subjected to logics working at a lower or an upper level of complexity.

One extreme example is found in Levi-Strauss’ anthropology, where the structural level “reduces” the individual level: The issue is to grasp the unconscious structure underlying each institution and each custom, in order for it to be generalized to other institutions and other customs. In the sociology of Bourdieu, there is no “reduction” of individuals¹⁶ by structures but we have seen that structural logics dominate the true meaning of individual actions by unconscious processes, based on “habitus.” Elsewhere, and more generally, in many approaches such as those rooted in the functionalist tradition, the idea of “socialization” establishes a link between causal processes developed to a great extent at infra-individual (unconscious) levels and supra-individual causalities, based on dispositions acquired during individuals’ social experiences.

The impossibility of reconstructing the processes that ensure passage between the unconscious individual level and the supra-individual level justifies resorting to abstract causal imputations. Depending on whether emphasis is laid on experiential or structural logics, we end up with different forms of psychologism or different forms of holism.¹⁷

2. As an alternative, co-deterministic theories explain social phenomena as the effect of interactions between social structures and “agency” (Dépelteau, 2008) – as is the case for example of the structuration approach of Giddens (1984) or the morphogenetic approach of Archer (1982). The notion of co-determination entails an action of reciprocal forces between “structures” and “agency,” so that, contrary to MI, wholes and parts are attributed the same type of causal role. Hence, the resulting differences in interpretation which reveal, in our opinion, the methodologically fragile character of this intermediate approach. When Archer (2000) writes that

to enter a role is not just to confront other people’s subjective expectations, it is to become involuntarily involved in structures and their situational conditioning.

(p. 468)

the individualist does not entirely disagree. But he denies that the mode of influence of the structures is reflected in any other way than in the meaning and the reasons of action. Moreover, when Giddens emphasizes the “practical consciousness” of individuals, covering unarticulated beliefs because much of the time people act tacitly, by habit and without initiating reflexive thought, individualists put the emphasis on the “discursive consciousness” that initiates their decision-making power. The reason is not that they deny “the pragmatic side of human action” – the role of imitation and habit, for instance – but rather that they deny that such a role might be interpreted in an irrational way – that is, reflection and, accordingly, meaning and reason arise, or theoretically can be obtained, when needed.

3. Finally, we may suppose that the level of individual rational activity is held as irreducible. This is justified, as we have seen, by the fact that individuals develop a specific rational activity calling for consistency and meaning. In this case, the exercise of individuals’ psychic activity cannot be confined to a “syntactic,” or else, “computational” function. As John Searle (2002: 117, 224) explains, a program does not “understand” the symbols it uses, but symbols have to symbolize something and phrases mean something. Communication demands semantics (this is what the metaphor of the “Chinese room” is supposed to illustrate¹⁸). Vygotsky writes in this sense that psychology made the mistake of thinking that the means of communication was the sign (word or sound) and that the function of this latter was to evoke a content of experience: Just as communication is impossible without signs, it is also impossible without meaning. This implies that individuals reflect reality by generalizing it, in other words, that they (semantically) manipulate ideas. It is in this subjective form that the biographical stories of social actors and social structures “explain” their action, the meaning it has for them, or else their good reasons, and not in the form of “dispositions” to act in a certain way, which would dominate the conscious control of the action.

Let us clarify, if this is still necessary, that the central importance of the subjective dimension of action implies no specific strategic attitude toward “structures.” Roger Just

on this subject, however, brings up the problem of society and culture in an anthropology adopting MI. He asks whether we have to transform our understanding of “culture” itself

from an objectively observable set of traits into a self-consciously selected set of political icons, i.e., we are collectively different (i.e., have a culture’), but only because, as agents, we choose to be, and only in those respects that we so chose. Social conformity and individual difference now become the handmaidens of individual strategic choice.

(Just, 2004: 188)

MI postulates, in the framework of the abstract psychology previously mentioned, that it is possible to “understand” in an internal way the meaning of/the reasons for individual actions. The postulate of understanding is in tune with the trans-situational character of the causal powers in play, that is, individual rational capacities. It assumes that it is theoretically possible, with sufficient information, to understand how social structures shape the subjective meaning of/the reasons for individual actions. But that implies no form of “meta-consciousness” on the social actor’s part. This is why MI establishes no logical primacy between individuals and structures: They are, as stated above, complementary constructs and that is reflected in the notion of basic unit. This is assumed in the idea that the basic units of analysis – that is, the socially oriented actions – are constitutive of society as a unity. Von Mises offered one of the first formal explanations of this in *Human Action*, asserting that “The task of the sciences of human action is the comprehension of the meaning and relevance of human action” and remarking in this respect that (p. 51):

The controversy whether the whole or its parts are logically prior is vain. Logically the notions of a whole and its parts are correlative [...] a social collective comes into being through the actions of individuals. That does not mean that the individual is temporally antecedent. It merely means that definite actions of individuals constitute the collective.

(Von Mises, [1949] 1966: 51; 42–43)

A few decades later, Boudon (1984), when introducing the French translation of Simmel’s *Problems of the philosophy of history*, evoked this very absence of logical priority according to which

if social phenomena are always the product of individual actions, the action falls within a context, which has a structure: Structures can only be understood through actions and actions can only be understood through structures.

(p. 11)

While rational agents are at center stage in terms of causality, structures are critical and irreducible background conditions for providing the subjective meanings that form the motive of individual actions. Neglecting meaning at individual levels does not invalidate scientific explanation but places it epistemologically at a lower ranking than the

comprehensive type of explanation. In this way, MI represents a vast methodological framework, which the diverse points of view regarding social phenomena fall within insofar as, in particular, they do not betray the essentially different kinds of causal role attributed respectively to structures and individuals' reasons.

Conclusion

The interpretation of MI as a form of reductionism is a misconception against which its proponents have tirelessly defended themselves. We might wonder not only why it is so deep but also why it endures. The importance of the role played by rational choice theory in economics can feed the reductionist interpretation without supporting it. Interpretations can also be distorted by cultural-political prejudices – the importance of which we cannot underestimate in social and human sciences – that are hardly inclined to give individual rational capacity the role it takes on for MI. But the debates should therefore be centered on problems truly raised by the individualistic method and not render it so unilaterally subject to misconceptions.

The problem could be so much simpler. In reality, it may be rooted in the obscurities introduced into programmatic texts by arguments that appear to evoke ontological issues linked to the entities ultimately involved in the analysis, rather than epistemological issues linked to modes of explanation, and in this case, the forces supposed to be in action in society. In other words, my assumption here is that misunderstandings developed around the meaning of the individualist method are rooted in the implicit involvement of an inadequate philosophical frame. Individuals and structures are not separated entities interacting causally but essentially relative social constructs. On this basis, proponents of MI do not consider individuals as the exogenous elements of analysis to the exclusion of structures, but as the unique sources of causal power. The texts in question appear not only clearer, but scientifically more coherent if they are read in this light, as evoking not the entities in play but the entities gifted with “activity,” who have the “capacities” or “causal powers” that are at the origin of the driving forces – that is, rational capacities, reflected by the meaning of/the reasons for the individual actions. This does not mean that the active entities are the only elements of explanation but that the explanatory power of the other elements is exercised through their action.

Hence, for example, the assertion by Von Mises ([1949] 1966: 41): “A social collective has no existence and reality outside of the individual members” actions, can easily be read as: “a social collective has no existence and explanatory power outside of the individual members” actions. That is an expression of the idea that the basic units of analysis, the socially oriented actions, are the constitutive forces of the social wholes *as unities*.

When John Elster (1982: 53) defines MI as the doctrine that “all social phenomena (their structure and their change) are in principle explicable only in terms of individuals – their properties, goals and beliefs,” he does not evoke explanations where the only entities are individuals but where only individuals have a “causal power,” that is, where socially oriented individual actions represent the only forces in action.

Geoffrey Hodgson cites Geoffrey Brennan and Gordon Tullock (1982: 225) who defend a kind of MI in which “the ultimate unit of analysis is always the individual” and where

“more aggregative analysis must be regarded as only provisionally legitimate.” While the stated principle seems to require that the analysis excludes structures, it is consistent with the argument developed here regarding the epistemology of MI if we understand that the ultimate units here express the basic unit, the producer of the forces in action.

As opposed to the impression – created by the different definitions of individualism – that there is no consensus concerning the crucial question of explanantia, it seems that the ambiguities in play are a matter of form, and that an especially strong consensus exists in this respect.

When Hodgson (2007: 211) stresses that explanations based on individuals only have never been achieved, he asks the question whether the introduction of social structures alongside individuals in the explanantia warrants the one-sided emphasis on individuals in the term “MI.” The present analysis leads to a clear response. The individualistic method expresses in substance an epistemological perspective regarding causal powers: The driving forces in the analysis are exercised through the rational activity of individuals. Social structures have an explanatory or causal role only insofar as they affect the subjective meaning/the reasons social actors – stylized by an abstract psychology – assign to their actions. The rational activity at the heart of the individualistic method makes socially oriented actions – the basic units of the analysis – the constitutive parts of the social wholes as unities. The demarcation criterion of approaches arising from MI is therefore in harmony with the terminology.

The individualistic method literally translates the non-reduction of individuals to structures or to unconscious mechanisms. The analyses developed here defend that the demarcation criterion that it establishes fundamentally engages the non-reduction of structures to individuals. Thus, it is not paradoxical to state that, in a very general way, it represents the spirit of anti-reductionism in the social sciences.¹⁹

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Notes

1. We owe the expression to the Austrian sociologist and economist Joseph Schumpeter ([1908] 1980). It was made popular by the economist Friedrich Hayek (1952) and by the philosopher of science Karl Popper.
2. Causal power and causal role are thus epistemologically contrasted:

A property can have a causal role without either being a causal power, or being ultimately reducible to causal powers [...] In allowing that distances can be factors in determining outcomes, have I not already conceded that distances can have causal powers? I deny this. Being a factor in determining an outcome is not the same as being a cause, or having the causal power to achieve this outcome.

(Ellis, 2012: 17, 20)

3. We note that the conceptions currently being developed in the philosophy of the social sciences concerning MI are deployed at a speculative level only with no reference to sociological analyses that fall under MI. A good example of this state of affairs is shown in the publication by Zahle and Collin (2014), in which the great majority of articles are based on a reductive epistemological positioning of MI that is simply false:

The ontological individualist typically regards social facts as emerging from interactions among individual people, in combination with one another [...] Advocates of methodological individualism will favor ontological individualism.

(Epstein, 2014: 36)

Eliminative reductionism [one form of which has come to be known as methodological individualism] is defined as the denial of the causal significance of a category of entities or properties on the grounds that the causal work concerned is really done by some lower level category of entities or properties.

(Elder-Vass, 2014: 40)

Typically the anti-individualists challenge the causal sufficiency of individual facts. They claim that the facts about individuals allowed by the individualist are not sufficient to account for all social facts.

(Ylikoski, 2014: 134)

A standard argument for this version of individualism might be called the argument from composition and it goes like this: If entities of kind S are composed of entities of kind I and their behavior is determined by the behavior of entities of kind I, then it follows that it is possible to explain what we know about S's in terms of I's.

(Kinkaid, 2014: 142)

and so on.

4. The specific case of Watkins's conceptions will be dealt with later.
5. The trend toward the micro-reduction of theories was defended by the two philosophers as a "working hypothesis" for the unification of sciences.
6. This distinction is proposed by Phyllis McKay Illari and Jon Williamson (2011). Contemporary premises for active approaches notably take root in Harré (1970), Harré and Madden (1973) and Bhaskar (1975). On the notion of capacities, see Nancy Cartwright, (1983, 1989, 1999, 2007). On the contemporary debates surrounding active approaches, see, for example, Mumford (2009), Ellis (2010), Marmodoro (2010), Bird et al., (2012), Groff and Greco (2013) and Jacobs (2017).
7. Active approaches in philosophy of science are divided on this subject. For a discussion that nevertheless touches more specifically on the philosophy of science, see, for example, Sharon Ford (2012).
8. Inspired by the notion of scheme in Piaget's works (cf. for instance, Piaget, [1967] 1992). It is a cognitive tool, built up during the course of the subject's experiences, assimilating new situations by accommodating to them and, in so doing, generating practices applicable to families of situations.
9. I propose to add, as a typical example of embodied structures, Parson's conceptions of social personality. López and Scott would disagree, arguing that the norms which guide individual conscious actions in Parsons account for their actual motives (López and Scott, 2000: 89).

Nevertheless, the deep logic of the normative orientation of social action in Parsons is rooted in social structures and escape individuals. As Parsons (1955) puts it:

When a person is fully socialized in the system of interaction it is not so nearly correct to say that a role is something an actor *has* or *plays* as that it is something that he *is*." In this way, the socialization process tends to cause the needs of the social system as defined in terms of roles to coincide with the orientations of the individual personalities as defined in terms of motivations.

(p. 107)

10. See especially Bourdieu (1992) for an overview of his theoretical assumptions. Even if structures and habitus are not conflated in Bourdieusian sociology, the trans-situational active principle, if you will, is anchored in social power relationships and not in individuals.
11. This characterization was formulated independently of that recently defended by Francesco Di Iorio (2016) which appears to be convergent:


If the agent is a self-determined being, human intentions matter, and to explain action, one must understand the meaning attached by the individual to his or her action. This does not mean that the agent is absolutely free from social constraints (absolute freedom is a view supported by atomism), but only that these constraints must be analyzed taking into account the individual subjective standpoints.

(p. 353)

12. Quoted from Gerth and Mills in the work by Weber (1958: 58).
13. On the relations between MI and AS, see Bulle and Phan (2017).
14. Let us clarify here that the causal power methodologically attributed to the intentional meaning of the action, although it opposes any deterministic reduction, does not touch upon the metaphysical question of human freedom. We have seen that it is justified by the unity of consciousness—, that is, by questions of meaning and consistency arising from this level specifically and to which the idea of rationality, in its broader sense, refers.
15. See the unfortunate, reductionist reflection made by Watkins and which he later went back on, according to which “if social phenomena are generated by individuals they can only be explained individualistically” (Watkins, 1952b: 186, 1955).
16. Pierre Bourdieu’s ambition, as he set it out in *Choses dites*, was to introduce agents back into explanations after they had been excluded by the structuralist theses, which regarded them as “simple epiphenomena of structure.” Matrimonial strategies, for instance, replaced processes determined by kinship rules, with the aid of the concept of *habitus* (see Bourdieu, 1987).
17. Note here, in relation to reductionism, that for the physicist Philip Warren Anderson (1972) the major deception that consists of believing the whole universe, the functioning of our bodies and our brains, and animate and inanimate matter, are governed by a few fundamental laws (principally those studied by a few astrophysicists, particle physicists, logicians and mathematicians) is that the reductionist hypothesis is not counterbalanced by any “constructionist” hypothesis. It is impossible to reconstruct the universe, for reasons of scale and complexity, from a few postulated fundamental laws: At each level of complexity, new properties appear – “more is different” – and initiate new levels of fundamental research and conceptual structures: The social sciences are not just applied psychology, and so on but require specific constructs.

18. The “Chinese room” is a thought experience based on the fact that a computer program alone (however complex it may be) cannot account for the semantics of mental content.
19. Having completed this analysis, I would like to thank my two anonymous reviewers for their constructive comments. I propose to cite one of them to open up avenues of reflection and perhaps also envisage bridges between traditions that initially appear to be incompatible or seriously conflicting. “At the very least the structuralists took seriously psychoanalysis, which offered them at least some sense of the complexity of inner life beyond the posit of a self-possessed rational actor.” According to my reviewer, if the psychoanalytic route is not the best one to take, perhaps the phenomenological tradition would help supplement the particular version of “individualism” presupposed in this text. I would only reply that any path that might help shed light on the internal meaning of human action – the idea of rationality in play here involving basically the unity of consciousness – would be a path toward progress for the social sciences.

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References

- Agassi J (1975) Institutional individualism. *The British Journal of Sociology* 26: 144–155.
- Anderson PW (1972) More is different. *Science* 177(4047): 393–396.
- Archer M (1982) Morphogenesis versus structuration: On combining structure and action. *The British Journal of Sociology* 33(4): 455–483.
- Archer M (2000) For structure: Its reality, properties and powers: A reply to Anthony King. *The Sociological Review* 48(3): 465–472.
- Bhaskar R (1975) *A Realist Theory of Science*. London: Verso.
- Bird A, Ellis B and Sankey H (2012) *Properties, Powers and Structures: Issues in the Metaphysics of Realism*. London: Routledge.
- Blumer A (1969) *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs, NJ: Prentice Hall Inc.
- Boudon R (1984) Introduction. In: Simmel G (ed.) *Les problèmes de la philosophie de l'histoire*. Paris: Presses universitaires de France (PUF), 7–52.
- Boudon R (1990) L'art de se persuader. Des idées douteuses, fragiles ou fausses. Paris : Fayard.
- Boudon R (1992) *Traité de sociologie*. Paris: Presses universitaires de France (PUF).
- Boudon R (1999) *Le sens des valeurs*. Paris: Presses universitaires de France (PUF).
- Boudon R (2007) *Essai sur la théorie générale de la rationalité*. Paris: Presses universitaires de France (PUF).
- Bourdieu P (1987) *Choses dites*. Paris: Editions de Minuit.
- Bourdieu P (1992) *Réponses. Pour une anthropologie réflexive*. Paris: Seuil.
- Brennan G and Tullock G (1982) An economic theory of military tactics: MI at war. *Journal of Economic Behavior and Organization* 3(3): 225–242.
- Bulle N and Phan D (2017) Can analytical sociology do without methodological individualism? *Philosophy of the Social Sciences*, 47 (6): 379–409.
- Cartwright N (1983) *How the Laws of Physics Lie*. Oxford: Clarendon Press.
- Cartwright N (1989) *Nature's Capacities and Their Measurement*. Oxford: Clarendon Press.
- Cartwright N (1999) *The Dappled World: A Study of the Boundaries of Science*. Cambridge: Cambridge University Press.
- Cartwright N (2007) *Causal Powers: What Are They? Why Do We Need Them? What Can Be Done with Them and What Cannot?* London: The London School of Economics and Political Science.

- Dépelteau F (2008) Relational thinking: A critique of co-deterministic theories of structure and agency. *Sociological Theory* 26(1): 51–73.
- Di Iorio F (2016) World 3 and MI in Popper's thought. *Philosophy of the Social Sciences* 46(4): 352–374.
- Elder-Vass D (2014) Social entities and the basis of their powers. In: Zahle J and Collin F (eds) *Rethinking the Individualism-Holism Debates: Essays in the Philosophy of Social Science*. New York: Springer, 39–54.
- Ellis B (2002) *The Philosophy of Nature: A Guide to the New Essentialism*. London: Routledge.
- Ellis B (2009) *The Metaphysics of Scientific Realism*. New York: Routledge.
- Ellis B (2010) Causal powers and categorical properties. In: Marmodoro A (ed.) *The Metaphysics of Powers: Their Grounding and Their Manifestations*. London: Routledge, 133–142.
- Ellis B (2012) The categorical dimensions of causal powers. In: Bird A, Ellis B and Sanhey H (eds) *Properties, Powers and Structures: Issues in the Metaphysics of Realism*. London: Taylor & Francis, 11–26.
- Elster J (1982) Marxism, functionalism and game theory. *Theory and Society* 11(4): 453–482.
- Epstein B (2014) What is individualism in social ontology? Ontological individualism vs. anchor individualism. In: Zahle J and Collin F (eds) *Rethinking the Individualism-Holism Debates: Essays in the Philosophy of Social Science*. New York: Springer, 16–38.
- Ford SF (2012) The categorical-dispositional distinction. In: Bird A, Ellis B and Sankey H (eds) *Properties, Powers and Structures: Issues in the Metaphysics of Realism*. London: Routledge, 181–199.
- Giddens A (1984) *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.
- Gintis H (2007) A framework for the unification of the behavioral sciences. *Behavioral and Brain Sciences* 30(1): 1–16.
- Groff R and Greco J (2013) *Powers and Capacities in Philosophy: The New Aristotelianism*. London: Routledge.
- Harré R (1970) *The Principles of Scientific Thinking*. London: MacMillan.
- Harré R and Madden EH (1973) Natural powers and powerful natures. *Philosophy* 48(185): 209–230.
- Hayek F (1952) *The Counter-Revolution of Science: Studies on the Abuse of Reason*. Glencoe: The Free Press.
- Hedström P (2005) *Dissecting the Social: On the Principles of Analytical Sociology*. Cambridge: Cambridge University Press.
- Hedström P and Swedberg R (1998) *Social Mechanisms: An Analytical Approach to Social Theory*. Cambridge: Cambridge University Press.
- Herrnstein R, Rachlin H and Laibson DI (1997) *The Matching Law: Papers in Psychology and Economics*. Cambridge, MA: Harvard University Press.
- Hodgson GM (2007) Meanings of MI. *Journal of Economic Methodology* 14(2): 211–226.
- Jacobs JD (2017) *Causal Powers*. Oxford: Oxford University Press.
- Jarvie IC (1972) *Concepts and Society*. London: Routledge & Kegan Paul.
- Just R (2004) MI and sociological reductionism. *Social Analysis: The International Journal of Social and Cultural Practice* 48(3): 186–191.
- Kahneman D, Slovic P and Tversky A (1982) *Judgment Under Uncertainty: Heuristics and Biases*. Cambridge: Cambridge University Press.
- Kinkaid H (1986) Reduction, explanation, and individualism. *Philosophy of Science* 53(4): 492–513.
- Kinkaid H (2014) Dead ends and live issues in the individualism-holism debate In: Zahle J and Collin F (eds) *Rethinking the Individualism-Holism Debate: Essays in the Philosophy of Social Science*. New York: Springer, 138–151.

- Levine DN (1971) *Georg Simmel on Individuality and Social Forms*. Chicago, IL: The University of Chicago Press.
- López J and Scott J (2000) *Social Structure*. Philadelphia, PA: Open University Press.
- Lukes S (1968) MI reconsidered. *The British Journal of Sociology* 19(2): 119–129.
- McKay Illari PM and Williamson J (2011) Mechanisms are real and local. In: McKay Illari PM, Russo F and Williamson J (eds) *Causality in the Sciences*. Oxford: Clarendon Press, 818–843.
- Marmororo A (2010) *The Metaphysics of Powers: Their Grounding and Their Manifestations*. London: Routledge.
- Mumford S (2009) Causal powers and capacities. In: Beebe H, Hitchcock C and Menzies P (eds) *The Oxford Handbook on Causation*. Oxford: Oxford University Press, 243–257.
- Mumford S and Anjum RL (2012) Causal dispositionalism. In: Bird A, Ellis B and Sanhey H (eds) *Properties, Powers and Structures: Issues in the Metaphysics of Realism*. London: Taylor & Francis, 101–118.
- Oppenheim P and Putnam H (1958) Unity of science as a working hypothesis. In: Feigl H, Scriven M and Maxwell G (eds) *Minnesota Studies in the Philosophy of Science II*. Minneapolis, MN: University of Minnesota Press, 3–36.
- Parsons T (1955) *Family, Socialization and Interaction Process*. Glencoe: The Free Press.
- Piaget J ([1967] 1992) *Biologie et connaissance. Essai sur les relations entre les régulations organiques et les processus cognitifs*. Lausanne: Delachaux et Niestlé.
- Schumpeter JA ([1908] 1980) *MI*. Bruxelles: Institutum Europaeum.
- Schütz A (1962) *Collected Papers*. The Hague: Martinus Nijhoff.
- Searle JR (2002) *Consciousness and Language*. New York: Cambridge University Press.
- Simmel G (1910) How society is possible? *The American Journal of Sociology* XVI: 372–391.
- Simmel G (1971) *On Individuality and Social Forms*. Chicago, IL: The University of Chicago Press.
- Simmel G ([1892] 1977) *The Problems of the Philosophy of History*. New York: The Free Press.
- Udehn L (2001) *MI*. London: Routledge.
- Udehn L (2002) The changing face of MI. *Annual Review of Sociology* 28: 479–507.
- Van Riel R and Van Gulick R (2016) Scientific reduction. In: Edward N (ed.) *The Stanford Encyclopedia of Philosophy*. Available at: <http://plato.stanford.edu/archives/spr2016/entries/scientific-reduction/>
- Von Mises L ([1949] 1966) *Human Action: A Treatise on Economics*. Chicago, IL: Contemporary Books.
- Vygotsky LS ([1934] 1986) *Thought and Language*. Cambridge, MA: MIT Press.
- Watkins JWN (1952a) Ideal types and historical explanation. *The British Journal for the Philosophy of Science* 3: 22–43.
- Watkins JWN (1952b) The principle of MI. *The British Journal for the Philosophy of Science* 3: 186–189.
- Watkins JWN (1955) MI: A reply. *Philosophy of Science* 22: 58–62.
- Watkins JWN (1957) Historical explanation in the social sciences. *British Journal for the Philosophy of Science* 8: 104–117.
- Weber M (1949) *On the Methodology of the Social Sciences* (translated and edited by EA Shils and HA Finch). New York: Free Press.
- Weber M (1958) *From Max Weber: Essays in Sociology* (translated and edited by HH Gerth and C Wright Mills). New York: Oxford University Press.
- Weber M (1991) The nature of social action. In: Runciman WG (ed.) *Weber: Selections in Translation*. Cambridge: Cambridge University Press, 7–32.
- Weber M ([1904–1905] 1992) *The Protestant Ethic and the Spirit of Capitalism*. New York: Routledge.

- Weber M ([1913] 1981) Essay on some categories of interpretive sociology. *The Sociological Quarterly*: 145–180.
- Weber M ([1920] 1993) *Sociology of Religion*. Boston, MA: Beacon Press.
- Weber M ([1922] 1968) *Economy and Society*. Berkeley, CA: University of California Press.
- Ylikoski P (2014) Rethinking micro-macro relations. In: Zahle J and Collin F (eds) *Rethinking the Individualism-Holism Debate: Essays in the Philosophy of Social Science*. New York: Springer, 116–136.
- Zahle J and Collin F (eds) (2014) *Rethinking the Individualism-Holism Debates: Essays in the Philosophy of Social Science*. New York: Springer.

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