



## ORIGINAL PAPER

# From Individual to State: Levels of Analysis

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### Abstract

This study addresses the old problem of epistemological rupture between the micro and macro levels of scientific knowledge and critically analyzes the new proposals for reconciliation. At the same time, it is trying to answer questions like: is this methodological dualism a matter which limits scientific knowledge or it is rather an ideological dispute, in the broad sense of the term? Does it not rely on a founding duality and on a living dialectic between “the whole and the part”? The two levels of knowledge are not reciprocally exclusive and can “communicate” with each other and have even common analysis models.

**Keywords:** *individualism, holism, ideology, aggregated or corporate actors*

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### Introduction

The controversy of “the universals” from the scholastic period pushes its consequences in our times. One of its aspects is related to the ontological question: have general categories existence in themselves or only the particular objects exist? Another issue concerns the problem of knowledge: has knowledge the foundation in reason, as rationalists claim, or in senses, as empiricists claim? Finally, we have the methodological problems: holism or individualism? We can easily observe that these three matters are connected. In these disputes have occurred, of course, the conciliatory positions of “common sense”. For example, in nominalism (which claims that only particular objects have ontological reality) versus realism (which claims that the general, abstract notions also have existence in themselves) dispute, it was considered that things were particular (nominalism) and their qualities were universal (realism). Some philosophers have argued that “universals” are a priori for intellect (Kant) and others that they had just “mental existence” which helps us comparing an object with the proper universal and attributing the right properties to that object. I will further show in more details how this dispute is reflected in the problem of scientific knowledge and in that of methodological option in the social sciences in general, and in the political science, in particular. Then I will consider a new attempt at compromise between the opposite positions, based on elements of the philosophy of mind. This new attempt tries to overcome the old epistemological split between micro-level analysis and macro - level analysis in social sciences, by proposing certain criteria for selecting the appropriate methodology.

### The dual foundations of knowledge and the critical rationalism

The modern or the Enlightenment rationalism had at its beginnings a dual structure: on the one hand, it stated that all “true” knowledge was the necessary result of the principles of reason, which are ideal, perfect, necessary, a priori and universal. On the other hand, within this modern, maximalist rationalism, appeared an orientation that stated that any valid knowledge could only come from the senses by means of experience and logical induction. Later in the eighteenth century, Kant proposed the “rationalist monism” that asserted, somehow paradoxically, the dual foundation of knowledge: reason and senses. It is well known Kant’s assertion that the forms of reason – concepts - are “empty” without the material brought by the senses, and the senses are “blind” if the information they bring would not be placed in categories and concepts. (Flonta, 1994) In other words, without concepts we would have only a chaos of existential data, and without senses we could never assess the value of our concepts. The Polish philosopher Witold Marciszewski (1984) summarizes very well both the maximalist and minimalist rationalism theses, as cognitive approaches:

*The maximalist rationalism* (Cartesianist) of XVII-XVIII centuries, is based on two theses: a. the abstractionism’s thesis: there are both individuals and abstract objects (universals); universals can be conceived as “universale ante rem”, (in Platonic sense) or “universale in re” (in Aristotelian sense); b. the apriorism’s thesis: there are, in addition to empirical judgments, some judgments which do not come from experience, but have an “a priori” character. From this thesis, the maximalist rationalist speech has developed itself, marked by the *belief* that we can have a real knowledge of the nature of existence, exclusively by reason; this knowledge forms a system; everything is explainable and deductible from the general system of knowledge. This system was later called by Max

Weber the “iron cage” of rationality and criticized by many others as having a dictatorial nature.

*The minimalist rationalism, or empiricism*, illustrates the position after which all knowledge is based on experience. In terms of Marciszewski, theses underlying this position are: a. the concretism’s thesis: there are only individuals (nominalism); b. the empiricism’s thesis: only empirical or observational judgments or inferences from these, contribute to the knowledge of the world. Empiricism aims to minimize intellectual risks by denying the existence in reality of abstract notions (such as “system”) and the new reality born by entities consisting of individuals (such as “society”). These entities are considered only intellectual abstractions with no significant value for scientific knowledge.

Today, rationalism is defined less as an attempt of cognitive elucidation of the world and rather as an "ideological" attachment to reason as opposed to faith, prejudice, habit or any other source of convictions deemed to be "irrational". Critical rationalism warns us against the danger of absolutization of the reason that considers mere illusion what it is not rational (rationalist neo-dogmatism). There is of course the opposite danger also, and that is to think that reason is at most a secondary source of knowledge (irrationalism).

The philosopher Karl Popper attacks the claims of "non-critical" or "complete" rationalism to be the source and basis of knowledge, considering it an "irrational faith in reason". In *Conjectures and Invalidations. The Increasing of Scientific Knowledge* (1963/2001), a collection of essays, the author tries to prove the thesis that we *can learn from our own mistakes* and just this kind of experience can lead to an increasing knowledge. He develops a theory of reason in which the rational arguments play a rather modest but very important role: to criticize our attempts to understand the world and solving its problems. Popper considers experience as a way of testing the scientific theories not as “a basis” for knowledge. Although this vision emphasizes *the fallibility* of scientific knowledge, it is not skeptical but optimistic: knowledge can enhance and science can progress just because of our ability to learn from mistakes. Science progresses by hypothesis, by attempts to solve problems. These hypothesis which Popper called *conjectures* are nothing more than products of our scientific creativity. They will be subjected to a severe critic, to attempts of invalidation, and will survive or not; anyway, their survival does not demonstrate they are truth but only that we do not have for the moment a better alternative.

The conjectures’ critical debate is extremely important because a light on the mistakes allows us to improve the initial proposals and to better approximate the truth. Critical debate must respect the basic principle of critical rationalism: "I could be wrong and you may be right." This principle is rather moral than epistemological, reminding of Bacon's conception about modesty as an indispensable virtue of the scientist.

In *The Structure of Scientific Revolutions* (1962/1999), Thomas Kuhn surpasses the canons of Enlightenment rationalism and formulates a vision that illustrates the complex dynamics of scientific knowledge. This vision emphasizes also the involvement of the social, institutional, psychological and sociological elements, value systems and options, methodological and ontological commitments in all types of scientific practice and theories. In this respect, Kuhn proposes the concept of *paradigm* understood as a model, as a universally accepted scientific achievement, in a certain period of time. It cannot be confused with the “theory” concept because it precedes theory which is just one from its three dimensions: the theoretical – methodological one, the historical one and the sociological one (the disciplinary matrix). When a paradigm exhausted its possibilities for

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problem solving, competing theories will begin to proliferate and the community of researchers enter a crisis. This situation will be regularly surpassed by a dislocation of the old conceptual framework by which people used to see the world, followed by a replacement of the old paradigm with a new one. This process of “crisis - dislocation – replacement”, is known as “scientific revolution” and take place whenever the old conceptual framework become unable to respond the new challenges. Scientific knowledge, says Kuhn, can be validated only by inter-subjective recognition. The truth-value of a theory is given first of all, by the recognition of scientific community.

In contrast to epistemological absolutism, the most influential contemporary theories of epistemic foundation – this may be the “fallibility foundationalism” or the “coherentism” - allows us to distinguish between truth and foundation, to give an account that they could produce good reasons in favor of some opinions that proved eventually to be false. But excesses does not lack even now: some consider science and magic as being equal from an epistemological perspective, or on the contrary, claim that the physics of Newton cannot be compared with one of Einstein, being completely different languages.

### Methodological impasse

The rationalist - utilitarian vision and the nominalist position grant the right of existence only to "individuals". Rational individual moves into a simplified social environment composed of physical objects and rules for regulating behavior. These rules result from transactions between social agents. Emotions, values or tradition are excluded from this type of analysis because they introduce concepts with a rather uncertain referential, such as emotional solidarity, collective consciousness, collective memory, etc. Systemic or structural approaches are also contested for the same reason. George Homans says somewhere that he has never met a system "on the street corner".

He argued that the social system is only a myth, a construct of the Parsons' mind, an abstraction that never does anything; individuals instead, motivated in their interaction by the obtaining of certain rewards, are those who create the social reality. Pareto and Weber expressed also serious doubts regarding the trust of functionalist in the explanatory power of "rules" and "values" as modelers of social behavior (Collins, 1994). The methodological impasse is thus a reflection of the ontological and gnosiological one. The positions in conflict are: the individualistic one (nominalist, rationalist minimalist) and the holistic one (realistic, rationalist maximalist). The holists support the thesis that the wholes are more than the sum of their parts because, by combining these parts new properties will result, belonging only to the whole and not to the parts.

In social sciences, holists considered laws, regulations and social movements as background data for scientific analysis. So, the individual becomes invisible in this theoretical approach. Inspired by approaches and specific concepts from philosophy of the mind, a relatively new branch of philosophy<sup>1</sup>, List and Spiekermann (2013: 632-634) try to reconcile the conflicting methodologies. They identify several types of individualism and holism considering the position toward facts, objects, properties and causation, which they group in four theses:

#### *A thesis about facts:*

a. Supervenience individualism: the facts from individual level fully determine the social facts. (It is similar to *supervenience physicalism* claim: any possible worlds identical from the vantage point of physical facts, will be also identical from the vantage point of psychological facts.)

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b. Social- facts holism: the facts from the individual level do not completely determine the social facts. (The social facts are not fully determined by the individual facts because identical individual facts could have many configurations.)

*A thesis about particular objects:*

a. Token individualism: any particular entity, event or process considering the social level, accepts a re-description when considering from the individual level. (It is similar to *token physicalism*: between an object in the psychological-level ontology and one in the physical-level ontology is at most a difference in description.)

b. Token holism: some specific objects in social ontology are difference from any object when considering from the individual level ontology. (There are some objects at social level distinct by any object at individual level.)

*A thesis about properties:*

a. Type individualism: every social property is identical to one when considering from the individual level. (It is derived from *type physicalism*: between a psychological property and some physical one, there are at most differences in description.)

b. Type holism: some social properties are distinct from any other property when considering from the individual level. (There are some properties at social level distinct by any properties at individual level.)

*A thesis about causal explanation:*

a. Causal - explanatory individualism: every causal relation is identical to some causal relation from individual level. (It is derived from *causal – explanatory physicalism*: a scientific explanation has to be identical to some physical causal relation.)

b. Causal - explanatory holism: some causal relations are distinct from any individual level causal relations.<sup>2</sup> (There are causal relations at social level which cannot be reduced to causal relations at individual level.)

Logically analyzing the theses above, the authors observe that supervenience individualism is compatible with causal-explanatory holism. In other words: *the facts at individual level determine all social facts but certain causal relationships at social level are different from any causal relationships at the individual level*. The causation under debate in this case is not the one considering mechanisms that produced a certain effect but the one dealing with the research of regularities between the variables involved in a particular social process. List and Spiekermann (2013: 637-639) offer some examples of methodological impasse in political science. The "rational choice" theory and the theory of international relations are the most illustrative:

*Rational choice theory and political economy*: in its extreme version, rational choice theory operates an oversimplification although the mechanisms of causation at micro-social level are correct. But starting from the rational individual, perfectly aware of his interests and acting in a relatively predictable environment, it fails to satisfactorily decipher the macro-level phenomena. Raymond Boudon (1990) for example, describes some irrational consequences resulting from the aggregation of the rational actions of actors<sup>3</sup>. Most of the researchers recognize the fact that social rationality is different from individual rationality and social utility is different from the individual one (e. g. the paradox of public goods).

Another interesting example in which an undesirable social situation appears as a consequence of the composition of human "natural" actions, is the analysis of the phenomenon of segregation, made by Schelling. Consider that the members of two social or ethnic different groups mix among themselves in the situation of a residential proximity. Admitting that members of each group shows no hostility, no segregation

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desires towards other group, but they just have the reasonable desire that at least half of their neighbors to be part of the same group with them, in time, the emergence of a ghetto will be inevitable (Schelling, 1960: 168-169).

*The theory of international relations:* if we analyze the relations between states, it is mandatory to start from the individual? It seems unlikely ... but if we consider states as 'corporate actors' can we assign them individual characteristics? If we consider the states themselves as rational agents we can detect regularities of behavior that reflect certain preferences and interests. But can we personalize them without risk? The same issues remain at stake for a lower level of aggregates than states, such as institutions, parties, groups etc. Of course, all these organizations – states, parties, companies etc. – are “built” from individuals, but the organization itself is much more than individuals together, than their sum as methodological nominalism claims, and therefore the only way in which individuals can confront an organization is to form another. For this, they must surrender some of their personal rights and follow the instructions and the pattern of organization rather than their own goals. This is a new form of rationality: the organization becomes what James Coleman called a "corporate actor", i.e. a rational decision maker that follows his own interests, trying to maximize profits and minimize costs.

So, noticing that causal-explanatory holism involves no mysterious operation with metaphysical entities, the authors formulate three necessary and sufficient conditions for its use: 1) there are multiple levels of description, or in other words, properties of an individual level and properties of aggregate level; 2) high-level properties are determined by the properties of the individual level, but can be realized through many different configurations (multiple realizability); 3) causal relationships between some high-level properties of the system can be identified in some observable variations in the micro-level. (List and Spiekermann, 2013: 639) These three conditions are simultaneously met in cases of interest to political scientists like the relationship between ethnic conflicts and civil war or social - network theory, for instance.

*Ethnic conflicts and civil war:* "The Conditions that favor insurgency - in particular state weakness marked by poverty, a large population, and instability - are better predictors of which countries are at risk for civil war than has indicators of ethnic and religious diversity." (Fearon and Laitin, 2003: 40) As we can see, the above statement refers to relationships between high - level social properties (holistic ones) that could be “translated” in a lot, almost unlimited configurations at individual level. If the causal relationship between the state’s weakness and the insurgency is correct, it should be validated not only by the past events, but also by the future events, whose individual configurations we do not know yet.<sup>4</sup>

*Social – network theory:* „[i]f we want to understand how society works, we need to fill in the missing links between individuals. We need to understand how interconnections between and interactions between people give rise to wholly new aspects of human experience that are not present in the individual himself.” (Christakis and Fowler, 2009 apud List and Spiekerman, 2015: 640) Here we have again a case of properties of the whole (the network) that are not to be found in every component part. These properties that result from aggregation (e.g. average path length) represent a higher level of description and the network nodes (i. e. individuals) represent the micro level. In this case also, the structural properties, which are high level properties, can be achieved through a lot of micro-level individual configurations. From a causal point of view the relationship between two emergent properties, let’s say the path of the network and the speed of information dissemination) remains plausible at the micro level, too. Theoretical research

of networks emphasize that several networks with the same emergent properties can be very different at their empirical organization level.

### **Final remarks**

It is obvious that all macro - aspects arise from individual actions and their combinations. In order to understand any fact, phenomenon or social process we will have to start from the individual, if the analysis is done at the micro-level, or from the group, if the analysis is done at macro level. But in the last case, the group has to be viewed as an individual decision maker (a 'corporate actor' as Coleman considers). The constraining external forces – 'social facts' as Durkheim calls them - are simply the result of a multitude of individual intentional and non-intentional actions.

They can also be the unintentional result of individual intentioned and rational actions, as evidenced by Raymond Boudon (1990). But regardless of how social facts arise, their existence cannot be denied: the language, for example, has all the characteristics of a social fact. It was born evidently from individual interactions but every born individual will find it ready-made (externality) and will be constrained to learn and use it. This is valid for culture too, or for any other way of "thinking, feeling and doing" which individuals find around them. Of course, in time all these holistic facts will be modified by the individual actions as constructionists underline, but this does not change their externality and constraining power.

In the same spirit, the philosopher Karl Popper (1994/1996: 13-16) has a pluralistic conception about the world or, more accurately, about the worlds, when he questions the relation between mind and body, criticizing the way in which the reductionists have seen it. He considers those who support without any reserve the methodological individualism - and I refer here to methodology because this is the topic of this article – to be the representatives of the physicalist monism (we can also say materialist monism, or behaviorist monism). For them, there are only physical objects and phenomena that generate and affect the mental states. These are the researchers of what Popper called World1: the world of physical bodies and objects. This can be described by four physicalist theses: 1. any possible worlds identical from the vantage point of physical facts, will be also identical from the vantage point of psychological facts; 2. between an object in the psychological-level ontology and one in the physical-level ontology is at most a difference in description; 3. between a psychological property and some physical one, there are at most differences in description; 4. a scientific explanation has to be identical to some physical causal relation.

A second group of researchers, namely those who believe that all we know is actually our minds' products, are the representatives of the phenomenal monism. They study what Popper called World2: the world of our mental states. The World1 and the World2 interact as follows: „When I speak to you, I produce in the first instance, some sounds that represent physical events - detectable with ears, these pressure waves detectors. But you not only detect these waves, but also decode them: you hear meaningful sounds.

These physical waves carry a meaning to you (at least I hope so): they have sense and can determine you (and I hope they do) to think. (...) My mind works on my body that produce physical sounds. In turn, these act on your bodies, respectively on your ears; this way, your bodies act on your mind, determining you to think.” (Popper, 1996: 13) But the interaction between these two worlds born a third existential space, called World3: it contains all the products of human minds. These products are both physical (machines,

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books, computers etc.) and conceptual (theories, ideologies, philosophies, principles etc.). Our entire knowledge, either objective or subjective, belongs to the World3 that has an enormous value for human survival. It is, in other words, the cultural world, that equally interact with World1 and with World2. It is also the space where human minds meet and interact when reporting to the products belonging to this space. World3 is only partially visible but its effect on the World1 and on the World2 are easy to be observed.

Then why the holism of social facts seems so frightening? Or concepts such as "system" or "structure"? I do not think that scientists are afraid, except cases in which ideological partisanship is more important than knowledge. Physics has progressed since Newton discovered the corpuscular nature of light and Huygens demonstrated its wave features. And so did the sociology and the political science, regardless the holistic or individualistic positions of the researches. In fact, Hay (2009 apud List and Spiekerman, 2015: 639) is right: „(i) there are irreducible social wholes; (ii) these wholes have properties of their own, which cannot sensibly be seen as properties of their constituent parts, but (iii) the wholes are ultimately constituted only by their parts, so that there is no mysterious additional ontological ingredient.”

### Notes

1. Philosophy of mind and the cognitive sciences, study the semantics of ego, seeking to understand and explain its acts of cognition, consciousness and intentional behavior. It tries to answer questions like: "Is the mind something distinct from matter? We can we define it as conscious and can we find the ultimate reason on which we decide that other creatures would be aware of too, or that machines could be built so as to be aware of? What means to think, to feel, to experience, to remember? Is it useful to separate the mind and memory functions of intelligence or rationality of feeling? Do mental functions form a unit? Can the specificity of mental events be defined through the concepts of intentionality, consciousness or on the grounds of mind-body report, formal – experimental report or physically – mentally report?" (Botez, 1996: 9) The central concepts of the philosophy of mind are: ego, consciousness, intentionality; mental events (conditions, acts and processes); connoisseur, known, knowledge; under-determination, supervenience, reliability; mental attitudes (beliefs, desires, hopes, etc.); image, representation, intelligibility; symbol, concept, meaning; personality, identity, plurality; intensional, extensional; subconscious, emotional, irrational; normativity, freedom, subjectivity. This approach is connected to the philosophy of language and science, psychology, cybernetics, logics and metaphysics.

2. I think it is important to have more information about at least two different ways in which the causation process could be conceived: as the „production- or mechanism – based” approach does, or as the „counter – factual” approach does. The first perspective is described as follows: „The production- or mechanism based approach is best illustrated by the traditional idea that causation paradigmatically involves physical objects or bodies impacting on one another, transmitting forces and thereby pushing one another around. (Think of a billiard ball colliding with another.) Thus causation is understood as a process or mechanism that produces certain outcomes.” The second one: „The difference – making approach, by contrast, defines causation not in terms of processes or mechanisms, but in terms of the regularities in which certain events or event – types stand. This approach is particularly useful in many special (i.e. nonphysical) sciences, especially when intentional decision-making or other higher level phenomena are involved. In sciences ranging from medicine and ecology to political science or economics, we are often interested in how changes in some „independent” (or causal) variables (e. g., through interventions) systematically relate to changes in certain „dependent”



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(or effect) variables. On the difference making approach, causal relationships are robust regularities between certain variables or properties.” (List and Spiekerman, 2013: 636).

3. Raymond Boudon demonstrates that the sum of rational action does not always give a rational result. So, for example if someone spreads some rumors that gasoline will become more expensive in the near future, rational social agents will hurry to make fuel stocks. This alone can raise the price of the gasoline, even though this was not originally intended. So the rational actions on the individual level produced finally an unintended outcome on the social level. Boudon called this type of consequences: *perverse effects*. The perverse effects are *compositing effects* i.e. they result from the summing of individual action. He demonstrates this way the fact that even if the researcher starts from a micro social type of analysis, the overall effect can be observed at the macro social level and it is very different from the intended effects (Boudon, 1990: 149).

Another example of analysis at the micro level is the “game of coordination”. The game of coordination by the convergence of mutual expectations, believes Schelling, underpins the stability of institutions and traditions because the force many rules of behavior stems from the fact that they are solutions for this game. The very concept of "role" in sociology, a concept that explicitly signifies the expectations of others about a certain type of behavior and implicitly signifies the expectations of the actor regarding the behavior of others, can be interpreted through the "convergence of expectations" in circumstances where consensus indicating the tacit adoption of a role (Schelling, 1960: 165).

4. We will quote *in extenso* the arguments offered by Fearon and Laitin regarding the tendency to look after „obvious” explanations and to pay no attention or little to „hidden” causes or motivations: „The data cast doubt on three influential conventional wisdoms concerning political conflict before and after the Cold War. First, contrary to common opinion, the prevalence of civil war in the 1990s was not due to the end of the Cold War and associated changes in the international system. The current level of about one in six countries had already been reached prior to the breakup of the Soviet Union and resulted from a steady, gradual accumulation of civil conflicts that began immediately after World War II. Second, it appears not to be true that a greater degree of ethnic or religious diversity-or indeed any particular cultural demography-by itself makes a country more prone to civil war. This finding runs contrary to a common view among journalists, policy makers, and academics, which holds "plural" societies to be especially conflict-prone due to ethnic or religious tensions and antagonisms. Third, we find little evidence that one can predict where a civil war will break out by looking for where ethnic or other broad political grievances are strongest.” (Fearon and Laitin, 2003: 44).

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