



Metaphysics in a Review of "Karl Popper's Philosophy of Science" (Rationality Without Foundations) by Stefano Gattei

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ABSTRACT

This article is the result of a book review of a work by Stefano Gattei. The starting point of Popper's view is that "almost every phase of our scientific development is under metaphysical rule, that is, ideas that are tested, ideas which determine not only what problems we need to explain, but also what kinds of answers we will consider to be one that is important or satisfactory or accepted, and as a remedy, or guarantee, of a previous answer". Popper's indeterminism is important because Popper's custom begins by considering an intuitive Laplacian view of determinism: "the world is like a motion picture film: or a projected image. Parts of the film have proved to be the past. And unproven people are the past. front". Popper has always been claimed to be a metaphysical realist: to him, to be a realist means to think, in covenant with common sense, that the world of his existence is independent of human beings. It means, "my existence will end without the world coming to an end too". As well as other metaphysical positions, realism is a non-testable conjecture: "realism is neither proven nor disproved".

METAPHYSICS

At the heart of Popper's philosophy is the idea of freedom and this idea set to make a very ideal backdrop for his early views of the world in the 1950s, Popper thought it appropriate to include him as an epistemological as well as a political reflection within a broader "metaphysical" framework. Popper's consideration of realism, indeterminism, the world, and to form a specific and different phase in his development of thinking, in which his ideepistemological and political moves again. The main problem of being part of cosmology, Popper states in the 1959 preface to the English edition of *Logik der Forschung*: the problem of understanding the world - including ourselves, and our knowledge, as part of the world. All science is cosmology, I believe, and to me, the importance of philosophy, no less than science, lies solely in the contribution it has made to it.

The starting point of Popper's view is that "almost every phase of our scientific development is under the metaphysical rule, that is, ideas that are tested, ideas which determine not only what problems we need to explain, but also what kinds of answers we will consider to be one that is important or satisfactory or accepted, and as a remedy, or guarantee, of a previous answer ". Their research program is indeed a metaphysical one that remains largely independent of the minds of scientists but shapes their judgments and attitudes, thereby influencing their judgments and their choice orientation. Popper calls them "metaphysical", because of their orientation as a result of a general view of the structure of the world and, at the same time, of a general view of problem situations in physical cosmology, and he calls them "research programs" because they combine, together with views about what the most pressing problem is, an overview of what a satisfactory solution of the problem looks like will be seen. Although they become a general view (or image) of the world, and not empirically tested

theories about it, they are necessary for science, because they largely determine problem situations. Metaphysics are not only tools needed for conducting research, but as guides: they help scientists to decide whether to take a hypothesis seriously or not, whether it represents a potential discovery, and how acceptance might affect the problem situation. It is possible, Popper claims, to find "the criterion of demarcation in metaphysics, between a valuable rational metaphysical system, and a metaphysical system worthy of discussing, and worthy of contemplation". Although we cannot conclude, whether positive or negative, it is possible to argue for or against a given metaphysical attitude, and compare arguments as such is provided. The fact that an image is worth considering will depend "on its capacity to provoke rational criticism, and inspire efforts to replace it with something better.

REALISM

Popper has always been claimed to be a metaphysical realist: to him, to be a realist means to think, in covenant with common sense, that the world of his existence is independent of human beings. It means, "my existence will end without the world coming to an end too". As well as other metaphysical positions, realism is a non-testable conjecture: "realism is neither proven nor disproved". The alternative position, idealism, is just as metaphysical - but both are debatable and Popper is up to the task of showing that the strong arguments that can be put forward in the discussion of them are strongly supportive of realism. Perhaps, Popper says, the strongest argument in favor of realism consists of a combination of the following two. First, realism is part of common sense: "all presumptive arguments against it are not only philosophical in the most derogatory sense of this term, but at the same time based on the critically accepted part of common sense". Second, "Almost all, if not all, physical, chemical, or biological theories imply realism, in the sense that if they are true, realism must also be true": the goal of science is to describe or, to the extent possible, to offer a satisfactory explanation. of reality, and the assumptions that lead to doing so tend to aim at the truth. Third, arguments for or against realism must be formulated in several languages, and human language is essentially descriptive (and argumentative): "Rationality, language, descriptive arguments, are all about some reality.

Furthermore, in Popper's eyes, all this realism is presupposition. Idealism appears implausible because it would imply that the world is the product of our thinking that Beethoven's symphony, Dürer's carvings, or Michelangelo's sculptures did not exist, but were somehow created by us: "Denies the amount of realism to megalomania (the most extensive work professional philosopher's disease) ". All the epistemological arguments to support alternative attitudes such as positivism, phenomenalism, phenomenology, and so on are not only wrong in Popper's view, but the methodology of his research is wrong to seek certainty.

INDETERMINISM

Popper's program is metaphysical. This is non-tested: indisputable indeed. It is based on the notion of metaphysics ("considered 'scientific') rather than indeterminism. Popper's indeterminism is important because Popper's custom begins by considering the intuitive Laplacian view of determinism: "the world is like a moving picture film: or a projected image. Portions of the film have proved to be a thing of the past. And those who have not been proven are the future. "In the film, the past and the future coexist, both of which are being determined. Because, according to this view," the state of the universe at any moment of time, future or past, really determined if the circumstances and situation were given at a particular moment, for example, at this time ".

One of the basic assumptions in favor of determinism is the idea of causality. Every event is caused by another. The ideas of causality and qualitative intuitive sense and do not ask for the quantitative precision that is determinism. Therefore, if the idea that every event must have a cause, this may be regarded as true, even if only to some extent, cannot support determinism. Moreover, the belief that a predetermined world can lead to some intuitions. However, the argument against determinism is the asymmetry between the past and the future. All of our lives, all of our activities, are occupied by attempts to influence the future. So clearly, we believe

that what will happen in the future is very much determined by the past or the present. Popper reinforces the argument of the asymmetry between the past and the future by drawing on Einstein's special theory of relativity. According to the special theory of relativity, states that the past is knowable and the future is a time that is influenced by the present and opens up. The third argument in support of indeterminism, apart from the predictive character of science and the asymmetry of the past and future, is the fact that we cannot predict scientifically the development of knowledge itself. As in the case of realism, this is not a convincing argument. Popper concluded that – contrary to what determinists believed – the future was open, and that "all clock clouds are, to some degree sufficient – even the most precise clocks." These are, again, personal preferences for human freedom and creativity - which involve a precise ethical dimension. However, if the option of indeterminism is required, it is not sufficient. For indeterminism by itself is not sufficient to make room for human freedom: it is not sufficient to make human freedom understandable. To do this, I emphasize, we need more. We need apart from at least a causal openness of what can be done to relate to world 1, towards world 2, as well as a causal openness of world 2 to world 3, and vice versa.

THREE WORLD THEORY

Around the mid-1960s, due to his insistence on the objective aspect of knowledge, Popper outlined a theory of objective thought, or a theory of three worlds. Popper distinguishes three worlds or universes:

- World 1: the world of physical objects or physical states. World 1 is made up of the things we usually experience: tables, trees, animals, planets, and so on. This is a goal because its inhabitants can also be experienced by others, and it is autonomous because their existence is independent of us.
- World 2: the world of a state of consciousness, or mental state, or perhaps from a behavioral disposition to action. World 2 consists of all our psychological experiences: states of mind, feelings, desires, memories, emotions. It is subjective because one cannot experience the mental states of others, and it is not autonomous, because the existence of mental states depends on the existence of the mind which experiences them. Other things do not fall into either of the two worlds: words and propositions, for example, books and symphonies, laws, numbers and triangles - apart from problems, theories, and arguments. These are immaterial objects (although they may at times be contained in material objects, as in the case of books and music scores), as opposed to the inhabitants of World 1, and while World 2 souls are subjective, they are objective; furthermore, for autonomy, although that they are a product of the human mind, once created, they have the consequence that their creators are neither foreseen nor predictable.
- World 3: the world of content of objective thought, in particular scientific and poetic thought and works of art. World 3 does not only exist, but interacts with each other. We create objects from World 3 when we take World 2 objects and articulate them with some meaningful language -, movies, pieces of music - that other people can understand. Thus, we can treat thinking as if it were an object: we can place it in front of us, study it, modify it, disassemble and view its components, and maybe improve it. Most importantly, because the world of 3 things can be fake, we can realize that something is wrong, or that something can be done to make things work properly. Not only, that, we can contribute to world 3, but we can help to increase both our contribution and that of others.

Besides the direct interaction between World 2 and World 3, World 1 and World 2 directly interact as well, while World 1 and World 3 interact indirectly. When we feel pain we move away from its cause, and our physical movements are the result of the interaction between World 1 and World 2. When we read a text and accept (or reject) what it says, our mental processes result from the interaction between World 2 and World 2. 3. But when we read cookbooks, for example - and, after their contents, bake a cake, our actions are the product of

the interactions World 1, World2, and World 3: World 1 and World 3 can interact indirectly with the way of the mind. humans, represented by World 2. Because, while baking cookies, the mind (World 2) can appeal to theory (World 3) to transform certain things (World 1). But World 1 and World 2 can exert critical control over World 3: to, after tasting the cake, we can decide whether we should modify the recipe, and in what way. Popper's World 3 bears a strong resemblance to Plato's theory of Form or Idea, and Hegel's theory of Spirit of Purpose (or Absolute Spirit), although it is closer to Bolzano's theory of a universe of statements in themselves and truths in themselves, or Frege. which states that the universe is the goal of thought.

SUBJECTIVE KNOWLEDGE AND OBJECTIVE KNOWLEDGE

Knowledge is categorized into two types, namely subjective and objective knowledge. Popper argues that "knowledge or thinking in the subjective sense consists of a state of mind or awareness or disposition to behave or react, whereas knowledge or thinking in an objective sense consists of problems, theories, and arguments. On the one hand, the study of world 3 of objective knowledge has of decisive importance for epistemology World 3 is a natural product of the human mind like a spider's web. Popper calls the theoretical product approach the argumentative-objective approach or the third world approach. On the other hand, behavioral, psychological, and sociological approaches call the subjective or second world approach. The subjective approach is a causal meaning the result of causes. Therefore, the problem is there is a relationship between objective and subjective knowledge. In Popper's view, philosophers do not have to care about the subjective aspects of knowledge. knowing means that objective knowledge is knowledge without the subject knowing. Objective knowledge consists of hypotheses and theories. Thus, the development of objective knowledge is part of the development of the world 3 and determines its evolution.

BODY-MIND PROBLEMS

Popper collaborated with John C. Eccles (Nobel laureate for Medicine, 1963) in 1977 to publish *The Self and Its Brain*. An autonomous essay and a lengthy conversation between the two authors intend to defend the notion of psychophysical interactions. Shortly before his death, Popper's thought in the Knowledge and the Body-Mind Problem series of lectures given at Emory University in May 1969 was revised. In short, Popper's thesis says that to understand the relationship between body and mind, we must first acknowledge the existence of objective knowledge as an objective product and autonomy of the human mind and that in certain circumstances that knowledge is used as a control system for problem-solving. The main thesis is that "we cannot understand world 2, that is, the world inhabited by our mental state, without understanding that its main function is to produce a world of 3 objects, and acted upon by a world of 3 objects. For world 2 to interact not only with world 1, as Descartes thought, but also with world 3, and world 3 objects can act on world 1 only through world 2, which functions as an intermediary.

Body-mind (or brain-mind) problems as an attempt to explain the interactions between physical and mental states or physical and mental processes. The problem of the body-mind relationship includes the problem of human freedom in all things including politics. In addition to contradicting subjective and objective thoughts, the three-world theory allowed Popper to overcome body-mind dualism in favor of an interactionist dualism. Popper articulates 5 positions, namely: (1) Mindfulness is anchored in world 3 which is closely related to the world of human knowledge and theory, (2) Self, or ego, is impossible without understanding theory-intuitive world 3, (3) Descartes' problem is still far from making sense, (4) Self or full awareness is controlled human action, (5) In the control hierarchy, the self is not the highest control center because it is still controlled by the theory of 3 worlds.

EPISTEMOLOGICAL EVOLUTION

The proposed solution to the problem of knowledge development, Popper created a simple

"tetradic scheme" of the method with guesswork and refutations, namely:

$$P_1 \rightarrow TT \rightarrow EE \rightarrow P_2$$

P1 is the initial problem, TT is solution tentation (a theory that is being tried), EE is an error elimination or evaluation to find and remove errors, and P2 is a new theory caused by a critical evaluation of a tentative solution to the initial problem, so that the problem arises. Knowledge development or a learning process is not an iterative process or a cumulative process, but one of error-elimination. Popper's theory of objective thought assigns great importance to language. Karl Bühler, Popper's teacher at the University of Vienna, distinguished three functions of language: two which are inferior (i.e. animal and human) and a higher one (i.e. characterizing human language). The expressive function is the speaker expressing emotions or thoughts, a signal that serves to stimulate or release certain reactions in the listener and the descriptive function describes certain situations through statements. Related to this, Popper added an argumentative or explanatory function, which is to present and compare arguments concerning certain questions or problems.

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REFERENCES

Gattei, S. (2009). *Karl Popper's Philosophy of Science Rationality Without Foundations*. New York: Routledge.

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