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A Defense of Scientific Realism

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The Structure and Premises of Putnam’s “No Miracles Argument”

1 “The positive argument for realism is that it is the only philosophy that doesn’t make the success of science a miracle” (Putnam 1975a). No doubt that this is one of the best known quotations by Hilary Putnam. It contains the so-called “no miracles argument,” which is used by Putnam to justify (scientific) realism. In Meaning and the Moral Sciences, he adds that, “if the theory was not true, then it would be a miracle that it was capable of generating successful predictions and enabling us to gain control over our environment” (Putnam 1978: 18-22).

2 Mario De Caro considers the “no miracles argument” one of the “excellent reasons for assuming a realist attitude toward science” (De Caro 2015: 202). Richard Dawid and Stephan Hartmann too hold that “it is arguably the most influential argument in favour of scientific realism” (Dawid & Hartmann 2018: 4063). In fact, interestingly, Putnam discusses some recent critical interpretations of the no miracles argument under the title On not Writing off Scientific Realism (Putnam 2012: 91-108).

3 Before exploring the argument, though, it seems to be useful to recall that a miracle is traditionally intended as an exceptional event, namely one that is supposed (or witnessed) to happen in an extraordinary way. The etymology of the word reminds indeed to the Latin word “miraculum” and therefore to “mirari,” which literally means “to wonder at, marvel, be astonished.” A miracle is also an event which is object of wonder.

4 It is far too notorious that Aristotle already observed that also science starts in wonder. Yet, the scientific explanation should remove the wonder in favour of a kind of confidence regarding the comprehension of future events of the same kind. But the more relevant difference is that a miracle happens only one time, or if at all very few
times, in history, while science is an attempt at finding explanations for the regularities of natural events.

There is hence a difference in principle between miraculous and scientific explanations of events: the success of science depends on how well its propositions succeed in describing and explaining natural events, while a miracle just needs to be believed without any further explanation. By definition, if a miracle had an explanation, it would not be a miracle. And, since a miracle is an event which apparently violates the laws and regularities of nature, no science can be based on miraculous explanations. This remark may seem to be far too trivial, but a similar thought must have been at the basis of Putnam’s argument.

Considering now the structure of the argument, it could be reformulated in this way: if scientific discourses were not about reality, then it would be a miracle that science succeeds in explaining and predicting natural events. This formulation lets us see that the argument has at least two premises: (p1) there is a realm of our knowledge that we call “science” and (p2) science succeeds (at least most of the time) in explaining and predicting natural events out there.

As it appears clear, premise (2) expresses no scientifically demonstrated (or logically necessary) propositions. It is a simple empirical finding. Furthermore, (p1) requires that we already know what to call science, or scientific explanation, which is far from being obvious. The argument hence runs as follows: since the realm of our knowledge that we call science succeeds in explaining and predicting natural events, then there must be something real out there.

What the argument says, to be more precise, is that the entities which are mentioned in scientific propositions and theories must be (in a certain sense) real, i.e. they cannot be mere stipulations or conventions or fiction, otherwise the success of science would not be explicable.

The Problem of Realism

As Putnam declares in the same paper, when talking of realism he is referring to the “very simple and elegant” formulation given by Michael Dummett (cf. Dummett 1978 [1963]): “A realist, with respect to a given theory or discourse, holds that (1) the sentences of that theory or discourse are true or false; and (2) that what makes them true or false is something external” (Putnam 1975a: 69).

In the mentioned passage, however, Dummett is criticizing semantic realism about “undecidable sentences.” Semantic realism holds that our understanding of a sentence consists in knowing its truth-condition. And undecidable sentences are sentences for which a speaker has no effective procedure which will, in a finite time, put her into a position in which she can recognize whether or not the conditions for the truth of the sentence are satisfied (cf. Dummett 1976: 45).

It seems therefore that, in quoting Dummett, Putnam is trying to simplify the notion of realism, avoiding to be too detailed. Trying to follow the same strategy, in this paper I will assume that scientific realism, in general, can be basically (and ordinarily) defined as the philosophical conception claiming that there is something real out there and that our scientific theories say something true about the real world out there. This conception
On this basis, one could tend to suppose that there must be some kind of connection between the propositions of science and the realm of what we (ordinarily) call reality. That is why this position has been often accompanied by a theory of meaning and reference. At that time, Putnam himself, through the twin earth conceptual experiment, defended semantic externalism to justify the invariability of meaning through different theories (cf. Putnam 1975b: 215-71).

But according to the later Putnam, this idea is to be refused, because it is a version of the metaphysical conception that “tends to think that the meaning of a world is a property shared by all the things denoted by the word” (Putnam 1999: 15). On the contrary, as Wittgenstein noticed in the *Philosophical Investigations*, the uses of the words are so various, that the denotation is only one of them, suitable for specific aims, but not exhaustive of the many different language games.

Nevertheless, Putnam is not denying that propositions speak of reality; he is trying to find a third view between the “metaphysical fantasy that there is a totality of Forms, or Universals, or ‘properties,’ fixed once and for all, and that every possible meaning of a word corresponds to one of these Forms or Universals or properties” (*ibid.*), and the anti-realistic conceptions that interpret science as a mere construction or fiction.

In particular, he says, “many philosophers today are utterly comfortable either with a dogmatic realist view or with an equally dogmatic anti realist view. I believe that progress with respect to these problems will only come when we appreciate how each of these views is equally unsatisfactory, each is made in the mirror image of the other, and each depends on the idea that the other is the only alternative” (*ibid.*: 13).

In fact, already in the introduction to *Mathematics, Matter, and Methods*, Putnam defines himself as a realist, and specifies that he thinks of realism neither as a materialism nor as a sort of mere constructivism or worldmaking: “Reality is not a part of the human mind; rather the human mind is a part – and a small part at that – of reality” (Putnam 1975a: vii).

This last remark is fundamental to the understanding of Putnam’s attitude towards science in general. As he says at the end of the mentioned introduction, science is an important part of human knowledge, but scientific knowledge is not all of man’s knowledge (cf. *ibid.*: xiii).

Putnam has never abandoned this attitude, which is a constant in his way of conceiving human existence in general. And in the most recent writings it has been supported by “the real insight in James’s pragmatism,” namely that a description of reality “is never a mere copying and that we constantly add to the ways in which language can be responsible to reality” (Putnam 1999: 9). However, Putnam does not fully agree with William James: he tries to read the American Pragmatist as a realist, but without making him a traditional Scholastic realist. In Putnam’s view, the traditional realist is right in saying that the world “is as it is independently of the interests of the describers”; and James is wrong in thinking that the world is “to an indeterminate extent the product of our own minds” (*ibid.*: 6). In other words, Putnam suggests that James’ “recoil from its metaphysical excess drove him to question the independence of the world” (*ibid.*). On the other hand, as we have seen, affirming the independence of the world from human mind and interests does not mean advocating for a pre-ordered
system of Forms, or Properties, or Universals. According to Calcaterra (2021), “James supported the idea that the methodology of science as well as of philosophical research is dependent on what happens in the course of the investigation, i.e., it evolves along with the research practice and does not admit any definite rule.”

In other words, Putnam admits the fundamental realistic insight that “our words and life are constrained by a reality not of our own invention” (and he attributes this insight as well to James) but refuses the idea that what we call “reality” is a “single superthing.” Therefore, for Putnam, the deep contribution of James and of Pragmatism in general should be seen in the idea that “we endlessly renegotiate – and are forced to renegotiate – our notion of reality as our language and our life develop” (Putnam 1999: 9).

Therefore, what Putnam is trying to suggest is an open relation between language (or theories) and reality. Reality (the world as it is) is not dependent on human mind and interests, but there is no way to access reality independently of human mind and interests. On this basis, the kind of realism that Putnam is defending could be called open realism, and, as we shall see, it could be the third view that he has been trying to search in his philosophical “long journey from realism back to realism” (Putnam 1999: 57).

**Scientific Realism and Common-Sense Realism**

Putnam’s realism aims at being different from metaphysical (or platonistic realism), namely the philosophy according to which universals (ideas, concepts, mathematical or physical entities, values) exist as entities in a metaphysical world separated from the world we ordinarily live in. In particular, while dualism is a fundamental element to define platonistic realism, it is not present in scientific and common-sense forms of realism. The entities postulated by scientific theories (including universals) exist in this world, since also science is a part of this world.

Nevertheless, refusing the platonistic ontology is not enough, because one could tend to think of Putnam’s realism as a sort of Aristotelian metaphysics of essence. And it is right only in part, because he defines his position as an “Aristotelian Realism Without Aristotelian Metaphysics” (Putnam 1999: 4).

Aristotle’s intuition, which Putnam considers analogous to Wittgenstein’s intuition in the *Tractatus Logico-Philosophicus*, concerns a possible solution to the problem of intentionality, namely of how either mind or language can hook on to the world: “Aristotle takes the problem to be primarily one of how mind [soul] can hook on to the world; Wittgenstein [...] takes the problem to be how language can hook on the world.” In any case, both “share the intuition that mind and language could not hook on to the world if that which is to be hooked on to did not have intrinsic or ‘built-in’ form” (Putnam 1994: 63-4). Therefore, Putnam suggests to revise Aristotle’s intuition after the linguistic turn, and to consider the notion of “form” not as a metaphysical essence of substances, but as a “logical property”; in other words, the form of something is thought of not as “the metaphysically best description of its nature,” but as “the abstract characterization of the totality of its logical possibilities of combination with other objects” (ibid.: 71).
Provided that scientific realism is based on common sense realism, it becomes nonetheless soon clear that the reality that we immediately see and touch “out there” could not be the “real” one. Just to make a trivial example, consider the fact that we all see the sun moving up there around in the sky. From a certain naive point of view, the sentence “The Sun is moving around the Earth” is true: it is perfectly meaningful and legitimate to say that now the Sun is on the Zenith and in a few hours it will be on the horizon. But Galilean relativism (and modern science) tells us that, if we lived on the Sun, we would see the Earth moving in the sky, and the above sentence would remain true inverting the terms Sun and Earth. So, there is no immediate perceivable evidence that things out there actually stay how we see them to stay. Ordinary perception, in other words, can be misleading. In fact, while the above sentences are true under certain circumstances (namely, they are relative to the system we are in - respectively the Earth or the Sun), the sentence “The Earth orbits around the Sun” is always true, because it is supposed to describe an astronomical fact, and remains true whether I am on the Earth or on the Sun.

Scientific realism appears now as a sophisticated form of common sense realism, or, in some cases, as a correction of ordinary perception. In particular, what we define “real” is the combination of at least two elements: (1) what we already know about the world (which amounts broadly speaking to what we call common sense realism) and (2) what scientific theories and predictions tell us about the world. But it is important to remark that (2) is not always and necessarily a falsification of (1). On the contrary, (1) is a sort of basic assumption, a kind of transcendental (or phenomenological) condition, which we can call “the world as I see it”; and a scientific theory should not merely “correct” it, but primarily be able to explain why I see the world as I see it. Just to return to the example made above, astronomy describes the fact that the Earth orbits around the Sun, and at the same time, explains why I actually perceive the Earth moving in the sky out of my window.

There is nonetheless a difference between (1) and (2): in fact, (1) covers the realm of what I see, what I perceive and can talk about, while (2) investigates the deep reasons explaining the behaviour and the regularities of experience (possibly also of (1)).

This way of intending scientific realism is, according to Putnam, deeply different from what he calls “metaphysical realism”: “What the metaphysical realist holds is that we can think and talk about things as they are, independently of our minds, and that we can do this by virtue of a ‘correspondence’ relation between the terms in our language and some sorts of mind-independent entities” (Putnam 1983: 205).

Now, a question arises immediately reading this passage: how can we think and talk about something which is “independent” of our minds? If I think or talk, for instance, of a tree, then I must have established some kind of relation with the entity called “tree.” The core of the metaphysical realist conception is that the tree I am thinking and talking about exists “out there” independently of my thinking and talking of it. Putnam, on the contrary, seems to believe that, as we have noticed above, the mind is a part of reality and, therefore, that every talking and thinking about reality cannot be independent of our mind.
On the Aim of Science

In his attempt at criticizing strong scientific realism, Bas van Fraassen claims that, in this view, “theories account for the phenomena (which means, the observable processes and structures) by postulating other processes and structures not directly accessible to observation.” Furthermore, according to realism, a theory is thought of as being in the relation of “being true” to the world. Therefore, from the combination of these two features follows that “science aims to find a true description of unobservable processes that explain observable ones” (van Fraassen 1980: 3).

Some paragraphs later, this formulation becomes the definition or “the correct statement of scientific realism”: “Science aims to give us, in its theories, a literally true story of what the world is like; and acceptance of a scientific theory involves the belief that it is true” (ibid.: 8).

As van Fraassen clarifies soon after, this definition considers the aim of science and not simply the actual acquisitions of it. Therefore, it is a kind of ideal or “end-in-view,” which can be used as a pragmatic criterion to judge the effective success of a theory.

But van Fraassen is not a scientific realist in this sense. He defends a position called “constructive empiricism,” based on the idea that “scientific activity is one of construction rather than discovery: construction of models that must be adequate to the phenomena, and not discovery of truth concerning the unobservable” (ibid.: 5).

The statement of constructive empiricism is therefore: “Science aims to give us theories which are empirically adequate; and acceptance of a theory involves as belief only that it is empirically adequate” (ibid.: 12). This means that a scientific theory is not the discovery of something unobservable, but the construction of models that must be adequate to the phenomena (cf. ibid.: 5).

In the second part of the definition, van Fraassen introduces the equivalence between accepting a theory and believing that it is true. It seems however that acceptance of a theory could be grounded on other reasons than truth. Thus, for example, as it happened to the Ptolemaic conception of the cosmos, until the Copernican turn almost everyone has been accepting the theory for centuries, even if it revealed to be false. In a certain sense, the model was even adequate to the phenomena. Nevertheless, one could object that it was not a scientific theory, but a collection of religious and philosophical ideas. And that is right, but all these elements have been cooperating for centuries in defining a conceptual scheme, which, for many purposes, was adequate to make calculations and explain the observed phenomena. What is relevant in the context of the present discussion, is the idea that a theory must not only be adequate or true, but also able to convince. How can a theory succeed in being believed?

What is certain is that believing a theory does not make it true. To be honest, believing scientific theories is not always simple, and it becomes constantly more difficult (for ordinary people at least) as the theories investigate deeper parts of reality and become mathematically more sophisticated. Ideally, a successful theory should explain the coherence of our experience and (at least approximately) predict the future. The no miracles argument says that this agreement between theory and experience would be a miracle if science said nothing (at least approximately) true about the world.

In any case, this is not a deterministic or linear process. Van Fraassen describes it with a suggestive evolutionistic picture: “I claim that the success of current scientific
theories is no miracle. It is not even surprising to the scientific (Darwinist) mind. For any scientific theory is born into a life of fierce competition, a jungle red in tooth and claw. Only the successful theories survive – the ones which in fact latched onto the actual regularities in nature” (ibid.: 40).

As we can see, even if refusing scientific realism, van Fraassen shares Putnam’s “no miracles argument.” Therefore, it seems that this argument could be accepted even by a non-realistic conception of science, insofar as it must admit the existence of regularities in nature (or facts or phenomena) which can support the criterion of empirical adequacy.

**Walking on the Razor’s Blade of Realism**

Reading Putnam’s papers on realism is not always a clarifying enterprise, and it could even be frustrating. One could gain the impression that he changed his mind too many times, and in the end one could be confused about the proper notion of realism that he has been trying to advocate in his career. That is why it seems to be useful to start from the end, i.e., from the position held by Putnam in *From Quantum Mechanics to Ethics and back again*, an illuminating paper originally dated 2007 and published in its final version in 2012 (Putnam 2012: 51-71).

In this paper, the American philosopher refuses the widespread description of his philosophical position on realism in three phases: scientific realism (until 1976), internal realism (between 1976 and 1989) and common-sense realism (after 1990) (cf. Baghramian 2008: 17). In fact, he admits: “I have always regarded myself as a scientific realist, though of course not only a scientific realist” (Putnam 2012: 55). The last specification (that he is “not only” a scientific realist) means that science does not exhaust the whole of human discourse on reality. There is, for example, also Ethics.

But what does it mean to be a “scientific realist”? Interestingly, in the reconsideration proposed in *From Quantum Mechanics to Ethics and back again*, Putnam writes that at the present (exactly as he did in the late 1970s) he defends the no miracles argument. Nevertheless, while in the original formulation he just said “realism is the only philosophy...,” now he writes “scientific realism is the only philosophy...” (ibid.: 55; my emphasis).

Maria Baghramian remarks that one can distinguish three “brands” of scientific realism in Putnam. Firstly, there is a scientific realism that is not always clearly distinguished from metaphysical realism, insofar as it “clings” to the correspondence theory of truth and seems to claim that there is only one true theory which describes independent external reality. Secondly, there is the scientific realism supported by the no miracles argument, namely realism “taken as an empirical hypothesis without metaphysical import.” Thirdly, there is the idea that “all knowledge worthy of the name is part of ‘science’”; this last variety of scientific realism “leads to scientism of the worst kind” (Baghramian 2008: 27). According to Baghramian, the early Putnam defended scientific realism in the first and second sense, while the later Putnam defended only the second, non-metaphysical version of it (ibid.).

This apparent confusion could be explained by the fact that Putnam himself experienced the question of realism as an antimony. He confesses: before writing *Realism and Reason* and *Models and Reality*, “I did not see either how to defend realism or
how there could be any other way of understanding the relation of language to reality. It seemed to me that I had become entangled in hopeless antinomies!” (Putnam 1999: 15). These two papers are usually said to be the inauguration of the so-called “internal realism” phase, in which Putnam adhered to a certain form of anti-realism, even if not being himself an anti-realist.

The difference, in general, lies in the conception of meaning and truth. Putnam admits that at that time he argued that our understanding of our language must consist in our mastery of its use. He thought of as a nonsense to say that one knows how to use her language but is not able to single out an interpretation. In a well-known formulation, he says: “Either the use of the language already fixes the ‘interpretation’ or nothing can.” The problem was that he intended the use mainly as a “cognitive scientific notion, that is, use was to be described largely in terms of computer programs in the brain,” together with the environment in which the language is spoken (ibid.: 14).

This conception was based on the causal theory of reference (a sort of semantic externalism), according to which, broadly speaking, the meaning is not “in the head,” but is the result of causal relations with the external world (cf. Putnam 1975b: 215-71).

Therefore, he thought that the interpretation of a word is determined, at the same time, causally by the external world and cognitively by the use of language.

Reconsidering this period in 1999, Putnam holds that, at that time, he seemed to believe in “a world that interprets our words for us, a world in which there are, as it were, ‘noetic rays’ stretching from the outside into our heads (remember, I still thought of the mind as a thing, and, hence saw no recourse but just to identify it with the brain).” But such a world, he confesses, “is a magical world, a fantasy world.” At that time, he concludes, he was facing an antinomy, because “I could not see how the fantasy even made sense, but at that point I also did not see how reference was possible unless the fantasy made sense” (Putnam 1999: 17).

As we can see, the antinomy seems to be given by the attempt at saving the external contribution to our knowledge (to save the phenomena) – which is the basic intuition of realism –, and the fact that theories (language in general) are made-up interpretations of reality.

The so-called internal realism was an attempt at finding a solution to the antinomy. In brief, internal realism is an intermediate way to show that conceptual relativity and scientific realism can be compatible. To use the example made previously, the word “Sun” can be used in the sentences “The Sun moves around the Earth” and “The Earth moves around the Sun” in two different ways. Astronomy uses it in a sense, according to which the first sentence is false and the second is true; in our everyday experience, we can refer to the ordinary perception (and not to astronomy) and say that, under the specific circumstances of what we see now outside the window, it is true that the Sun moves around the Earth.

Therefore, Putnam is saying that we can be realist about the existence of common facts and events (such as tables and chairs or trees and flowers) and about scientific entities (such as electrons and space-time regions), without reducing the first to the second (cf. Putnam 1987: 1, 16-7).

There is hence no need for a correspondence theory of truth, which puts us in the condition of judging a theory as better or worse than another. There is no independent access to a reality in itself, a kind of God’s eye view or a one and for all given structure
or furniture of the world. In Putnam’s words: “The internal realist […] is willing to think of reference as internal to ‘texts’ (or theories), provided we recognize that there are better and worse ‘texts.’ ‘Better’ and ‘worse’ may themselves depend on our historical situation and our purposes: there is no notion of God’s-Eye View of Truth here” (Putnam 1990: 114).

Putnam is evidently moving on a razor’s edge. He is trying to avoid cultural relativism in favour of realism, without being a metaphysical realist. In fact, soon after this distinction between worse and better theories, he says that there are two constraints, which must be respected to define a right or better text or theory: “(1) Rightness is not subjective” and “(2) Rightness goes beyond justificationism.” That is equal to say: we can believe a certain theory is better than another (internal to a certain conceptual scheme), but we do not have full control on this decision. A theory is better on the basis of objective criteria that stand beyond its being justified (even under ideal circumstances). Putnam seems to remain a (scientific) realist about the mind-independency of the world and to be a relativist about the epistemic conditions of justifiability.

Internal realism, in other words, should be understood as another form of scientific realism, which tries to be open to the complex realm of human knowledge and experience. In fact, Putnam notices that, even if he has come to regard it as “misguided,” nevertheless “the presence of the noun ‘realism’ in the phrase ‘internal realism’ was no accident” (Putnam 2012: 93). Why then was Putnam not satisfied with internal realism? And what kind of scientific realism did he come to enjoy at the end of his journey?

**The Problem of Intentionality: Realism without Interfaces**

Before trying to answer the above questions, it seems to be useful to remark that Putnam revealed an important misunderstanding of his position, originated by an unfortunate slip at the beginning of the paper *Realism and Reason*, which can be considered the manifesto of “internal realism.” The passage is this: “The realist explanation, in a nutshell, is not that language mirrors the world but that speakers mirror the world – i.e. the environment – in the sense of constructing a symbolic representation of their environment […]. But let me refer to realism in this sense – acceptance of this sort of scientific picture of the relation of speakers to their environment, and of the role of language, – as internal realism” (Putnam 1978: 123).

In Putnam’s opinion, the expression “internal realism” in this passage gave many readers the impression that he was repudiating scientific realism and that he was thinking of the “previous Putnam” as a sort of scientist. On the contrary, he admits that he should have used there the expression “scientific realism” (and not internal realism), because he was simply saying that “scientific realism is science’s philosophy of science” (Putnam 2012: 56) or “science’s explanation of the success of science” (*ibid.*: 96). Therefore, the declaration should be interpreted as a premise, namely that, in general, scientific realism can be defined as the realism internal to science.

At that time, Putnam proposed a basic definition of scientific realism as an empirical theory, such that it could have been accepted both by traditional realists and anti-
realists (cf. ibid.: 54). And the expression “internal realism” used there referred to the philosophy that Putnam defended in that paper and in the following years, a sort of anti-realist view holding a definition of truth as idealized rational verifiability or as verifiability under ideal conditions.

As he writes in *Realism with a Human face*, “in my picture, objects are theory-dependent in the sense that theories with incompatible ontologies can both be right. […] It is saying that various representations, various languages, various theories, are equally good in certain contexts” (Putnam 1990: 40-1). And he concludes that this position can be called “rejecting [metaphysical] realism in the name of the realistic spirit” (ibid.: 42).

Putnam’s later refutation of internal realism, therefore, is not intended to be a refusal of the realistic spirit, which is also at the basis of scientific realism. The difference is that, during the internal realism period, he abandoned the conception of truth as correspondence and joined an antirealist conception of truth as idealized verifiability. Furthermore, contrary to metaphysical realism, internal realism accepted conceptual relativity and, as a consequence, refused the fact-value (or fact-theory) dichotomy.

Internal realism is therefore a form of scientific realism, and Putnam continued to think of it as distinct from metaphysical realism. Under this respect, “the target of the no miracle argument […] is not antirealism in the sense of antirealism about truth,” but “it is operationalism with respect to scientific theories” (Putnam 2012: 97). That is why, in his opinion, the argument is still working even with verificationist semantics.

Yet the problems do not finish here. Apparently, what the “later Putnam” is doing is to refuse both internal realism and metaphysical realism in the name of a natural or common sense realism.

To look closely, it is interesting that what led Putnam to the new philosophical position starting with the *Dewey Lectures* (Putnam 1999) is an element common to both metaphysical and internal realism, namely the problem of intentionality or the question of how mind or language can hook on to the world. Putnam realized that both gave a solution in terms of supposing an interface between mind (or language) and world, in order to justify the adequate connection of the first to the last.

In general, as we have seen, the no miracles argument itself requires a solution to the problem of intentionality. Even if it is conceived as an empirical theory, how can we assess the fact that a theory (an explanation or a prevision) is successful, if we refuse the idea of an intention of our saying and thinking towards the reality?

The so-called first Putnam, at least in the functionalist period, tried to solve the problem by supposing a sort of software or computer programme in the head. He abandoned this position already in *The Meaning of Meaning* (cf. Putnam 1975a: 215-71), in favour of the broader idea that “the mind and the world together make up the mind and the world together”: in other words, “our intentional mental states are not in our heads, but are rather to be thought of as world-involving abilities, abilities identified by the sort of transactions with our environment that they facilitate” (Putnam 2012: 58-9).

That is the reason why he endorsed the position described as “internal realism,” which consisted in adopting a verificationist semantic and the idea of conceptual relativity. This last idea was intended somehow to replace the functionalist (or cartesian) interface between mind (or language) and world.

In *The Many Faces of Realism*, Putnam writes that in modern science “there are ways of describing what are (in some way) the ‘same facts’ which are (in some way) ‘equivalent’
but also (in some way) ‘incompatible’” (Putnam 1987: 29). In such a situation, a metaphysical realist would suggest that we find ourselves in a contradiction and must be able to choose between the one or the other description. But Putnam thinks that the difference can depend on the use of different concepts that are, in different conceptual schemes, equivalent. In particular, notions as “object” or “entity” or “exist” do not have a standard or once-and-for-all defined use.

Yet conceptual relativity is not to be thought of as a form of relativism or conceptual pluralism. Putnam still remains a scientific realist, because, as he clarifies, “it is important not to confuse conceptual relativity with the very different phenomenon of conceptual pluralism. You may have noticed that all my examples of conceptual relativity come from science, which is where the phenomenon seems to occur” (Putnam 2012: 64).

A conceptual scheme is also to be understood as a theoretical (and linguistic) structure that lets us see the world how we see it. And there can be different equivalent descriptions of the same events, according to the conceptual scheme we choose to use. This idea was part of the internal realism conception, and was considered by Putnam as fully incompatible with traditional metaphysical realism.

Connected to this idea, there is also the recognition that it is not certain that we may obtain epistemically ideal conditions, and that, at the end of the day, it is the world that decides what are (at least good enough) epistemic conditions. For this reason, Putnam admits, “this recognition reinstated the very problem of ‘access’ that internal realism was designed to block! If there is a problem about how, without postulating ‘noetic rays,’ we can have access to external things, there is an equal problem about how we can have referential access to ‘sufficiently good epistemic conditions’” (ibid.: 59-60).

What differentiates Putnam’s internal realism from Dummett’s anti-realism is also that Putnam is trying to retain “an essential idea from the common sense realism” (ibid.: 60), namely that we have access to the external reality. In other words, “the conception of our epistemic situation was the traditional ‘Cartesian’ one, in which our sensations are an interface ‘between’ us and the ‘external objects’” (ibid.).

The internal realist picture hence resulted in a kind of entanglement between experiences (sense data) and conceptual schemes; but it did not succeed in avoiding thinking to the last as an interface. In the Dewey Lectures, and in the most recent writings, Putnam is trying to abandon the image of sensations and/or conceptual schemes as an interface between us (our language or theories) and the world.

Putnam, in other words, wants to return to a “natural realism,” “or to a reasoned philosophical defense of natural realism,” which “involves giving up thinking of either experience or concepts as ‘between’ us and external reality” (ibid.: 61). In this journey, however, he has never ceased to be a scientific realist.

**Conclusion: Scientific Realism as open Realism**

As we have seen, a radical change in Putnam’s view occurred when he realized the necessity of abandoning the idea that there is an interface between us and the world. As he admits in 2012, he failed to see that “one could think of both experience and concepts as forms – to use McDowell’s language of openness to the world” (ibid.: 61). And he continues: “I should have seen us as open to the world, as interacting with the world.
in ways that permits aspects of it to reveal themselves to us. Of course, we need to invent concepts to do that. There is plenty of constructive activity here. But we do not construct reality itself” (ibid.: 61-2).

72 In this passage two important ideas emerge. On the one hand, there is the fact that we are part of reality, namely that there is an original relation between us and the world, such that we cannot so to speak separate ourselves from this relation. This relation consists in our being open to the world. As a consequence, our senses and our concepts are not input/output interfaces, but they should rather be conceived of as doors or windows. And the ways in which we interact with reality are as various as our forms of life. On the other hand, there is the firm conviction that the whole reality is not dependent on our concepts and theories. Thus, Putnam refuses the idea that we construct reality, but continues thinking that there are many ways in which we can describe events: in this new perspective, conceptual relativity and realism are, in fact, compatible.

73 It is therefore revealing that, in the already mentioned paper On not writing off Scientific Realism, Putnam defends the no miracles argument in favour of scientific realism and that, at the same time, he seems to have become more accommodating towards metaphysical realism. As we have seen, one feature of it is the claim of a mind-independent reality. Now, Putnam tells us that he had “mislabeled used that expression in describing 'metaphysical realism',” because what he really meant was that “the metaphysical realist believes that there are truths that do not depend on whether or not human beings or other sentient beings could or could not verify them.” And now, he adds, “I do believe that there are such truths” (ibid.: 100). And a few paragraphs later, he frankly concludes: “So I have become a metaphysical realist in my old age? Yes, and no” (ibid.: 101).

74 Such a declaration may appear surprising, since it is pronounced by a philosopher who has spent his whole life avoiding metaphysical realism in favour of a liberal (cf. De Caro 2015: 206) or open form of scientific realism. However, Putnam did not fully convert himself to the old position; on the contrary, there must have happened a change in the very way of conceiving metaphysical realism.

75 In fact, Putnam writes that he used to define metaphysical realism as the result of a combination of (1) the rejection of verificationism, and (2) the denial of conceptual relativity, in favour of the idea (3) that there is exactly one way to describe a given thing or system of things (cf. ibid.: 101). But, he goes on, “if we understand the ‘metaphysical realist’ more broadly, as applying to all philosophers who reject verificationism and all talk of our ‘making’ the world, then it is perfectly possible to be a metaphysical realist in that sense and to accept the existence of cases of such ‘conceptual relativity.’ And that is the sort of realist I am” (ibid.: 101-2).

76 The new way of conceiving metaphysical realism accounts therefore for the possibility of claiming both that we do not make up the world (because the world is simply what it is, and we, together with our interests, theories and language are part of it), and that we make up different “language games, concepts, uses, and conceptual schemes” (Putnam 2012: 64). In order to clarify this position, Putnam defines himself using the expression “metaphysical realist without capital letter” or, which seems to be more clarifying, “a realist in one’s ‘metaphysics’” (ibid.).
Thus, if this interpretation of Putnam’s move is correct, the new conception of metaphysical realism seems to start from the (natural realist’s) idea that there is a reality, the existence of which is not dependent on our theories; but we can make up “metaphysics,” ontologies with conceptual entities, which we use to describe precise aspects of reality for determinate and maybe also very different purposes. And for one and the same aspect of reality, there can be equivalent conceptual schemes.

Putnam’s position appears accordingly as the result of the combination of scientific realism with the intuitions of natural (or common sense) realism and pragmatism. It is not the aim of this paper to define natural realism in general, and Putnam’s natural realism in particular. But the fundamental tenet underlying it can be expressed as follows: “Winning through to natural realism is seeing the needlessness and the unintelligibility of a picture that imposes an interface between ourselves and the world” (Putnam 1999: 41). And a natural realist in his sense holds that every object of the (normal “veridical”) perception are “external” things, and, more generally, aspects of ‘external’ reality” (ibid.: 10).

On the other hand, the contribution of pragmatism consists according to Putnam in at least two things: “The first is the realization that description and evaluation must not be regarded as two separate watertight boxes in which statements or uses or statements can be put. […] Second, I heartily approve of the pragmatists’ insistence that philosophy can and should matter to our moral and spiritual lives” (Putnam 2012: 70-1).

It is not easy to fully understand Putnam’s scientific realism in the new form of metaphysical realism (with no capital letters) or as a (sophisticated?) form of natural realism. What can be said for sure is that, during his whole life, Putnam has been constantly and coherently avoiding the idea that science gives us the sole veritable description of a super-thing called “reality.” The reason, and here we can see the importance of natural realism, is that we are in an original relation with reality.

Our senses, our language and our thoughts are forms of openness to the world, inside a relation with it. This relation is not further investigable, because it is a kind of existential condition of any possible investigation. Since we find ourselves from the beginning in this relation, we are not mere spectators of the events. We have interests in living, we not only know things, but we give value to events and facts. We wonder at reality, because we give value to it. From this point of view, the intuition of pragmatism is equally fundamental. Every concept that we make up, every theory or conceptual scheme that we use in describing the world must, so to speak, be worthy of.

In this sense, the no miracles argument works, because events in our life are not mere external circumstances. Reality (according to the natural realist’s view) is a starting point, not an end point. We have to start from the familiar and be able to come back to the familiar (cf. Putnam 1999: 48). As Pragmatism says, on the basis of our interests we select determinate aspects of reality and we make up concepts, theories and language games, in order to describe them for our different purposes. And insofar as scientific realism is concerned, we can conclude that it is to be understood simply as the realism internal to science, provided that different scientific theories can make up different ontologies. Nevertheless, what explains Putnam’s mature sympathy for metaphysical realism, is the idea that our theories must be “answerable to ‘aspects of reality’” (Putnam 2012: 65).
This means that every theory, conceptual scheme or language game that we use for describing certain aspects of reality unavoidably reveal other valuable aspects which are worth being investigated and are connected with other interests and purposes. This entanglement is, as a matter of fact, our very own life, and there is no escape.

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NOTES

1. For a formal reconstruction of the no miracles argument see Dawid & Hartmann 2018, where it is demonstrated the validity of the argument in the original formulation given by Putnam.
3. This objection can be considered a version of the “pessimistic induction,” which holds that “the no-miracle argument flies in the face of the history of science.” Psillos has shown that “a substantive conception of scientific realism can be compatible with the historical record” (Psillos 1996: 306).

ABSTRACTS

In this paper I investigate Hilary Putnam’s conception of scientific realism by examining the so-called “no miracles argument.” According to a widespread reconstruction of his thought, Putnam has been moving from scientific realism, through internal realism to natural realism of common sense. Nonetheless, I show that, in fact, the American philosopher has always been a scientific realist. This notion needs however to be made clearer, because Putnam tends to move constantly on the razor’s edge between metaphysical realism and anti-realism. I argue that Putnam’s mature conception of scientific realism can be thought of as “open realism,” insofar as it is the result of the combination of the acceptable intuitions of metaphysical realism, with conceptual relativity, natural realism and pragmatism.

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