Realism, Common Sense, and Science

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ABSTRACT

After a long period of unpopularity, philosophical realism is enjoying a revival. According to some of its contemporary versions, the world consists in just what the ordinary view of the world assumes, while the unobservable entities postulated by scientific theories are nothing more than fictions. Some other versions, in contrast, accept only the ontology of the best scientific theories and assume a reductionist or eliminationist stance towards the entities postulated by common sense. In this article it is argued that, because of their respective unilateralism, both these versions of realism are unsatisfying and that an acceptable new realism should adopt, in a liberal naturalist spirit, a realist attitude regarding both the common sense and the scientific views of the world.

Once upon a time, philosophical realism was an unpopular view. The situation at the end of the 1980s was described by John Heil as follows:

> Anti-realist tracts overwhelm both in number and in sheer density a steady but comparatively modest realist output … [Only] Australia, isolated and out of the loop evolutionarily, continues as stronghold of realists and marsupials. (Heil 1989, 65)

This tongue-in-cheek description conveys a substantially correct idea of what the situation was only a few decades ago. Back then the number of realist philosophers was so small (besides the Australian ones, there were very few others, such as Karl Popper and John Searle)[1] that they could be mocked as the marsupials of philosophy—the sparse remains of a glorious but unrevivable past. Among the many eminent philosophers of the English-speaking tradition who in that period adhered to antirealism in one version or another were Donald Davidson, Richard Rorty, Nelson Goodman, Michael Dummett, Bas van Fraassen, Thomas Kuhn, Paul Feyerabend, Ian Hacking, Nancy Cartwright, and Hilary Putnam (in his internal realist period).

No less impressive was the fortune of antirealism among continental philosophers such as (from a very long list): Michel Foucault, Jacques Derrida, Hans-Georg Gadamer, Jacques Lacan, Jean Baudrillard, Bruno Latour, Jean-Francois Lyotard, and

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Gianni Vattimo. Over the last 25 years, however, the number of philosophers who would define themselves as realists has been steadily growing all over the world, both in the continental and in the analytic tradition. Unexpectedly, the philosophical marsupials are back.[2]

Why this has happened and what it entails for philosophy as a whole are interesting questions, but in this article I will touch upon them only tangentially. The question I will mainly address is rather: what, among the forms of philosophical realism that are popular nowadays, are the most innovative and promising? Or, to put it differently, what realistic views are most worthy of the label "new realism" (Ferraris 2012)?[3]

1. REALISMS AND ANTIREALISMS

The problem of realism should not be stated in an "all or nothing" form. In fact, no philosopher has ever been a complete realist or a complete antirealist. Take for example Alexius Meinong, possibly the most fervent of all realists: even he believed that a round square could not be real. Or, on the other hand, take Berkeley, a champion of antirealism—but only in regard to matter, since, as to the mind (especially the divine mind) he was an archrealist. All serious philosophers are located in the interval between a hypothetical integral realism and an equally hypothetical integral antirealism. All attempted solutions of the problem of realism are therefore matters of degree. The problem is to determine what is the right dose of realism to be taken—and this of course is not an easy task.

The complication of the issue of realism is also due to other reasons. The first is that one can be committed to realism in many different forms. Fortunately, however, the forms of realism can be grouped in three main families:

i. *Ontological realism*. The views of this family are based on the thesis that things of certain sorts, be they concrete or abstract (such as disembodied minds, numbers, witches, electrons, or social facts), be they properties (redness, goodness, electric charges, or free will) or events (the Big Bang or transubstantiation), are real. Theories of this family can also claim the existence of the external world as a whole or specify in what sense time exists (are the past and the future real or is the present the only real time?). Moreover, when discussing realism from the ontological point of view, one can ask two distinct questions. One can ask whether a certain thing really exists or, granting that it does, one can ask whether it exists independently of the minds that think about it. For instance, with regard to atoms it is the first question that standardly arises: do atoms truly exist or are they only heuristically useful fictions? Conversely, on the subject of colors it is the second question that arises: do colors exist independently of us, out there in the world, or do they exist only—as according to Galileo, Locke, and many contemporary philosophers—to the extent that a mind projects them onto the world?[4]
ii. *Semantic realism*. According to the views of this family, the meaning of a sentence is given by the conditions under which it is true, and this requires the reality of the entities to which the terms of that sentence refer.

Semantic antirealism claims that the meaning of a sentence is instead given by the conditions under which speakers are justified in asserting it.

iii. *Epistemological realism*. According to the views of this family, there may be facts that are, in principle, unknowable (whereas epistemological antirealists deny this possibility).[5]

Another reason why this discussion is complicated is that, while it is more or less clear what realism (in the three senses described above) amounts to, the term "antirealism" labels a much more disparate collection of views. Among the different forms of antirealism one can mention nominalism, idealism, phenomenalism, conventionalism, relativism, radical empiricism, and skepticism, almost all of which are brought forward in the various ontological, epistemological, and semantic discussions to challenge realism in different and often insidious ways.[6]

As said above, in all philosophical views there are elements of realism and antirealism. This remark is useful in order to analyze the two most general versions of realism in vogue today, namely: (i) *common-sense realism*, the view that acknowledges as real only the things we can experience (directly, through introspection or with the senses, or indirectly, with the instruments that extend the senses), and (ii) *scientific realism*, the view that claims that the world contains only the entities and events (both observable and unobservable) that are in principle describable by science. When taken in their pure forms these are alternative realist conceptions because each of them is drastically antirealist in the field in which the other assumes a firmly realist attitude. As we will see, however, these views are restatements of two traditional (and unsatisfactory) forms of realism; consequently they do not deserve the title 'New Realism', as instead does another form of realism that I will discuss in the last part of this article.

In order to compare the virtues and vices of these two conceptions, it is useful to look at how they respectively answer a problem that has afflicted philosophy since the age of the scientific revolution—a problem that Kant presented in the most illustrious way in the third antinomy of the *Critique of Pure Reason*. As Kant put it, the problem was that we cannot help believing in two contradictory views of the world: one in which we are free and responsible agents and another in which everything is ruled by the ubiquitous laws of nature, which in his opinion do not leave any room for freedom and responsibility. However, Kant's own 'transcendental' solution to this problem has been found convincing by very few, and so the discussion has continued until today. Here is a reformulation of the problem given by Searle (2007, 4–5):

> How can we square [the] conception of ourselves as mindful, meaning-creating, free, rational, etc., agents with a universe that consists entirely of mindless, meaningless, unfree, nonrational, brute physical particles?

Both the common-sense and the scientific views of the world have been used in the attempt to solve this problem, by opting for the unilateral realistic options that they respectively embody. According to the prototypical common-sense realist, the real world consists in just what the ordinary view of the world assumes: colors, sounds, smells, and perceptible physical bodies; values, too, may be held to have an objective reality along

with intentional, conscious, and moral properties, which all are assumed to be irreducible to scientific properties. Vice versa, common-sense realism sees the unobservable entities postulated by scientific theories as nothing more than fictions—useful for producing explanations and predictions, but having no ontological legitimacy. The scientific realist, on the contrary, assumes as real only the entities admitted by the natural sciences, while all other alleged entities either are reducible to those or are mere fictions.

In my opinion these views, with their respective versions of unilateralism, represent the two main forms of 'Old Realism'. Let us consider them briefly, before turning to the form that a satisfying New Realism should assume in order to overcome the shortcomings of these older realist conceptions.

2. COMMON-SENSE REALISM AND SCIENCE

Common-sense realism has a long and authoritative history. Among its most influential defenders are Aristotle and most of the Aristotelian tradition, including Reid, William James, Pierre Duhem, G.E. Moore, P.F. Strawson, and J.L. Austin and, in some relevant aspects of their thinking, Edmund Husserl, Henri Bergson, and Ludwig Wittgenstein. Of course, there are differences, even important ones, between the views defended by these philosophers (Husserl's *Lebenswelt* is not the same as Moore's commonsensical world or James's pragmatist reality). However, all these stances can be seen as important predecessors of contemporary common-sense realism, a view that is characterized by two main theses.

The first thesis is that perception tends to give us access to the external world as it really is. In this perspective, apart from special cases—such as optical illusions or the situations in which perceptual conditions are not optimal—observable objects really do have the properties that, on the basis of perception, we tend to attribute to them; and this is true of both primary properties such as size and shape and secondary ones such as color and odor. The second thesis of common-sense realism is that the middle-size objects we perceive have properties that are not identical to whatever microphysical properties constitute them. Consider the case of a table in front of me: its functional characteristics and aesthetic value are neither identical nor reducible to its constitutive microphysical properties. Consequently, no description of the table that only mentions its physical properties could account, even in principle, for its functional or aesthetic characteristics.

Precisely because common-sense realists attach so much importance to perception—by assuming that it is a reliable guide to the nature of the objects and properties of the external world—they standardly assume an antirealistic attitude towards the unobservable entities posited by natural science (such as electrons, radiation or black holes). This is understandable, since from the point of view of common sense these alleged entities exhibit incomprehensible behavior.

In his *The Crisis of European Sciences and Transcendental Phenomenology*, Edmund Husserl gave a genealogical account of the antirealist view of the common-sense world produced by modern science. In his opinion, Galileo was responsible for

> the surreptitious substitution of the mathematically substructured world of idealities for the only real world, the one that is actually given through perception,

> that is ever experienced and experienceable—our everyday life-world. This substitution was promptly passed on to his successors, the physicists of all succeeding centuries. (Husserl 1936, 48)

According to Husserl, the only real world is the "life world", the world of human experience—a world in which value and meaning are real, and the so-called secondary qualities do belong to the external objects in which we would commonsensically locate them (see Moran 2008). This is the "forgotten meaning-fundament of natural science" (Husserl 1936, 48), since scientific concepts are mere idealizations with practical purposes, such as measurement and prediction, but do not refer to any unobservable reality. On this perspective, science can at best be interpreted instrumentally, that is, in antirealistic terms.[7]

Husserl was very explicit in his association of common-sense realism with a strong antirealistic attitude toward science. Less explicitly, the philosophers of the hermeneutic tradition (including Heidegger, Gadamer, Ricoeur, and Derrida) also took the framework of common sense as the starting point of their analyses, trying to re-evaluate its underlying assumptions. In this regard, the hermeneutic philosopher Claudio Ciancio convincingly writes that,

> There is no doubt that the topic of common sense plays an important role for the thinkers of a hermeneutic orientation, or at least for some of them, although in their writings there is a fairly limited mention of it. What attracts hermeneutics to the issue of common sense is its antirationalistic and anti-scientistic orientation aimed at developing a notion of the concrete universal. (Ciancio 2004, 153; see also Bunge [2006, ch. 3])

Therefore, in the case of at least some continental philosophers, the dismissal of scientific realism was the product of an ideologically antiscientific attitude. This, however, certainly cannot be said of Bas van Fraassen, one of the leading contemporary philosophers of science, whose "Constructive Empiricism" is another influential example of the conjugation of common-sense realism and antirealism with respect to science. According to van Fraassen, a scientific theory that appeals to unobservable entities and produces sufficiently accurate explanations and predictions of observable evidence should not be considered a true description of the world, even if its "empirical adequacy" makes it an extremely useful heuristic tool.

It is interesting to note that, in contrast to many other versions of antirealism in philosophy of science, van Fraassen's instrumentalism does not derive from the traditional empiricist view according to which our knowledge of the external world coincides with the knowledge of our sense data. According to van Fraassen, scientific antirealism is rather connected to traditional common-sense realism, with its tenet that we have direct knowledge of the observable world: "Constructive empiricism is set squarely within a common-sense realism that was foreign to much of the empiricist tradition." In this light "[t]he common basis I assume is language in which reference is unproblematic to trees and mountains, people and books" (van Fraassen 2003, 479).[8]

Therefore van Fraassen's view represents one of the most consistent expressions of common-sense realism, since it limits the scope of the knowable to what is directly observable and, accordingly, assumes an antirealist position with regard to science precisely insofar as it refers to unobservable entities.

Husserl and van Fraassen tried to show how to account for what science tells us about the world once one has given epistemological and ontological primacy to common sense. However, their attempts are not convincing precisely because of their unilateralism, that is, their commitment to an antirealistic view of science. As a matter of fact, today there are excellent reasons for assuming a realist attitude toward science. The first is the famous "no-miracles argument", originally proposed by Hilary Putnam (1975, 73). This argument is based on the idea that the only way of explicating the great explanatory and predictive success of the best theories of modern science is to acknowledge that these theories tell us the truth (or a good approximation to the truth) regarding the natural world. If one instead assumes an antirealist perspective, the fact that science functions so well—as it offers comprehensive explanations and extremely precise predictions—becomes an inexplicable mystery or, as Putnam puts it, a miracle. Therefore, it is rational to take our best scientific theories as true and, consequently, to welcome the entities these theories presuppose as real even when they are unobservable.

Unsurprisingly, antirealists have tried to attack the no-miracles argument in various ways, but these objections can, in my view, be rebutted.[9] At any rate, even if one is not happy with the no-miracles argument, there are other excellent reasons for preferring realism to antirealism in regard to science. First, it has been convincingly argued that, even in its most sophisticated versions such as that of van Fraassen, scientific antirealism leaves one vulnerable to discredited views such as solipsism and phenomenalism (Forrest 1994). Second, several appealing new versions of realism have been offered in recent years. Arguably, the most relevant is *structural realism*, the view that our best theories do not describe the intrinsic nature of the unobservable phenomena to which they refer, but rather their structure, i.e., the relations these phenomena enter into (Worrall 1989; Ladyman 1998, 2014). This is a vague definition, of course, and it has been refined in different ways, the most important of which respectively define the 'epistemic' and the 'ontic' forms of structural realism. The former view claims that we can only know the structural (i.e., relational) aspects of the unobservable physical reality but not the intrinsic nature of the objects that are in relation with each other; the latter claims, more radically, that there are no unobservable objects but only structural features (Chakravartty 2004). Structural realism, in both its forms, is widely discussed today and has many advocates.[10] Here, however, it is sufficient to notice that scientific realism is more alive than ever and that it is reasonable to believe that the burden of proof is on those who pretend to ignore or even deny it.

Defending the common-sense view of the world is a very commendable philosophical goal, but doing that by sacrificing scientific realism is too high a price to pay. Nowadays, a satisfying New Realism should give science the ontological credit it deserves.

3. SCIENTIFIC REALISM AND COMMON SENSE

As I said, today there are excellent reasons to embrace scientific realism; it is no surprise, then, that a vast number of philosophers (perhaps even a majority) have done so. Moreover, many of these philosophers take scientific realism as the main pillar of a very common metaphilosophical view, 'strict naturalism' or 'scientific naturalism', which in my opinion is one the main contemporary incarnations of Old Realism.[11]

Strict naturalism rests on four main tenets:

i. An *ontological tenet*, according to which reality consists of nothing more than the entities to which the successful explanations of the natural sciences commit us;
ii. An *epistemological tenet*, according to which scientific inquiry is our only genuine source of knowledge; all other alleged forms of knowledge (e.g., ordinary perception, *a priori* knowledge and introspection) are either reducible in principle to scientific knowledge or illegitimate;
iii. A *semantic tenet* according to which no linguistic term can refer to entities that are both not acceptable to the natural sciences and irreducible to those that are;
iv. A *metaphilosophical tenet*, according to which philosophy must be continuous with science as to its contents, methods, and purposes.[12]

Not only does this view presuppose the correctness of scientific realism (what the best scientific theories tell us about the world has to be taken for true, including the existence of the nonobservable entities they presuppose), but it also assumes that the reality described by science is the only reality there is. Unsurprisingly, then, the main problem that strict naturalism has to face is the so-called "location problem" (Jackson 1998, 1–5) or "placement problem" (Price 2004). This problem concerns those features of the common-sense view that, at least *prima facie*, do not fit into the scientific view of the world (features such as free will, moral properties, normativity, consciousness, and other elusive phenomena such as financial debts or collective intentionality).[13] In the perspective of strict naturalism, either these features are reducible (perhaps after undergoing a 'revisionary' treatment) to scientifically acceptable features of the world or they are mere fictions, and should be treated as such—that is, either taken as helpful but illusory beliefs or abandoned altogether (as we did with the idea that the Earth does not move), depending on whether they play a useful, and perhaps indispensable, social role or not.[14]

The main sources of inspiration for the rise of strict naturalism have arguably been the philosophies of Quine and Sellars. Today not every strict naturalist is a physicalist,[15] but many are, and their debt to Quine is obvious. In a physicalist spirit, he famously claimed that philosophy should be methodologically continuous with science ("Normative epistemology is a branch of engineering", Quine wrote [1985, 664], in order to stress the point that there is no such thing as an irreducibly normative epistemology). Both ontologically and epistemologically, microphysics should have the last word:

> Nothing happens in the world, not the flutter of the eyelid, not the flicker of a thought, without some redistribution of microphysical states . . . . If the

> physicist suspected that there was any event that did not consist in the redistribution of the elementary states allowed for in his physical theory, he would seek a way of supplementing his theory. Full coverage in this sense is the very business of physics, and only of physics. (Quine 1981, 98)

Quine still has a significant influence on many strict naturalists also because of his famous criterion of ontological commitment, according to which we should only accept the existence of the entities that have to exist for our best physical theories to be true.[16]

What is even more interesting here, however, is the role that Wilfrid Sellars played in the development of contemporary naturalism. Sellars's accounts of the relations between the "manifest image" (the world as it is understood by common sense) and the "scientific image" (the world as it is understood by natural science) is diametrically opposed to that offered by Husserl in the *Crisis*. And this is no coincidence since, when he was a student at Buffalo, Sellars was deeply influenced by Marvin Farber, an heterodox phenomenologist who had studied with Husserl:

> Marvin Farber ... introduced me to Husserl. His combination of utter respect for the structure of Husserl's thought with the equally firm conviction that this structure could be given a naturalistic interpretation was undoubtedly a key influence on my own subsequent philosophical strategy. (Sellars 1975, 283)[17]

Like Husserl, Sellars tried to understand the relation between the ways in which common sense and science respectively conceive of the world; and, like Husserl, he aimed at finding a unified view (a "stereoscopic vision," he called it). In this regard, he wrote that these two images are "pictures of essentially the same order of complexity, each of which purports to be a complete picture of man-in-the-world which, after separate scrutiny, [philosophers] must fuse into one vision" (Sellars 1962, 4). And, again like Husserl, Sellars (1963) also acknowledged that, genetically and methodologically, the scientific image of the world depends on the manifest image and that the normative concepts of the manifest image are not reducible to the descriptive ones that characterize the scientific image (see O'Shea 2007). It is from the ontological point of view, however, that the unilateralism of Sellars's view becomes antithetical to the unilateralism of Husserl's view. In fact, while Husserl was a realist about common sense and an antirealist about science, Sellars took the opposite stance.

According to Sellars, in the modern age the scientific image has justifiably acquired the monopoly on ontology, while the world of common sense has been shown to be unreal (and it is to be remembered that, on this, Sellars was stricter than Quine, since Sellars denied also the existence of abstract entities).

Sellars expresses this point through a now-famous neo-Protagorean motto:

> Speaking as a philosopher, I am quite prepared to say that the common sense world of physical objects in Space and Time is unreal—that is, that there are no such things. Or, to put it less paradoxically, that in the dimension of

> describing and explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not. (Sellars 1956, 83; see also DeVries [2012])

Strict naturalism has inherited from Quine and Sellars a "puritanical" ontological attitude, as Stephen Stich (1996, 199) called it, according to which only scientifically acceptable phenomena are real. And this attitude explains the present multitude of naturalization projects that concern the features of the common-sense world, such as persons, minds, tables, colors, qualia, free will, intentionality, normativity, and responsibility. Sadly enough, however, as Putnam sardonically put it, "none of these ontological reductions gets believed by anyone except the proponent of the account and one or two of his friends and/or students" (Putnam 2004, 62).[18]

In fact, many strict naturalists acknowledge that the alleged reductions of the features of the common-sense world do not work. These philosophers have two possible ways out. Some (such as Paul and Patricia Churchland or the advocates of the so-called "Canberra plan"[19]) take the radical step of dismissing the entire common-sense view of the world as radically wrong. Others (the so-called 'mysterians') claim that we cannot give up beliefs as indispensable as those of freedom, responsibility, morality, or consciousness; consequently, they conclude that the impossibility of naturalizing these notions is, and will always be, an utter mystery for beings like us (McGinn 1999).

Both these proposals are generated by a certain background ideology that they share with all versions of strict naturalism—and New Realism consists, I would suggest, in the view that it is time to abandon this background ideology. As Tyler Burge wrote some time ago:

> The flood of projects ... that attempt to fit mental causation or mental ontology into a 'naturalistic picture of the world' strike me as having more in common with political or religious ideology than with a philosophy that maintains perspective on the difference between what is known and what is speculated. (Burge 1993, 117)

Where common-sense realism unduly neglects science in order to solve the apparent clash of the two views of the world, strict naturalism is based on a dismissive attitude toward common sense that produces very dubious philosophical consequences. It is time to ask if there is a way of embracing a serious dual realism—one that would take seriously both the scientific and the common-sense view of the world.

4. LIBERAL NATURALISM AS THE MOST PROMISING FORM OF NEW REALISM.

In recent years some philosophers have developed new ideas in order to overcome the rigid, and unpalatable, alternative between common-sense realism and scientific realism. In this light, very interesting proposals have come from forms of naturalism that are explicitly based on an egalitarian attitude in regard to science and common sense.[20] It is in that direction that, in my opinion, we should look for the most promising new forms of realism.

In general, in the last years two main families of liberal naturalism have been developed. The first can be called *realist liberal naturalism*. Its advocates attempt to revitalize ontological pluralism without falling back into supernaturalism, the conception that claims the existence of entities that are incompatible with the scientific worldview.[21] The second form can be called *quietist liberal naturalism* and its proponents—inspired by Wittgenstein's quietism or by a naturalized Kantianism or for more substantial reasons—assume a quietist attitude in metaphysics and, consequently, tend to conceive of both the common sense and the scientific views of the world as indispensable, mutually irreducible, and categorically separated ways of conceptualizing the world.[22] These approaches share the idea that strict naturalism illegitimately limits the scope of the term "nature" to the subject studied by the natural sciences. In this respect, one can extend Jennifer Hornsby's view to all forms of liberal naturalism:

> The world in which the mind is accommodated by [liberal naturalism] is naively natural; it contains the objects that we see and we act on; no peculiarly scientific method is required to have knowledge of it. (Hornsby 1997, 12)

However, since quietist liberal naturalism is by definition not concerned with the metaphysical issue of realism, this view is not of interest here.[23] On the contrary, the realist version of liberal naturalism, with its attempt to reconcile common sense and scientific realism in a non-Cartesian pluralist ontological perspective, is the most promising form of New Realism.

The tenets of realist liberal naturalism are:

i. *A liberalized ontological tenet*, according to which some real and nonsupernatural entities exist that are irreducible to the entities that are part of the coverage domain of a natural science-based ontology;
ii. *A liberalized epistemological tenet*, according to which some legitimate forms of understanding (say, a priori reasoning or introspection) are neither reducible to scientific understanding nor incompatible with it;
iii. *A liberalized semantic tenet*, according to which there are linguistic terms that refer to real nonsupernatural entities that do not form part of the coverage domain of natural science and are not reducible to those entities which do;
iv. *A liberalized metaphilosophical tenet*, according to which there are issues in dealing with which philosophy is not continuous with science as to its content, method, and purpose.

Unsurprisingly, realist liberal naturalism is not left unchallenged.[24] The first criticism that this view has to counter is that it is conceptually impossible, because there is no logical space between antinaturalism and strict naturalism. Ram Neta, for example, wrote:

> What if digestion, or respiration, or reasoning are natural kinds, their nature consisting simply in the mechanisms that enable them to occur? Is the liberal

> naturalist committed to denying this possibility? If so, then I confess I can see no good reason to accept Liberal Naturalism. And if not, then I confess I do not understand just what Liberal Naturalism is. (Neta 2007)

Put in this way, this criticism has the form of a dilemma: either liberal naturalism is not liberal enough (because it differs only superficially from strict naturalism) or it is not a genuine form of naturalism at all (that is, it is a form of nonnaturalism in disguise). However, both sides of this dilemma seem ungrounded.[25]

Of course, if (like Goetz and Taliaferro [2008, 95]) one presupposes that in order to be substantially different from strict naturalism a philosophical view should admit that the supernatural plays a causal role in the world, then it logically follows that liberal naturalism is not substantially different from strict naturalism. However, this way of putting the issue is clearly biased in favor of supernaturalism. If one takes a more neutral stance, then to see the deep differences between liberal and strict naturalism it is enough to look at the very different results that—because of their different presuppositions, methods, and goals—the two versions of naturalism arrive at in dealing with concrete issues, from free will to morality, from consciousness to action theory, from the mind-body problem to the ontological status of secondary properties. In brief, while strict naturalists are committed to offering either reductionist or eliminationist analyses in regard to each of those issues, liberal naturalists will tend to take antireductionist stances (even though, it should be noted, they do not have to be antireductionist with regard to all those issues at the same time).

At this point, a strict naturalist could respond that, by expanding the scope of nature beyond the reach of the natural sciences, unavoidably the liberal naturalist paves the way to supernatural entities and explanations. In this perspective, beyond the reach of the natural sciences there is only the supernatural. Against this argument, the liberal naturalist could repeat that they refuse any appeal to the supernatural, both in ontology and in epistemology, but this defense is often contested. As a matter of fact, while the strict naturalist can easily delimit the space of the natural (and, consequently, that of the supernatural) by appealing to the scope of the natural sciences, the liberal naturalist seems to have a problem in this regard.[26]

Let us take the case of mental causation. *Prima facie*, it may seem that if one claims that it is a real phenomenon but not explainable by the natural sciences, one is taking a supernaturalist stance. This, however, is not necessarily the case. Certainly, if one defends a strong form of dualism, according to which an immaterial mind intervenes in the natural world and breaks its laws, then one is *ipso facto* a supernaturalist. But one can instead argue that the mind has causal powers that are neither reducible to nor incompatible with the laws investigated by the sciences of nature (Lowe 2006; Baker 2013, passim).

In general, liberal naturalists relax Quine's ontological criterion, since they do not think that one should only accept the existence of the entities that pull their weight in the best scientific theories of the natural world. In their opinion, one can also accept the entities that are implicit in our other sound and successful epistemic practices (such as common sense and the social sciences), as long as those entities are not incompatible with the natural science worldview.

Liberal naturalists conceive of nature as encompassing both the entities accepted by the natural sciences and those accepted by common sense. In this respect, one can quote Stroud when he wrote: "[We] need a conception of nature that includes a whole world of enduring bodies in space and human bodies and human actions in interaction with them and with one another" (2006, 350)—and add to this also other nonsupernatural phenomena that cannot be explained by the natural sciences, such as phenomenological properties and debts.

At this point, a strict naturalist could reformulate his charge and say that, by refusing the possibility of a totalizing mechanistic explanation of all reality, liberal naturalism, if different from supernaturalism, is still too inclusive from an epistemological point of view, since it makes room for some obviously nonnaturalistic views, such as cultural relativism and deconstructionism. And this would be something that not even the advocates of those views would be happy with.

However, in taking a doubly realist stance that embraces both the scientific and the common-sense view of the world, liberal naturalism is immune from this charge. This conception in fact claims that reality limits the scope of its legitimate interpretations by determining the objective conditions of truth of our scientific and common-sense judgments. Certainly, our judgments, both in science and common sense, are fallible, and always will be; but that does not mean that there are no objective standards of truth, as claimed by cultural relativism, deconstructionism, and the like (Boghossian 2006). [27]

Another criticism against liberal naturalism grants its conceptual legitimacy but claims its implausibility. This criticism has been expressed in different ways. One is based on the 'burden of proof argument', claiming that strict naturalism is the default naturalistic view. In this perspective, liberal naturalists should prove that in principle the natural sciences cannot accommodate some parts of the world, as we know it—particularly in regard to the human world—otherwise theirs would not be a legitimate metaphilosophical option. That is, the liberal naturalist has to prove that some of the features of the world are both ineliminable and in principle irreducible to features acceptable to natural science (see for example, Macdonald [2006, 231]).

This argument is also unconvincing however. First of all, it is unfair that the strict naturalist, who by definition refuses the possibility of a priori arguments, asks the liberal naturalist for an *a priori* demonstration that some features of the world are both ineliminable and irreducible to its scientific features. Moreover, by the same token, the liberal naturalist could argue that the burden of proof is on those who claim that the recalcitrant features of the world (free will, consciousness, debts, and so on) can be reduced to the entities accepted by the natural sciences or explained away.

Another way of putting the charge of implausibility against liberal naturalism is based on the so-called 'Great Success of Science argument'.[28] According to this argument, starting with the scientific revolution the natural sciences have progressively explained an astonishing quantity of previously very mysterious-seeming phenomena, making it possible for us to predict and control many of them at will. Therefore, it is rational to infer that also the problems of agency, consciousness, morality, and so on one day will also be solved (or, at least, could in principle be solved) by the natural sciences.

Not even this argument sounds persuasive. First of all, it is far from obvious that the induction on which this argument is based is adequate. Moreover, as has been noted (for example in Crane and Mellor [1995]), it is unclear to what scientific theories the Great Success of Science argument refers. Certainly, they cannot be present-day theories, since these are unable to solve the problems of agency, consciousness, etc. But who knows what forms the theories that in principle *are* able to explain those problems might have (granting that such theories do indeed exist)? Should we then not confine this kind of speculative reasoning to the (already crowded) realm of overambitious philosophical phantasies? Moreover, this argument begs the question when it is used against liberal naturalism. The latter view is based on the idea that it is rational to believe that some important features of the world are ineliminable and not reducible to the features accounted for by natural science. Just saying that they will be eliminated or reduced because science is intrinsically able to do that sounds very much like a mere repetition of the thesis that liberal naturalists contest.

Finally, another way of denying plausibility to liberal naturalism consists in insisting on the indubitability of ontological and epistemological monism (compare P.M. Churchland [1996]; Schaffer [2014]). From this point of view, all the features of the world that presently look ineliminable and irreducible to features acceptable to natural science are in principle either eliminable or reducible. At the scientific level, this insistence on monism may sometimes be justified as a methodological ideal. However, if one takes monism as a restriction on how reality should be, then not only is it at odds with common sense, but also with scientific practice, since today pluralism is a very common view among the natural sciences;[29] and it goes without saying that the monistic cause becomes even less promising if one takes into account the social sciences as well. Indeed, the idea that pluralism represents a menace for the scientific view of the world is a heritage of an obsolete positivistic view that it would be time to forget.

The attempt to reconcile realism about common sense and realism about science in a naturalistic spirit thus survives all the charges that have been raised against it. The philosophical marsupials may have finally found a new luxurious continent to explore.[30]

NOTES

1. Quine may have represented another exception to the antirealist climax of those years. However, his views on the subject of realism were so nuanced and partially implicit that time after time he has been interpreted as a scientific realist, a common-sense realist, an antirealist, and a metaphysical quietist. For a thoughtful and balanced interpretation, see Keskinen (2012).
2. See the survey of the philosophical views held by contemporary professional philosophers in Bourget and Chalmers (2014).
3. Maurizio Ferraris has been the first to notice that the renaissance of philosophical realism is nowadays common to both the analytic and the continental communities and has insisted on the novelty of some forms of contemporary realism. He is also to be credited with the label "New realism" as it is used today.
4. When discussing the independent existence of an entity, the question is not to be posed in genetic or causal terms. Obviously the table in front of me exists because someone has built it; however, once it is built, the table exists independently of its builder.

5. The definitions of epistemological and semantic realism given above are inspired by Michael Dummett's (1978) seminal work. A different definition of epistemological realism, common in the debate in philosophy of science, is based on the idea that the theoretical claims that concern unobservable entities can constitute knowledge of the world (see Chakravartty 2007, 9).
6. See Chakravartty (2007, 9–13) for a taxonomy of the different forms of realism and antirealism that—if specifically considered within the realism/antirealism debate regarding the natural sciences—can actually be of a general interest.
7. Useful discussions on this issue can be found in Willard (2002) and Wiltsche (2012).
8. A similar view was expressed by another Catholic thinker, Pierre Duhem, who is reported to have called himself "the unceasing apostle of common sense" (Martin 1991, 89).
9. See Chakravartty (2007). The main charges against the miracle argument are that it is based on an inference to the best explanation (which allegedly is either doubtful in itself or not applicable at this metaexplanatory level); that different theories can account for the same sets empirical data; and that the history of science shows that false theories (such Ptolemaic astronomy) can offer excellent predictions. Against these arguments, see Musgrave (1988), Psillos (2011), Putnam (2012), De Caro (2011), and Alai (2014).
10. On epistemic structural realism, see Worrall (1989) and Morganti (2004); on ontic structural realism, see Psillos (2001, 2006), French (2006), and Chakravartty (2007, ch. 3).
11. See De Caro and Macarthur (2004a; 2004b; 2010). In those writings, the preferred name for this view was 'scientific naturalism', but to avoid confusion with 'scientific realism' I will instead use the synonymous label 'strict naturalism'.
12. In contrast to De Caro and Voltolini (2010), this list of the commitments of scientific naturalism also includes a semantic tenet, which I now think is useful to distinguish from the others.
13. Smith (2003) points out that entities belonging to the domain of finance such as electronic money and debts are among the most difficult challenges for the strict naturalist. Another complex case is that of mathematical entities (which many mathematicians, it should be remembered, take for real). The relation between mathematical realism, on the one side, and scientific and commonsense realism, on the other side, is a very complicated issue (see Maddy 1990; Burgess 2008). At any rate, assuming that mathematical entities are real abstract entities (as even Quine does), means moving away from orthodox scientific naturalism, since this view only accepts the existence of entities located in the spatiotemporal world studied by the sciences of nature (see Field [1980] for a fictionalist treatment of mathematical entities in line with a rigorous version of scientific naturalism).
14. An example in this sense is offered by the discussion between the authors that claim that our belief in free will is illusory. Some (such as Smilansky [2002] and Strawson [2010]) argue that it would be undesirable and practically impossible for us to abandon that belief, others (such as Honderich [2002] and Pereboom [2014]) affirm the opposite.
15. A scientific naturalist can actually believe at the same time that the natural sciences have ontological and epistemological primacy and that some natural sciences (i.e., biology) are in principle irreducible to physics.
16. According to Quine in order to determine the ontological commitments of a scientific theory one has to regiment it in first-order predicate logic—which is an expression of Quine's puritanism (on which see below), since in this way no property would ever be admitted in our ontology.
17. De Vries (2005; 2010). On the influx of Husserl on Sellars, see Moran (2012, 292–93).
18. An interesting case in this regard is offered by Searle, who tries to reconcile the ontological puritanism typical of strict naturalism with a defense of an ontology of institutional facts, which in his opinion depend on collective intentionality. For a critical analysis of this view, see Smith (2003).
19. P.M. Churchland (1996); P.S. Churchland (2002); Nolan (2010).
20. From a continental perspective, Maurizio Ferraris's version of New Realism also aims at reconciling both common-sense and scientific realism: see his essay in this issue of *The Monist*. For an older attempt in that direction, see Watkins (1996).
21. See, for example, the proposals of Stroud (1996; 2006), Hornsby (1997), Smith and Ceusters (2010), and Putnam (2012, section I; forthcoming). Baker (2013) defends an interesting emergentist conception, "Near-naturalism", that is compatible with both liberal naturalism and supernaturalism. By adding an antisupernaturalist proviso to that conception, it could be appealing to many liberal naturalists.
22. See McDowell (1994; 1995), White (2007), and Macarthur (2008).

23. For an important criticism of metaphysical quietism in general, see Fine (2001).
24. In the following, for brevity I will refer to realist liberal naturalism as "liberal naturalism" *simpliciter*.
25. Ram Neta's dilemma is discussed more in depth in De Caro and Voltolini (2010).
26. I thank Matteo Morganti for bringing this problem to my attention.
27. In regard to ethics, for example, Putnam (2004) claims that it can be objective, irreducible to nonnormative forms of knowledge, and nonsupernatural (he takes a stance that is epistemically and semantically realist and ontologically antirealist).
28. This argument is discussed and criticized in more detail in De Caro and Macarthur (2004a)
29. See Kellert, et al. (2006). According to an authoritative recent survey, even the possibility of reducing chemistry to physics (traditionally the best showpiece of reductionism) is today widely contested: "Most philosophers of chemistry think that a stronger conception of unity [between chemistry and physics] is mistaken. Most believe that chemistry has not been reduced to physics nor is it likely to be" (Weisberg, et al. 2011).
30. My thanks to Robert Audi, Lynne Baker, David Macarthur, Maurizio Ferraris, Andrea Lavazza, Massimo Marraffa, Matteo Morganti, Hilary Putnam, Barry Smith, Karsten Stueber, Alberto Voltolini, and Stephen White for many useful discussions on these issues. I also thank the audiences of the talks I gave at the University of Notre Dame, Oxford University, University of Massachusetts at Amherst, College of the Holy Cross, University of New Hampshire, Milano San Raffaele, Paris IV-Sorbonne, and Torino for the very useful comments on previous versions of this paper.

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