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Do We Really Need to Ban Scientific Investigations of Other Dimensions of Reality?

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Abstract: The purpose of this article is to offer arguments in favor of doing broad science, which means focusing on the investigation of everything. We argue that doing broad science depends: 1) on adopting the assumption that there are other dimensions of reality since this broadens the horizon of investigation; and 2) on taking care that such assumption does not come to be left out due to the influence of intrusive lines of thought of the most diverse that directly or indirectly advocate the adoption of what we call a micromaterialist perspective. Here we discuss three lines of thought of this kind, which we understand to be well established in current times, especially in the academic environment, namely: the disconnected psychophysical dualism, the short-sighted pragmatism, and the primacy of epistemology over ontology.

Keywords: philosophy of science, materialism, mind-body dualism, pragmatism, epistemology, ontology.

Introduction

Metaphysics is defined, in a broad sense, as the study of reality as a whole (Oddie 2024). Aristotelian metaphysics, for example, defends the existence of a supersensible world in which there are superior intelligences giving order to things; that is, reality as a whole encompasses both our material dimension and, at least, another one (Aristóteles 2012, *Met*, A12, 1073a4–1074b1; Reale and Antíseri 2003, 193–205). In this sense, those who argue that there is only our material world (e.g., Bunge 1981, 23–4) are also dealing with metaphysics, but understand that reality as a whole is made up only of our material world (and that other dimensions of reality, even if made up of matter, does not exist). We can call this view micromaterialism, as it is possible to conceive the existence of a next world up, in which there is also the presence of matter. This is the case of versions of the simulation hypothesis (see also Chalmers 2005; 2022, 45–48). So we have two great metaphysical views of reality, but which should prevail? Unfortunately, science, through published studies, is still unable to help us solve this question. We still don't have confirmations or falsifications of hypotheses about the existence only of our material (or physical[1]) world or the existence of other worlds (and as we know, the absence of evidence about something, of other dimensions of reality, in this case, cannot be taken as evidence of absence).

Since science cannot yet help us reach an answer to the question of which view of reality should prevail, it can only be in the realm of philosophy. Perhaps the strongest argument provided until now against a micromaterialist view of reality is that it "failed to solve the major philosophical problems" (Bunge 1981, x). However, we see this as an imprecise argument, as such a view failing to provide answers to big questions does not imply that it will not do so in the future. In this article, we offer an alternative critique of adopting the micromaterialist view: it is more scientific to consider the existence of other dimensions of reality, as this

[1] Trigg (2015, 45) points out that some philosophers have been replacing the word "materialism" with "physicalism". In this sense, we can also call the perspective we are highlighting microphysicalism.

broadens the horizon of investigation. At the heart of this criticism is the attempt to rescue what it is to do science in essential terms, which refers to focusing on the investigation of reality as a whole (be it micromaterial or beyond it) to open it to everyone through the use of methods that allow the replicability of what was empirically observed (Trigg 2015, 56, 135, 137).

Unfortunately, doing science has been pruned by the most diverse intrusive lines of thought that directly or indirectly advocate the adoption of a micromaterialistic view of reality, but which, in our view, fail to offer satisfactory justifications for this. As a result, in general, current scientific research programs refrain from investigating topics that probably fall outside the territory of micromaterialism, such as the questions "What is life?" and "What have mathematical objects to do with material things?", which, in turn, is probably hindering the development of theories and models capable of providing a better understanding of reality.

1. Intrusive anti-science lines of thought

Next, we will discuss three intrusive lines of thought that we understand to be especially influential in causing the limitation of doing broad science (i.e., the investigation of everything) by leading to the adoption of a micromaterialist perspective on reality.

1.1. The disconnected psychophysical dualism

Psychophysical dualism, the thesis that there is a mind/soul and body separation, was introduced into Western philosophy by Plato, but not with the intention of not speculating about other dimensions of reality. On the contrary, in his view, the focus of speculation should be to investigate such realities (the realities of supreme principles, ideal numbers, Ideas or Forms, and „intermediate" mathematical entities) instead of wasting time trying to understand our material world, the world of appearances as he called it (Reale 1997, 29–32). Another opinion came later with Aristotle, more scientific as we are arguing in this work, which advocates the investigation of both our material and what he called the su-

persensible world (which he understood to be the locus of primary causes of all things) (Aristóteles 2012, *Met*, A1, 982b25–983a25; Reale and Antíseri 2003, 131–205). In this regard, we see that Aristotle proceeded with a bottom-up/top-down analysis of reality, in the sense of considering it constituted by a network of causalities that also occur in our world, thus being causes with a life of their own, so to speak; but considering that the causes of our world would have been previously caused in the supersensible world, specifically by the desires and driving forces of superior intelligences (Reale and Antíseri 2003, 207).

It is important to note that both Plato and Aristotle did not defend the non-existence of an interaction between worlds (the non-existence of a causal network between them). Both considered, for example, that the soul had the power to animate the matter of our world, that is, they understood reality as an integrated whole (although for Plato part of this whole was not worth investigating). However, from Descartes onwards, the balance ceases to swing on whether or not we should investigate our material world (the investigation of at least other world was a consensus), to be fixed to the point that we should investigate only our material world (Bunge 1981, 10–12). He started this process not defending the inexistence of another dimension of reality, but that it practically does not connect with our material world, in particular arguing that the soul does not provide any animic principle over the body (the soul would be responsible for thought, but not for life; so that the body would be nothing more than an automaton machine) (Reale and Antíseri 2004, 283–316). The diffusion of his conception, of the non-existence of causal connections between worlds, opened space for the defense of reducing the breadth of investigations to the limits of micromateriality, which was reinforced by recurring successes in understanding our material world. By the way, Aristotle would not doubt that such successes of understanding would occur, since, for him, the matter of our world was also a source of causalities, although not the first ones (Aristóteles 2012, *Met*, A1, 1983a1–1984b1).

Still regarding the successes mentioned above, many consider that the investigation of reality based on the assumption of the non-existence of any connection between our and other worlds (or even the non-existence

of other dimensions of reality) has provided significant advances in the understanding of our world by preventing scientists from quickly attributing the cause of observed phenomena to entities from other dimensions of reality and thus giving up too soon the search for explanations (e.g., Bunge 1981, 12; Trigg 2015, 32). However, we see that this argument is problematic for two reasons. First, because there is a clear underestimation of scientists, considering them hostage to their biases, incapable of using reason in favor of discovering truths (cf. Pinker 2021, ix). Second, because the elaboration of refined methods capable of reducing the risk of scientists producing studies that confirm their beliefs rather than discoveries came after the consolidation of the notion of disconnected psychophysical dualism (i.e., disconnection between worlds) and the subsequent disinterest in the investigation of other dimensions of reality, as a result, it is to be expected that discoveries about reality itself would be restricted only to the sphere of our material world. But such success does not represent a failure to reach discoveries regarding other dimensions of reality, since there has not even been a significant effort to investigate them through scientific methods.

1.2. The short-sighted pragmatism

Pragmatism refers to the line of thought that supports the attitude of "not wasting time on abstractions that do not produce practical benefits", which can lead to the conclusion that it is not worth investigating other dimensions of reality; on the assumption that, if there are other worlds, it is not necessary to worry about investigating them, as to predict and control the world we live, it is enough to investigate this part of the reality. This assumption is supported by evidence of successes obtained in exclusively investigating our world, among which is to provide us with "unimaginable" technologies (Trigg 2015, 4–5). However, we consider this assumption fragile because of what we have already mentioned: such successes do not represent a failure to reach discoveries regarding other worlds connected with ours, considering that there was not even a significant effort to investigate it through refined methods; so that, in case such worlds connected with ours exists, discoveries concerning them would

certainly produce an increase in our ability to predict and control reality as a whole, as well as providing us with "unimaginable" technologies.

It is noted that, in pragmatism, the ability of scientists to understand reality as a whole is not questioned, but the usefulness of investigating it. However, as Kurt Lewin (1951, 169) accurately observed: "There is nothing as practical as a good theory"; so there is always utility in any further understanding of reality. In this sense, pragmatism errs in finding unnecessary the scientific investigation of supposed worlds connected with ours precisely because of short-sightedness, or even blindness, concerning the practical benefits that understanding them can bring. In case Aristotle is right, that the first causes start from supposed other worlds, the slightest understanding of them can generate significant control and prediction effects in the world we live in, along the lines of what the chaos theory advocates: "small, undetectable variations in initial conditions can make big differences" (Trigg 2015, 102); so that if we can detect the flap of a butterfly's wings on one side of the next world up, perhaps we can predict a hurricane on ours. It is important to note that a better understanding of reality as a whole does not only imply being able to predict hurricanes (i.e., major events) in our world but also offers a basis for better individual day-to-day decisions. Chalmers (2022, 311–321) highlights this by suggesting an ethics of how we should live our lives if the simulation hypothesis is true.

We would like to emphasize that we do not see a problem with the idea of analyzing the usefulness of an investigative endeavor if this is to establish degrees of prioritization, but we do see a problem if such analysis results in the limitation of what should be investigated since the role of science is to investigate everything and not only what appeals to the consensus opinion of researchers at a time. Today, the consensual opinion leads to the non-investigation of supposed other dimensions of reality (but it could lead to the non-investigation of our world if the opinion of our time reflected that of Plato). The point is that short-sighted pragmatism is not a line of thought that works with degrees of prioritization but with the dichotomy of "Is this worth investigating or not?". As a result, this line of thought invites the practice of selection biases of research-

ers from a time that undermines science itself, since it guides the non-investigation and understanding of "pieces" of reality that can be useful in the sense of providing the solution to the puzzle of understanding it as a whole.

1.3. The primacy of epistemology over ontology

A great enemy of doing broad science lies in the overvaluation of "how" to the detriment of "whys" in the sense that the limitation of current knowledge about the "means" ends up determining what can be investigated. This implies considering that the nature of reality, namely ontology, is as or less important than epistemology (i.e., how we gain knowledge) (see Lakatos 1978; Trigg 2015, 10).

The devaluation of ontology over epistemology led to a phenomenon in science that Maslow called "means centerings", which he defines as the "tendency to consider that the essence of science lies in its instruments, techniques, procedures, apparatus, and its methods rather than in its problems, questions, functions, or goals" (Maslow 1954, 11), which he observed generates the following attitude on the part of scientists:

> Means-centered scientists tend, in spite of themselves, to fit their problems to their techniques rather than the contrary. Their beginning question tends to be Which problems can I attack with the techniques and equipment I now possess? rather than what it should more often be, Which are the most pressing, the most crucial problems I could spend my time on? (Maslow 1954, 13).

We then have a "not looking at big questions", which includes the existence or not of, at least, a supposed next world up based on the notion of the type "if the methods we have available today do not make it possible to investigate it, it is better to ignore it" (see Trigg 2015, 7–10). However, we understand that this notion is permeated by two misconceptions. First, because the methods created so far were intended to investigate our world, then it is to be expected that they are not useful for the investigation of another one; so ignoring it based on "not being able to investigate it" represents a pessimistic anti-scientific attitude of giving

up before trying; an attitude that we can see in Kant´s writings, for example (see Kant, 2020, 270; Reale and Antiseri 2005, 403). In this sense, if the methods created were aimed at the investigation of our world and if it is determined what is worthy of being investigated based on what methods have already been created, the horizon of scientific investigation becomes limited. The second misconception that we see is present in the aforementioned notion that seems to be at the root of "giving up before trying" is that it is impossible to create methodologies to investigate supposed other dimensions of reality. Human beings have proven time and time again that they are capable of creating means capable of making what was believed to be impossible possible. In the field of science, new technologies provide the means for new forms of empirical testing; so that what today seems to many impossible to investigate, as in the case of supposed other worlds, may in the future become something as investigable as our world is today. Thus, "the metaphysics [in the strict sense of something beyond the physical] of an epoch can be developed in the physics of a subsequent one" (Trigg 2015, 90).

Final considerations

The title of this work uses the word "ban", but of course, we are not referring to an official ban because science is not a centralized institute in which a minority determines what should or should not be investigated. The banishment to which we are referring is of another type, which occurs in practice because we naturally want to have group acceptance and achieve status positions (see Osmo 2023). We live in a time when the metaphysical perspective of reality prevailing in academia is that there is only our material world (without empirical support for this view), which ends up defining what kind of research deserves praise or not (and of course, which ones deserve funding). The maintenance of such a view is fed back by the dogmatic statements of influential researchers of our time, as when they firmly disdain popular beliefs in things or entities that refer to the existence of other dimensions of reality (e.g., Bunge 1981, 12; Pinker 2021, 267; Shermer 2011). As the point of view of leaders is of

fundamental importance for the formation and establishment of a culture (Fowers 2015, 204), the result of such disdains is that we have today an academic culture that encourages repudiation of attitudes related to considering the existence of supposed other dimensions of reality; so that anyone who decides to pursue a career as a researcher is practically obliged to put aside any investigation into possible other worlds (even if he or she has an interest in investigating them) to avoid the threat of having his or her reputation scratched, and thereby losing his or her status (if he or she already have one) or even being expelled from the group, which means being classified as a pseudoscientist. In this regard, bearing in mind that the primary objective of science is to "uncover the secrets of the one reality, which itself normally operates in a consistent and regular fashion" (Trigg 2015, 111), it is important to emphasize that secrets of reality may be partially revealed in the form of „half-truths" present in common sense (see Mill 2017, 108–9; Nussbaum 1994, 24–6). As this can be the case of phenomena originating from supposed other dimensions of reality, our duty as scientists is to investigate it to verify if there is even some level of truth in the common opinion about possible other worlds, and with that if it can be a gateway to new discoveries.

Unfortunately, we have a set of incentives in the academic environment that undermines doing broad science, which means focusing on the investigation of everything, supported by the elaboration and application of methods that make it possible to objectify reality, which includes the attempt to replicate evidence likely to come from beyond our material world. What we proposed in this article is precisely the rescue of doing broad science, which we argue that to occur it must start from the assumption that there are other dimensions of reality, as this broadens the horizon of investigation, taking care that this perspective does not become ruled out due merely due to the influence of the most diverse intrusive lines of thought, such as the three that we have exposed.

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