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NATURALISED REALISM IN THE METAPHYSICS OF SCIENCE: HUME'S "MITIGATED SCEPTICISM" ON CAUSALITY AND REALITY

Realismo naturalizado en la metafísica de la ciencia: El "escepticismo atenuado" de Hume sobre la causalidad y la realidad

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Abstract

The inception of modern science, in the 17th century, was accompanied by epistemological analyses that consider its foundation as laid on observation and experiment — a stance often regarded as excluding (or, at least, devaluating) metaphysics, especially in the English-speaking world. Qualms about metaphysics are already noticeable in Locke's *Essay* (1690), and were supposedly deepened by Hume, in the following century. For almost two hundred years, Hume's philosophy was regarded as radically sceptical concerning metaphysics generally, but particularly about causality and the very existence of an external, objective reality. In this paper, we argue, following a more recent interpretive vein in Hume's scholarship, that Hume's scepticism about these basic metaphysical issues was effectively "mitigated" (in his own words) by his pioneering adoption of a form of naturalised realism. According to it, belief in both causal relations and in the external world is taken as resulting from the natural operations of the human mind and, in this condition, as being justified, in an epistemologically non-ordinary sense of this notion. As a consequence, epistemology was seen by him as an undertaking akin to the natural sciences, both employing similar empirical methods and metaphysical hypotheses to explore the mind, in the former case, and the physical world, in the latter. Thus, instead of interpreting Hume as one of the forerunners of the anti-metaphysical trend within empiricism, we believe that his wide-ranging project of instituting a "science of man" made some room for metaphysics, as cultivated within the same fallibilistic, naturalistic approach of empirical science itself.

Key-words: Metaphysics of Science; Naturalised Epistemology; David Hume; Causation Problem; External World Scepticism.

Resumen

El surgimiento de la ciencia moderna en el siglo XVII estuvo acompañado de análisis epistemológicos que la consideran fundada en la observación y la experimentación, una postura que a menudo se percibe como excluyente de (o, al menos, hostil a) la metafísica, especialmente en el mundo angloparlante. Las dudas sobre la metafísica ya eran evidentes en el *Ensayo* de Locke (1690) y, supuestamente, fueron profundizadas por Hume en el siglo siguiente. Durante casi doscientos años, la filosofía de Hume fue considerada como radicalmente escéptica respecto a la metafísica en general, pero en particular sobre la causalidad y la propia existencia de una realidad externa y objetiva. En este artículo, argumentamos, siguiendo una línea interpretativa más reciente en los estudios sobre Hume, que su escepticismo respecto a estos problemas metafísicos fundamentales fue efectivamente "atenuado" (en sus propias palabras) por su adopción pionera de una forma de realismo naturalizado. Según esta perspectiva, la creencia tanto en las relaciones causales como en el mundo externo se entiende como resultado de las operaciones naturales de la mente humana y, en esta condición, como justificada, aunque en un sentido epistemológicamente no convencional de esta noción. Como consecuencia, Hume concebía la epistemología como una empresa afín a las ciencias naturales, en tanto ambas emplean métodos empíricos similares e hipótesis metafísicas para explorar, respectivamente, la mente y el mundo físico. Así, en lugar de interpretar a Hume como un precursor de la tendencia antimetafísica dentro del empirismo, sostenemos que su amplio proyecto de instituir una "ciencia del hombre" dejó cierto espacio para la metafísica, cultivada dentro del mismo enfoque falibilista y naturalista de la propia ciencia empírica.

Palabras clave: Metafísica de la ciencia; Epistemología naturalizada; David Hume; Problema de la causalidad; Escepticismo sobre el mundo externo.

1. Introduction

> Understanding will come, therefore, only if we allow ourselves to indulge in a little metaphysics, only if we ask ourselves what "non-local" theories tell us about the world. This is more than a little frightening to those of us who are the metaphysically repressed children and grandchildren of the Viennese diaspora. But duty calls, so sin, if sin we must. (Don Howard, 1989, p. 225).

Although modern and contemporary science emphasises the empirical method for producing knowledge, there are several metaphysical questions underlying scientific practice that date back to Antiquity and were renewed with particular emphasis in the modern period. Two of the most basic of them are: 1) Does an "external" world exist, in the sense that the physical bodies studied by natural science have a reality independent of being observed? 2) If so, are there causal relations between the bodies that make up this physical world, in the sense of metaphysical links that

would be responsible for the occurrence of events according to regular laws? Although philosophers interested in natural philosophy (the current natural sciences) were aware of these issues in the 17th and 18th centuries — and in many cases discussed them explicitly —, with the advancement of science, especially from the 19th century onwards, they were usually ignored by the scientists, precisely because they are metaphysical, *and therefore* no longer belonged to the scope of science. However, these questions unexpectedly resurfaced in the realm of science in the 20th century, due, particularly, to certain theoretical characteristics of quantum physics.

Some of the founding fathers of quantum physics were led to deny the objectivity of physical knowledge, or to propose that there are physical events entirely lacking causes. In his reply to the Einstein-Podolsky-Rosen 1935 paper (EPR, 1935), Bohr claimed, for instance, that "the *finite interaction between object and measuring agencies* conditioned by the very existence of the quantum of action entails […] the necessity of a final renunciation of the classical ideal of causality and a radical revision of our attitude toward the problem of physical reality" (Bohr, 1935, p. 697; italics in the original). Such anti-realistic views rapidly became dominant, forming the so-called "Copenhagen interpretation of quantum mechanics". Einstein and Schrödinger were among the few dissenters. The heated debate on these philosophical issues became famous, and lasted for several decades, with no clear resolution (Brown, 1981). Unexpectedly, however, this philosophical debate opened up important areas of scientific research in physics, when new actors entered in scene — notably David Bohm, with his proposal of a "causal interpretation of quantum mechanics" (Bohm, 1952), and John S. Bell, with his proof that "causal", or "deterministic" theories such as Bohm's, must be nonlocal (Bell, 1964). The subsequent, very complex experimental tests of the Bell inequalities belatedly led to a Nobel Prize, in 2022.[1] Thus, independently from other classical reasons, philosophers *and physicists* appear now entirely justified in rekindling their interest in the metaphysical issues of causality and reality. However, instead of delving into the details of the many metaphysical issues specifically related to the foundations of contemporary physics, in this paper we will examine the two

[1] There is a vast literature on these issues. Some of it is discussed in depth in Chibeni (1997b). Among the classical reviews of the literature, we mention, for instance, D'Espagnat (1983). An insightful analysis of the links between metaphysics and the new results in the foundation of quantum physics is provided by Michael Redhead in a short, but insightful book, *From Physics to Metaphysics* (1995). Another influential text on these links is Shimony (1989) "Search for a worldview which can accommodate our knowledge of microphysics". It was in this paper that he provocatively introduced the seemingly paradoxical notion of an "experimental metaphysics".

above-mentioned issues that were of paramount interest to the philosopher-scientists promoting the advent of modern science. In particular, we will examine the positions assumed by David Hume, not only because he is one of the greatest modern philosophers, but also because, ironically, he still is widely believed to have been one of the main precursors of the *anti*-metaphysical tide that reached its peak within the logical positivist movement, in the early 20th century.[2]

For nearly 250 years, Hume was regarded as a radical sceptic about those two metaphysical questions (among others), and therefore as someone who had *not* contributed positively to philosophy in general, especially to the epistemology and metaphysics of science. In this traditional interpretation, Hume's philosophy is seen as essentially "negative", in the sense of dismantling classical conceptions of philosophy, especially regarding causation, without proposing any substitute or alternative route. However, in the second half of the past century, a ground-breaking reinterpretation gained prominence among scholars: the naturalist reading of Hume's epistemology. It was first introduced in two largely overlooked papers published by Norman Kemp Smith (1905a, 1905b) in *Mind*, which were later expanded in his 1941 book. The papers, suggestively called "The Naturalism of Hume" (parts 1 and 2), anticipated many decades of the use of the word 'naturalism', which was to become widely discussed as a result of the pioneering proposal of Willard Quine, in his "Epistemology naturalized" (1969).[3] According to the naturalistic interpretation of Hume's epistemology, his empiricism acknowledges — *but circumvents* — scepticism on causation and reality by rendering it *irrelevant* to empirical inquiry involved in science (including his "science of man").

Our objective in this paper is to argue that by adopting a perspective we would nowadays call "naturalist", *Hume effectively paved the way for considering that the natural sciences do indeed rest on an underlying metaphysics*, thus largely neutralizing *the classical rejection of metaphysics in the name of empiricism*. Before getting into details, we warn the reader that this article is *not* an in-depth analysis of the contrast between the two interpretations of Hume's philosophy. Neither is it an exegetical reconstruction of his texts, but rather an attempt to show how a pioneering,

[2] In listing their predecessors in the fields of "positivism and empiricism", the logical positivists included Hume (see Hahn, Neurath & Carnap, 1929, p. 304), well at the opening of the list. Readers inattentive to Hume's own texts have, then, a-critically accepted the idea that Hume shared with the logical positivists the notorious aversion to metaphysical issues whatsoever.

[3] For a broad survey of naturalism in epistemology, see Abrantes (1993a, 1993b, 1998), Sousa (2017) and Rysiew (2020).

but yet historically neglected version of naturalism, can contribute to addressing two of the deepest problems in the metaphysics of science: the problem of causation, and the problem of the existence of the external world. Our choice of these two *loci* of analysis is motivated not only by their historical importance, but also, and mainly, by the fact that they are logically prior to the more specific issues related to the metaphysics of science, typically associated with historically situated theories of science.[4] And, although Hume himself paid close attention to a relevant sample of such specific metaphysical issues — as the nature of space and time, the distinction between primary and secondary qualities, the existence of action-at-a-distance, etc.[5] — we will leave these discussions aside, focusing on the above-mentioned basic metaphysical problems, in order to establish an appropriate, general metaphysical background on which these more specific issues can be discussed.

2. The Epistemological and the Ontological Problems of Causality

In dealing with the problems of the external world and causation, it could be thought natural to discuss them in this order, since we cannot examine the issues related to causality among physical bodies unless they actually exist. However, we will deliberately invert this order, for two main reasons. First, in the *Treatise of Human Nature* they are presented in this order. Secondly, his epistemological theory links the issues in such a way that his main reason for scepticism about the external world depends on his theory of causality.

It is a view commonly held by philosophers that Hume argued that we cannot justify our belief in causal relations by rational means. We agree with this view. Hume's detailed and powerful sceptical arguments are articulated in the third part of the first book of his *Treatise on Human Nature* (1739/40) and in section 4 of the *Enquiry on Human Understanding* (1748).[6] This is the Humean version of the *causation problem,* often mistaken for

[4] Indeed, if the very existence of physical objects, constituting par excellence the subject matter of the natural sciences, or the basic, causal mode of interaction between them, are called into question, no further discussion is possible concerning particular, derivative metaphysical issues resulting from the philosophical analysis of specific scientific theories or research programmes.

[5] For a specific analysis on how the "New Hume" interpretation impacts the debate about natural laws in the metaphysics of science, see Borge & Azar (2015).

[6] These books will henceforth be denoted by '*Treatise*' or '*T*', and '*Enquiry*' or '*EHU*', and the references follow the now standard, scholar editions found in the Reference list. For instance, '*T* 1.3.8.5' means paragraph 5 of section 8 of part 3 of book 1 of the *Treatise*; and 'EHU 5.2' denotes the paragraph 2 of section 5 of the *Enquiry*.

the *induction problem*.[7] Hume was led to his detailed analysis of causation — undoubtedly the most significant contribution to the field since Aristotle — by his interest in the Lockean issue of the limits, or extension of human knowledge. In particular, he was interested in determining how we can know matters of fact that have not yet been observed, or that cannot be observed at all. In the *Treatise*, the path leading to this problem is rather complex, and will not be discussed here. In the simpler approach adopted in the *Enquiry*, it is formulated at the beginning of section 4, whose title is "Sceptical doubts concerning the operations of the understanding". In EHU 4.3 he asks: "What is the nature of the evidence that assures us of any real existence and matter of fact, beyond the present testimony of our senses, or the records of our memory?" Hume is thus interested in how we can — if at all — be assured about facts that are not directly accessible to our senses at the present moment or are not memories of past experiences. On what basis are our beliefs in such facts founded? Hume then maintains that any belief on unobserved matters of fact must be founded on *causal inference*, or "*reasoning*", as he says: "[…] all reasoning concerning matters of fact seems to be founded on the relation of cause and effect. Only using this relation can we go beyond the evidence of our memory and senses" (EHU 4.4). For example, whenever we see a stone falling towards a hard ground (cause), we expect that soon a sound will be heard (effect).

The next step is, then, to inquire into the grounds and nature of our knowledge of the causal relations. And here Hume's answer is unequivocal: our knowledge of such relations derives entirely from *experience*. As to what kind of experience this is, the proposal is, again, clear: inferential knowledge of matters of fact "is in no case obtained by a priori reasoning but arises entirely from experience, when we find that certain objects are *constantly conjoined* with each other" (EHU 4.6, our italics). Besides some controversial auxiliary assumptions put forward in the *Treatise*, but not in the *Enquiry*, the constant conjunction of phenomena is the empirical kernel of causality. But then a new question arises: what assures us that the observed conjunction will continue to be observed in the future, or

[7] The problem of causation is a problem involving generalization of experience, much like the problem of induction, but it is *not* limited to that. By labelling Hume's causation problem as the "problem of induction", we overlook a fundamental element of his entire philosophy: *causality*. For example, the question of whether all swans are white simply because all the ones we have seen so far are white is an instance of the problem of induction, whereas the question of whether gravity will cause a stone to fall if we drop it from a window is an instance of the problem of causation. As Monteiro rightly observes (2009, p. 12, 104), Hume *never* used the term 'induction', mainly because his primary concern was not the relationship between *objects and qualities*, but rather the relationship between *causes and effects*. On this point, see Monteiro (2001).

otherwise unobserved cases? This is the most sensitive issue in Hume's epistemological theory. His answer is, in a nutshell, that no "process of the understanding", be it rational or empirical, can give us such an assurance. Hume's powerful arguments to this conclusion cannot be examined here. We just notice that it was mainly these arguments that established Hume's reputation of being a radical sceptic about causality (or "induction", in the ordinary, but misguided reading of Hume's analysis), and therefore, given the other parts of his analysis, about any kind of empirical belief on unobserved matters of fact.

According to the ordinary, "old" reading, Hume's arguments against rational justification for causal inferences and the independent existence of the external world amount to a form of epistemological scepticism.[8] Hume would have dismantled the rationalist foundations of knowledge, without offering a constructive alternative beyond an appeal to custom and habit. This interpretation was adopted by figures such as the logical positivists, Russell and Quine, among others. As it happens, however, they typically restricted their analyses to the sceptical conclusions drawn by Hume (in the *Enquiry*, section 4, "Sceptical doubts concerning the operations of the understanding"), without noticing that this was intended by Hume as *preliminary* to his positive, naturalistic theory of causal inferences (EHU, section 5, "Sceptical *solution* of these doubts"). Before Hume, Locke had already shown, although by entirely different means, that it is vain to expect certain knowledge in most realms of human concern, including science.[9] Probable belief is *all* we can reasonably expect to attain concerning unobserved matters of fact — *a point we cannot emphasise enough in the appraisal of all the theses we are defending in this paper*.

In the new reading of Hume's texts proposed by Kemp Smith and other authors in the second half of the 20th century — dubbed "The New Hume" by one of its critics —, the focus of analysis shifted to the positive theory proposed by Hume.[10] Just for the record, there are *ten* dense sections

[8] For a detailed analysis of the current debate among Hume scholars about the sceptic *vs*. naturalistic reading of Hume, see Millican (2009) and Read & Richman (2000).

[9] It was Locke who first observed that all knowledge that experience can provide, no matter how probable, is not certain knowledge (*Essay* IV iii 14), so that a perfect empirical science, which produces certain and universal knowledge of matters of fact, is beyond our capacity and would be a futile endeavour to pursue (*Essay* IV iii 29). A detailed examination of Locke's arguments can be found in Chibeni (2005a).

[10] Besides Kemp Smith's article and book (1905, 1941), two of the most influential works in the new interpretation are John Wright (1983) and Galen Strawson (1989). The ensuing debate was ironically dubbed "The New Hume" by Kenneth Winkler (1991). Before the debate begins, an incisive, if compendious, warn against the sceptical interpretation was made by Nelson Goodman in his well-known "The new riddle of induction" (Goodman,

on the positive, naturalistic theory of causality in part 3 of book 1 of the *Treatise*, and several others in the *Enquiry,* beginning with section 5. The first reason why Hume didn't stop at his sceptical conclusions is that in his view they do *not* imply that we are not allowed to form *reasonable* (but not rational) *beliefs* in causal inferences (EHU 7.25). To reject completely their epistemological legitimacy is absurd, for it would mean not only the denial of our ordinary epistemic practice, but also the *modus operandi* of science, which typically links causally the objects and events in the world. Therefore, as one of us argued elsewhere (Chibeni, 2014, p. 11), Hume did not merely reject the *a priori* view of causal explanations; he "faced the challenge of seeking foundations for such important inferences" and, by doing so, he developed his own naturalistic theory on the matter.

For the sake of brevity, we will limit ourselves here to section 5 of the latter book. As we have noticed, it is named "Sceptical solution of these doubts". It is clear, then, that Hume had a *solution* to the sceptical doubts raised in section 4. It is disarmingly straightforward: it is just *custom* (or *habit*), in conjunction with *imagination,* that gives us the sought epistemic "assurance" about causal inferences concerning unobserved matters of fact. Hume cautiously talks here of *assurance*, not of *demonstration*, because the proposed custom-based inferences are not *logically valid*, and therefore do not guarantee their conclusions with apodictic certainty, even when the premises are taken for granted. Accordingly, the whole, and all-important, realm of beliefs generated by causal inferences consists just of *beliefs*, *not knowledge*, in the strict sense adopted by the modern philosophers. By producing beliefs, but not knowledge, the experimental reasoning upon which all conduct of life depends, "is nothing but a species of *instinct* or *mechanical power*, that acts in us unbeknown to ourselves" (EHU 9.6, our italics; see also EHU 5.22). In other words, "not only is habit an instinct, but the very experimental reasoning arising from this instinct is also instinctual" — instinct, here, taken as the opposite of rational, autonomous deliberation, that is, "something natural, automatic, mechanical" (Santos, 2023, p. 8).

The fact that Hume's "solution" to the sceptical problem of causality has not been recognised as such for so much time is certainly linked to the fact that habit — its kernel — has never been previously considered to have any epistemological relevance *at all*! To fully appreciate this move of Hume's requires a complete reversal of the typical, aprioristic approach to epistemology. Hume does not seek to overcome the sceptical doubts by offering new *arguments*, but by *changing the entire epistemological game*. From this point on we need to *supplement* classical epistemology with a

1954/1983). See also Craig (1987), Loeb (2002), Read & Richman (2000).

new "tool": the empirical study of the mental processes responsible for belief formation. This is just what was later called "epistemology naturalized" by Quine, in his well-known 1969 essay. Both in the case of Hume's theory and in Quine's approach, this ambitious new project arose from an acute sense of powerlessness of classical epistemology in dealing with some of the basic issues of human knowledge. In a rough metaphor, these authors see epistemology as a "hybrid car": when one of its engines ceases to work, the other assumes its function and keeps the car going.

We have no space here to justify our sympathy for this new approach in epistemology. We just want to expand a little more the discussion of Hume's proposal, to see what costs and benefits it implies in the context of our investigation. The major cost is, as we remarked, a profound rupture with the classical approach in epistemology. But if it was already showing clear signals of powerlessness to deal with such important issues as causality and the reality of the physical world, it was perhaps time to explore alternatives.[11] Thus far we saw that the naturalisation of the epistemological issue of our putative knowledge of unobserved matters of fact — via naturalisation of the causal inferences — does already represent a potential gain. It avoids radical proposals of banishing causality from the realm of physical objects, such as the well-designed theory put forward by Berkeley a couple of decades before Hume; or Russell's even more radical proposal of banishing causality from philosophy altogether.[12] In Hume's naturalistic approach, causal inferences, amply regarded as an indispensable tool not only in science but also in everyday life, are rehabilitated as *bona fide* intellectual instruments.[13]

As we have already remarked, Hume's new epistemological theory, belief in the causal relations between events is derived from the habit produced by past experience in conjunction with imagination. But, again, the imagination was, like habit, a mental faculty invariably regarded as alien to epistemology. Hume argues, however, that the human mind is naturally inclined by the imagination to form *associations*[14] between events

[11] Notice, for instance, that, in exposing the doubts about the possibility of a rational justification of knowledge of causation, Hume has had predecessors, the most important of whom being Nicolas Malebranche. His main doctrine is expounded in *De la recherche de la verité*, first published in 1688.

[12] For a detailed analysis of Berkeley's theory, see Chibeni (2008a). Russell's indictments on causality and his later recantation from this position were examined by Chibeni (2001).

[13] There is ample textual evidence that Hume took seriously his custom-based causal inferences, and not as only a epistemically irrelevant psychological phenomenon. See, for more detail, Chibeni (2008b).

[14] It was Locke who first introduced this concept, and pejoratively so, as he did so in

that are frequently observed together, suggesting that this propensity is the result of a natural disposition. He repeatedly says it is a "species of instinct", akin to other innate, non-experience-induced instincts of man and beasts. Since reason cannot establish the connection between objects, even with the repeated observation of their conjunction, our belief in causal relations is guided by principles of association that unite ideas in the imagination (T 1.3.6.12). Imagination is shaped by experience, and it is on this interplay between habit and imagination that the principle of causal association is rooted. Without this associative process, we would be utterly unable to infer causes from effects or vice-versa, and consequently to form any belief about unobserved matters of fact. Causal inferences result from "a species of natural instincts, which no reasoning or process of the thought and understanding is able, either to produce or to prevent" (EHU 5.8). It is involuntary and essential to human life, as are the other instincts. The custom of inferring causal relations is our guiding principle both in science and in everyday life, allowing us to learn from experience and expect the future to resemble the past. Without it, we would know nothing beyond immediate perception or memory (past perception), being unable to associate causes with effects. As a result, both action and reasoning about matters of fact would cease, and therefore we would not be authorized to believe that fire burns and water refreshes, that impact is followed by sounds, and so forth. Habit, as he says, is the "great guide of human life"; it is this principle that makes our experience useful, enabling us to adapt means to ends and providing knowledge of matters of fact beyond the immediate testimony of the senses and the records of memory (EHU 5.6).

As a sign of the radical novelty of Hume's theory of causality, notice that not even a refined mind such as Russell's was able to recognise it as a serious epistemological proposal. In a chapter of his *A History of Western Philosophy* (1945) dedicated to Hume, he offers a classical sceptical reading of Hume's epistemology, arguing that his account of causal belief merely *describes* how we form such beliefs through habit and imagination, without actually *justifying* them. Since justification, in Russell's view, must be rational, and Hume denies the possibility of rational justification for causal inferences, he is taken by Russell to be a consummate sceptic or even an irrationalist. Russell says that Hume's philosophy "represents the bankruptcy of eighteenth-century reasonableness", adding that the Scottish philosopher arrived at "the disastrous conclusion that from experience and

the context of warning against the risk of hasty associations (cf. *Essay* III xxx). Hume, rather than emphasising the fallibility of natural associations (as Locke did), conceives them as the fundamental element for *legitimising* (although not for justifying), from an epistemological standpoint, our habit of making causal inferences.

observation nothing is to be learnt", and that "there is no such thing as rational belief" (1945, p. 672). We beg leave to strongly disagree.

As a final remark in this section, we notice that this issue of the grounds of the causal *inferences* does not exhaust the causation problem. In a more metaphysical vein, we can now ask whether causation has some kind of *ontological reality*, or whether it belongs simply to the way human minds (and, according to Hume, the other animals' minds too)[15] function when "fed" with the constant conjunction of events and/or objects. Although Hume's answer to the epistemological aspect of the causation problem is undoubtedly naturalistic, Hume's answer to the metaphysical aspect of the causation is not that clear. There is controversy about this in the literature, some authors holding that on this topic, at least, Hume's scepticism prevails; and some others boldly attempting to show that Hume held a cautiously realist view on the ontological status of causality. Again, this is not the place to delve into this polemic.[16] For our purposes, it is enough to point out that the very fact that Hume *did* discuss this metaphysical issue casts doubt on the usual view that his philosophy was completely hostile to metaphysics generally; if it were, the dense section 14 of the third part of book 1 of the *Treatise* and the equally substantial section 7 of the *Enquiry* would not have been written. On a more general plan, it should also be remarked that in the charming first section of the latter book, Hume contrasts two kinds of metaphysics, arguing that we "must cultivate *true* metaphysics with some care, in order to destroy the false and adulterate" (§ 12). In the following section, we shall see that, *mutatis mutandis,* a similar understanding is possible concerning Hume's stance on our second major metaphysical in this paper, the reality of the external world.

3. The Reality of the External World

One of the most important problems of modern philosophy is whether besides and beyond the immediate objects of our own mind — "ideas", in the parlance of the epoch —, there is an objective, "external" reality,

[15] The inclusion of non-human animals in the discussion of the problem of causation is one of the most original — and relevant — contributions of Hume. Although he recognises that the relations of ideas (a priori reasoning) still distinguish human thought from that of animals, his inclusion of causal reasoning in the broader scope of human cognition marked a bold intellectual step (see Chibeni 2014: 18). In doing so, Hume expanded the concept of reason beyond demonstrative reasoning to embrace empirical, causal inference — a redefinition of empirical knowledge similar to later shifts seen in the work of Willard Quine. See the sections specifically devoted to it in T 1.3.16 and EHU 9; see also Chibeni (2014), and Santos (2023).

[16] For a recent, thorough discussion on the topic, see Fabian (2022).

corresponding to these ideas, and represented by them in the mind. As it is well known, this problem was originally raised by Descartes in the first book of his *Meditations* (1641) and positively answered by him in the sixth, last book. Descartes' argument is "rational", in the sense of being entirely based on a priori considerations, purportedly "demonstrating" their conclusion. But, as with any argument, Descartes's proof rests on several premises; and both them and the very validity of the inferences in the complex proof were soon called into question by subsequent philosophers. Rejecting Descartes's proof and, indeed, his whole aprioristic approach to this specific, central issue in philosophy, but not wanting to become a sceptic, Locke endeavoured, in the eleventh chapter of book IV of his *Essay*, to devise another argument for the belief in the external world. This argument is, in fact, a series of plausibility reasons for the *belief* in such a world. For Locke, this was all we could hope for in this case. Berkeley, in his turn, deeply unsatisfied by both Descartes's proof and approach, and by Locke's plausibility considerations, opted out of the game and ingeniously devised a philosophical system in which simply there is not such an "external" world. In it, the physical world is *entirely* mental, composed of ideas in the mind of God, which he partly shares with his creatures in the act of "sensation". This world, he argued, is as real as Descartes and Locke's purportedly "material" world. One of the main motivations for Berkeley's radical modification of the usual materialistic metaphysics was epistemological: the said material world, if it existed, would be entirely unknowable.[17]

Knowing all of this, Hume disparaged the whole issue! He could not accept any of these three solutions. The first passage in which Hume reveals his pessimistic position is in *Treatise* 1.3.5, where Hume briefly comments on the causes of the impressions of sense and memory. Concerning this issue, Hume bluntly asserts that the ultimate cause of the sensory impressions is "*perfectly inexplicable by human reason*, and 'twill always be impossible to decide *with certainty*, whether they arise immediately from the object, or are produc'd by the creative power of the mind, or are deriv'd from the author of our being" (T 1.3.5.2, our italics). As we see, Hume enumerates here, in this order, the Cartesian-Lockean realist position, the solipsist position, and Berkeley's idealistic position concerning the reality of the physical world. He is very clear in admitting that this issue is insoluble, *if what we seek is certainty*. Since Hume was going, in the sequel, to follow Locke's modest epistemological stance of being satisfied with belief, or probability, instead of certain knowledge, one could expect

[17] Berkeley's argument is deployed in paragraphs 18 to 20 of his *Treatise concerning the Principles of Human Knowledge* (1710).

that the same position would be adopted by Hume concerning the existence of the external world. Surprisingly, however, what we find is an immediate declaration that this issue is *irrelevant*. Immediately after the sentence quoted above, he added: "nor is such a question any way material to our present purposes. We may draw inferences from the coherence of our perceptions, whether they be true or false; whether they represent nature justly, or be mere illusions of our senses" (T 1.3.5.2).

Since what he is going to discuss at length in the third part of book 1 is causality, we may think that these remarks represent a kind of deliberate, provisional strategy to continue the analysis of causal inferences *as if* they involved bodies (and minds, by the way), whatever their nature, but only for the sake of the argument. We believe this suggestion is not entirely unreasonable; among other facts, we should notice that exactly the same strategy is adopted by Locke in the *Essay*, in which he defers the discussion about the external world to one of the final chapters of the book (IV.xi). In the *Treatise,* the issue of the external world is resumed in section 2 of the fourth and last part of book 1, called "Of scepticism with regard to the senses". Hume scholars usually acknowledge that this is one of the most difficult sections of the whole *Treatise*. T 1.4.2 begins with a series of unexpected, bewildering statements. Let us see at once the entire first paragraph:

> Thus the sceptic still continues to reason and believe, even tho' he asserts, that he cannot defend his reason by reason; and by the same rule he must assent to the principle concerning the existence of body, tho' he cannot pretend by any arguments of philosophy to maintain its veracity. Nature has not left this to his choice, and has doubtless esteem'd it an affair of too great importance to be trusted to our uncertain reasonings and speculations. We may well ask, *What causes induce us to believe in the existence of body?* but 'tis in vain to ask, *Whether there be body or not?* That is a point, which we must take for granted in all our reasonings. (T 1.4.2.1; Hume's emphasis.)

Notice, first, that the same key issue of how the sceptic can continue to live his life, which had already been raised in the discussion of causation, appears here, with reference to the topic of the previous section in the book, namely, "Scepticism with regard to reason". Hume then asks the same question concerning the subject of the new section, "Scepticism with regard to the senses". And the answer is essentially the same: *Nature has not left this to our choice* — a typical naturalistic statement.

According to this interpretation of Hume's solution to the issue of the external world, the matter is no longer a classical, philosophical issue,

belonging to the sphere of reason and philosophically elaborated evidence, but of "nature". As Hume made clear in dealing with the powerlessness of reason to ground causal inferences, he is submitting here that a *different mental mechanism intervenes:* as he said in that case, Nature has not left such an "affair of too great importance" to the fallible resources of reason. Accordingly, Hume devotes the rest of the section to the pioneering investigation of the innate, "a-rational" (but *not* irrational) mental processes responsible for the formation of the belief in physical bodies. But, contrary to what he did in the case of causation, in which he set about to reinforce the sceptical arguments before studying the process of belief formation, here he drops the issue with this short, if all-important, remark: "'tis in vain to ask, Whether there be body or not? That is a point, which we must take for granted in all our reasonings" (T 1.4.2.1). Why is it vain to ask that question? Exactly because philosophy, *as classically conceived*, is powerless to afford an answer, whatever it be.[18]

Commenting on this general stance of Hume's, David Fate Norton cunningly remarked, in his introduction to *The Cambridge Companion to Hume*, that "Hume was satisfied that the battle to establish reliable links between thought and reality had been fought *and lost*, and hence made his contributions to philosophy from a post skeptical perspective that incorporates and builds on the sceptical results of his predecessors" (Norton, 2009, p. 12; his italics). Entirely in line with the naturalistic interpretation of Hume's philosophy, Norton sees Hume's main contribution, at least with respect to the problems of causation and the external world, as the development of "a post skeptical perspective". As we have been defending in this paper, such a perspective involves the analysis of the mental phenomena of belief formation by using tools akin to those of empirical science. Arguably, this is the main message Hume himself intends to pass to his reader already in the subtitle of the *Treatise*: "An attempt to introduce the experimental method of reasoning into moral subjects". This is the method that natural philosophers had been successfully employing for more than a century in studying the natural phenomena. This approach

[18] Interestingly, Quine defended a similar stance almost two centuries later: "Naturalism itself is what saves the situation. Naturalism looks only to natural science, however fallible, for an account of what there is and what what there is does. Science ventures its tentative answers in man-made concepts, perforce, couched in man-made language, but we can ask no better. The very notion of object, or of one and many, is indeed as parochially human as the parts of speech; to ask what reality is really like, however, apart from human categories, is self- stultifying. It is like asking how long the Nile really is, apart from parochial matters of miles or meters. Positivists were right in brand- ing such metaphysics as meaningless" (Quine, 1992, p. 9).

deliberately blurs the frontiers between philosophy and science. In this connection, it is not amiss to remind that this is just how philosophy was originally conceived by the Greeks: they conceived no distinction *in kind* between the study of the many realms of phenomena, natural or human, or even logics and mathematics; for them, everything was *philosophy*. Although the project of naturalizing philosophy was not even recognised as a *bona fide* philosophical enterprise when it was adopted by Hume in developing a "science of man", and was regarded with suspicion when it assumed an explicit form in Quine's 1969 paper, it can be taken as just a species of resumption of the origins of the field in Antiquity.

Resuming the problem of the external world, there is an important issue worth mentioning as to the grounds for the sceptical conclusion. As we have just seen, Hume appears to be entirely satisfied that scepticism was already established by the failure (in his view) of his predecessors in proving, or otherwise rationally arguing, that there is an external world corresponding to certain of our impressions or ideas. But, in fact, a new blow to this hope can trivially be derived from Hume's philosophy: the previous attempts to establish a realist position about the material world have all assumed (with the notable exception of Malebranche)[19] that the physical objects are the *causes* of the impressions of sensation. But in Hume's theory of causation, the empirical kernel of causality is the experience of the "constant conjunction" of objects or events. It is this experience, *and it alone*, that entitle us to place such items as causes and effects, and subsequently to form the idea of a metaphysical "necessary connection" between them. Now, there is not, and there can be *no* such an experience between bodies and our impressions of sensation: we have no experience of the former elements of the putative cause-effect pair. We have no grounds to even *conceive* such a causal relation, much less to infer the existence of one from the existence of the other. Therefore, any attempt to argue for the existence of bodies from mental impressions and ideas is bound to fail, according to Hume.[20]

[19] In Malebranche's system, there are bodies, but they are not the causes of our ideas; they just provide God the *occasion* for Him to cause them in our minds. As Hume himself noticed, this makes things even worse, for God is even more remote from our observation than the putative material bodies. The negative implications of Hume's theory of causality to the problem of establishing the existence of matter are essentially the same in both cases. Berkeley's solution is, as we have already noticed, to abolish matter from his ontology, and take the physical bodies and the ideas as the very same ontological items; there is no question, therefore, the former causing the latter, and of inferring the former from the latter. For more details, see Chibeni (2008a, 2010, 2023).

[20] With hindsight, we see that Berkeley has effectively captured this point in arguing against the possibility of proving, or arguing that it is probable, that there are material

As to Hume's naturalistic analysis of the process of belief formation, it is too complex to be examined here. We shall just quote some important passages of the text to indicate how he develops his proposal. Let us begin with the paragraph following immediately the one cited a couple of pages above:

> The subject, then, of our present inquiry, is concerning the *causes* which induce us to believe in the existence of body: and my reasonings on this head I shall begin with a distinction, which at first sight may seem superfluous, but which will contribute very much to the perfect understanding of what follows. We ought to examine apart those two questions, which are commonly confounded together, viz. Why we attribute a *continued* existence to objects, even when they are not present to the senses; and why we suppose them to have an existence *distinct* from the mind and perception? Under this last head I comprehend their situation as well as relations, their *external* position as well as the *independence* of their existence and operation. These two questions concerning the continu'd and distinct existence of body are intimately connected together. (T 1.4.2.2; italics in the original.)

Hume starts from the obvious empirical fact that our impressions (i.e. strong perceptions of the putative bodies) are not continuous. At first, this fact is not compatible with the supposition of any permanent, continually existing reality. Such a hypothetical ontological item is not made known by us by experience, nor by any reasoning, as the sceptical arguments show. Notwithstanding, we *do believe* in such a reality. This belief must therefore arise from the operation of another faculty of the mind: the *imagination*. This not only leads us to patch up the intermittency of our perceptions with an underlying permanent item (the body) but also, at the same time, project it outward, to a level of *external*, distinct reality. In this way, the "vulgar" is usually led to confound perceptions with objects. But this is wrong, of course. To mend this situation the "philosopher" then attempts to elude the contradiction between reason and the imagination "by a new fiction, which is conformable to the hypotheses both of reflection and fancy, by ascribing these contrary qualities to different existences; the *interruption* to perceptions, and the *continuance* to objects" (T 1.4.2.52; italics in the original). Thus, it is from this conflicted, intermediate state of the mind that the notion of a "double" existence arises: it is "from the intermediate situation of the mind, that this opinion arises, and from such

bodies in paragraphs 18, 19 and 20 of the *Principles*.

an adherence to these two contrary principles, as makes us seek some pretext to justify our receiving both; which happily, at last, is found in *the system of a double existence*" (T 1.4.2.52, our italics). Here Hume is playing the sceptic game: he demolishes both the "vulgar" system, which takes the perceptions themselves to be external bodies, *and* the philosophical system of the "double existence".[21] In the end, what he wants is, of course, to show that the path of traditional philosophy is blocked, to predispose the reader to accept his naturalistic solution.

Traditional philosophy — in this case, epistemology and metaphysics — is a total failure. Here, as elsewhere in the domain of matters of fact (as contradistinguished from relations of ideas), it entangles us in difficulties and paradoxes, apt only to lead to complete scepticism. The section ends, then, with the usual recommendation: leave the issue to nature, after trying to understand exactly how it operates "in the background" of the philosophical endeavours. The pervasive sceptical doubt regarding both reason and the senses is an incurable "malady" that inevitably resurfaces, regardless of how vigorously we try to eliminate it, and as we delve deeper into these reflections, the doubt only grows stronger: "As the sceptical doubt arises naturally from a profound and intense reflection on those subjects, it always increases, the farther we carry our reflections, whether in opposition or conformity to it" (T 1.4.2.57). In this scenario, Hume boldly recommends "carelessness and inattention", for they alone "can afford us any remedy" and therefore provide us with some relief for the philosophical perplexities. He takes it "for granted, whatever may be the reader's opinion at this present moment, that an hour hence he [as an ordinary man] will be persuaded *there is both an external and internal world* […]" (T 1.4.2.57, our italics). As Norman Kemp Smith argued in his pioneering papers, "[t]he assumption of the existence of body is a '*natural belief*' due to the ultimate instincts or propensities that constitute our human nature. It cannot be justified by reason, but this unaccountability it shares in common with our moral and aesthetic judgments and with all those theoretical beliefs which concern matters of fact" (Smith, 1905a, p. 151; italics added).

4. Concluding Remarks

Our main aim in this article was to argue that, contrary to a common belief, Hume's philosophy should not be seen as a pioneering repudiation

[21] Concerning the latter system, he sarcastically comments that it "is the monstrous offspring of two principles, which are contrary to each other, which are both at once embrac'd by the mind, and which are unable mutually to destroy each other" (T 1.4.2.52).

of metaphysics from the realms of philosophy and science. Following a relatively new interpretation inaugurated by Norman Kemp Smith, we endeavoured to show that Hume's ambitious philosophical project of a "science of man" *can*, to some extent, accommodate two of the most basic metaphysical theses — the existence of an external (mind-independent) world, and the existence of causal links between its constituent physical bodies. This accommodation should not be understood as the existence of arguments in Hume's texts purporting to *prove*, or somewhat rationally establish such theses, but quite the contrary: in the critical, initial analyses of them, Hume not only acknowledged the sceptical doubts already expounded by some of his predecessors, but also contributed to *reinforce* them. Nevertheless, his positive contribution — largely unrecognised for nearly two hundred years — consisted in advancing his project *beyond* the sceptical stopping point. As Stroud (2016, pp. 30-31) argued, Hume's epistemology is neither fully sceptical nor entirely realist but, instead, represents a sophisticated form of "mitigated scepticism" (in Hume's own words, EHU 12.24-25) or "naturalised realism" (as we prefer to call it), according to which the focus of philosophy shifts from the classical notion of *rational justification* to the *empirical explanation* of phenomena. This shift allows Hume to bridge the gap between empiricism and realism, laying the groundwork for the pragmatic stance widely adopted in contemporary philosophy of science. Philosophy, and particularly epistemology and metaphysics, can — and, in some cases, *should* — complement the formal analysis of arguments with an empirical, open-ended, scientific study of the functioning of the human (and, arguably, animal) mind in forming beliefs, especially beliefs in those two metaphysical theses, to pave the ground for discussing the derivative metaphysical theses, peculiar to each main branch of natural science.

Hume's strategy is, therefore, not to refute scepticism (about causality and reality) in a traditional manner, but rather to render it practically irrelevant. As we briefly indicated in section 2, Hume began by reducing causal inference to a species of "instinct", which can neither be justified nor rejected by the mind. And although this inferential practice is usually coupled to an idea of a "necessary connection" between cause and effect, such an idea does not, in its turn, originate directly from any empirical input coming from the items placed as cause and effect. Instead, it is also formed by the mind by a complex, natural process beyond rational control. The same reading is possible, *mutatis mutandis*, concerning what Hume says about the belief in an external, mind-independent reality, as we showed in section 3. Building upon the work of some of his predecessors, Hume concludes that this belief cannot be rational and empirically established; but, going

beyond them, he shifted his attention to the study of the belief-forming process in the mind, in a similar way the natural philosophers study the operations of physical bodies. By considering our capacity to make causal inferences as a natural instinct, Hume considered both our trust in these inferences and our belief in an external world as *natural beliefs*, in Kemp Smith's apt expression. As Hume himself argued, these beliefs are not only *inevitable* but also *necessary* for our survival as living beings. And we would add that they are also essential to science (both natural and human). Thus, instead of pursuing impossible epistemic goals, philosophers can devote their energies to developing their particular interests in the study of man and nature, avoiding both losing themselves in the "unfathomable depths of metaphysics" (as Locke warned), and confining their enquiries to the barren, metaphysics-free soil on which the logical positivists and their real predecessors (such as Ernst Mach) attempted to build the edifice of human knowledge, and science in particular.

If we (still) do not feel comfortable with such a bold proposal for philosophy, a compromise option would perhaps be to take the two basic beliefs that we have been discussing in this paper as *philosophical hypotheses*, as Hume himself has indirectly considered in some passages not discussed in this paper.[22] But in this case we should *not* entertain any hope that they can be evaluated, and eventually justified, by the classical, rational and empirical methods by which ordinary, low-level scientific hypotheses are evaluated. In the same way as, according to Hume, they do not arise from a deliberate, explicit philosophical undertaken, they are not expected to be subjected to the ordinary methods of analysis. What Hume suggests is, rather, that they are the unavoidable product of basal mental processes, about which it is vain to argue for or against. Such basal beliefs have a specific, rather modest place in Hume's philosophical project as a whole. And this should suffice, we believe, to rectify the usual understanding of his contribution to philosophy as being purely sceptical, especially in what respects metaphysics. As we tried to show, Hume's naturalised epistemology represents a unique combination of empiricism and "mitigated" realism.

[22] As one of us suggested elsewhere, it seems that "Hume adopts a position quite close to that of contemporary realist empiricists", according to which (1) the justification of a hypothesis (like the custom-imagination hypothesis for causal inferences) derives from its ability to exhibit certain theoretical virtues, such as explanatory power and simplicity, and (2) "hypotheses should not be evaluated in isolation, merely in comparison with experimental facts, but rather as part of integrated systems of hypotheses and in comparison with alternative systems" (Chibeni, 2011, p. 249). It would be interesting to compare Hume's mitigated scepticism with some contemporary realist empiricists in future work. For an analysis of Humean scientific realism, see Chibeni (2005b); for a general analysis of empiricist scientific realism, see Chibeni (1997a).

Hume, therefore, anticipates many later developments in naturalised epistemology, especially Quine's view that epistemic justification is best understood in terms of *a posteriori* adequacy, rather than *a priori* certainty.

As a final, marginal remark, we note that Hume's naturalistic explanation of causal inferences, as well as the belief in the existence of a physical, external world, goes against the long-standing theological notion that humans were made in "the image of God", endowed with a divine and all-powerful rational faculty that set them apart from the rest of creation.[23] By showing that our fundamental epistemic practices are based on the same principles that govern animal cognition, Hume distanced himself from the view that humans occupy a privileged, godlike position in the order of nature. Instead, he portrayed human thought as an extension of the same natural processes that govern all sentient beings. This was a major blow to both religious epistemology and the Enlightenment ideal of human reason as a quasi-divine faculty, capable of grasping ultimate truths through pure intellect. Indeed, the main part of Hume's contribution to epistemology is to propose a kind of scientific study of the human mind, putting aside this idealised, "supernatural" conception of it. However, Hume did not view this proposal as the abandonment of philosophy in favour of something like psychology — as Russell, for instance, explicitly held (see Russell, 1945, p. 666) —, but rather as the integration of philosophy to a "science of human nature", capable of dealing with a range of philosophical questions in a refreshingly, and, hopefully, more effective way. This move has much in common (and, of course, several differences) with what Quine would propose two centuries later. As we now know, both proposals met strong resistance from the philosophical establishment.[24] It is encouraging to see that naturalism has finally, in recent decades, become a live topic of research in several branches of philosophy, metaphysics included. In the spirit of Dom Howard's remark in the motto of this paper, true understanding can only emerge if we dare to embrace a bit of metaphysics and explore what it reveals about the world.

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[23] On this issue, see Craig (1987, chap. 2).

[24] See, for instance, Kim (1993), BonJour (1997) and Tsehay (2019).

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