



Varieties of Humeanism: an introduction

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1 Introduction: from Hume to Humeanisms

David Hume has never been so popular in philosophy as he is today. This is not only because many books have recently been published about his philosophy, but also because, in various branches of philosophy, reliance on so-called “Humean” strategies in problem-solving is well-known and widely accepted. Yet, although many contemporary philosophical theories are strongly inspired by Hume’s philosophy, the path from Hume to various contemporary Humean views is not straightforward, and there are no monolithic forms of Humeanism. Since the label ‘Humeanism’ refers to *many* different theories, views, and ideas—some of which are only loosely connected with each other, if at all—and various representatives of these Humean views have various conceptions about what Humeanism is, it is preferable and wiser to talk about varieties of Humeanism, or simply *Humeanisms*.

The colorful diversity of Hume-inspired philosophical views is partly based on the often competing and conflicting interpretations of Hume’s own philosophical views. Let us start with a much-discussed problem for Hume and his interpreters: the idea that causation is a necessary connection between distinct objects or events. To put it simply, in this famous controversy about what Hume’s theory of causation really was, we first face two opposing interpretations: The “old” Hume competes with the

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“new” Hume. If someone propagates that causation is nothing else than an explanatory and ontologically fundamental “regular course and succession of objects” (EHU 5.22)—that is, an entity of a particular sort is regularly followed by an entity of another particular sort, without the contribution of a *sui generis* causal influence of the former on the latter—then he agrees with the good old standard interpretation. However, if someone else holds that causation should be more than some regular pattern of successional entities, then she engages with the “new” Hume interpretation.¹ In doing so, she argues that for Hume, there is a modally robust “force, which actuates the whole machine” in nature (EHU 7.8), even though its nature remains totally hidden to us—apart from the belief that there is an objective glue-like necessitation that grounds the regular successions of similar entities.

Which Hume is the *real* Hume? Is it the *regularist* who is convinced that our idea of ‘causation’ is not only due to our epistemic incapability of grasping anything more than regular patterns (spatiotemporal contiguity and constant conjunction) in nature, but also to the nature of reality, which does not involve anything more than these observable patterns of regular successions? Or is it the *skeptical realist* who supposes that a cause is necessarily related to its effect, but denies that we can know more about this relation than that it consists in the regular succession we observe—which is insignificant if we want to grasp the real nature of this “secret connexion”?

Or maybe the answer is neither. The *projectivist* interpretation thus represents the third camp in this interpretative controversy, arguing that the best starting point for understanding Hume’s genuine position about causation can be located in the *Treatise*’s claim that “the mind has great propensity to spread itself on external objects” (T 1.3.14.25). According to the projectivist interpretation, the external world appears to be a certain way by virtue of some process of our mind. However, as Miren Boehm points out in this issue, projectivists have so far offered only explanatory strategies using the metaphorical language of “spreading” or “staining,” and do not provide a satisfying answer to the question of process: “What exactly do we do (or does the mind do) when we take what is ‘in here,’ and make the world appear as it does?” Boehm provides a novel reading of the productive faculty of our mind that we presumably use in attributing *Causal* power or *Aesthetic* qualities or *Moral* properties to particular things, events or acts occurring in the external world. She argues that these so-called CAM judgements share a similar, basic structure, which can be explained satisfactorily by Hume’s chemical way of thinking: Boehm, invoking Demeter’s (2016) interpretation, suggests that Hume’s account of CAM judgments illustrates his chemical imagery of mental functioning—as opposed to the widely shared view of the Humean mind as a mechanical unity (see e.g. Owen 2009).

While the interpretive debate about Hume’s position is unlikely to end, it may not be particularly tempting for a contemporary Humean to enter into this interpretive quagmire. Contemporary Humeans and anti-Humeans, if they invoke Hume at all, typically refer to an almost fictitious character: the distant, imagined mover and shaker of those views they want to defend or deny. As Elizabeth Radcliffe’s puts it, “although

¹ For the details of the debate between these two rival interpretations, among others, see Beebe (2006), Wright (1983) and Strawson (2014).

Hume is the progenitor of the Humean view, he is rarely discussed in defenses of Humeanism” (Radcliffe 2012a, p. 779).

The case of David Lewis provides a fine illustration of this. Lewis was probably the most influential Humean of the twentieth century, the great denier of necessary connections, who claimed that only Hume was “the greater” one. In a personal letter to Galen Strawson, Lewis acknowledged that as far as the question of accurate interpretation of Hume’s philosophy is concerned, he is just a “neutral bystander”. He would not deal with the question whether or not the Hume he refers to is a fictitious character or a real one, but maintained that “the Hume of popular (mis?)understanding remains a figure of much interest” to him (Strawson 2015, p. 98; for a similar point, see Fodor 2003, pp. 1–4). It seems uncontroversial that Lewis (and Fodor, for that matter), at least by his own admission, accepts the traditional, regularist interpretation, and as such, he admits that in nature, we cannot hypostatize necessary connections, just mere regularities.

2 Humean metaphysics and the scientific image

2.1 The standard view: Lewisian Humeanism

Lewis’s Humeanism has since become an orthodoxy at the intersection of metaphysics and philosophy of science. Let us begin our investigation with an analogy. Consider a mosaic, a colorful geometric pattern. On closer examination, the tiny, juxtaposed pieces that compose the pattern are clearly separated from each other and allow us to discover and describe the intrinsic nature of these independent elements: their sizes, shapes and colors. The question is whether all the features of the whole mosaic can be satisfactorily accounted for by the facts of the spatiotemporal relations and the intrinsic qualities of its small components. If we tend to say yes, then we admit that the attractive appearance of a mosaic is simply due to the positions of its pieces. Now consider that the whole world is a huge (the largest) mosaic, and that the apparent coherence and orderliness that you can find in it is nothing more than a peculiar arrangement of independent and tiny (the smallest) point-like entities having some discoverable intrinsic qualities and measurable spatiotemporal connections.

It is widely known that Lewis’s Humean metaphysics is based on the thesis of *Humean supervenience*, which says that all there is in the world is a *Humean mosaic*, “just one little thing and then another” (1986a, p. ix)—that is, at least according to standard, Lewisian Humeanism, a global distribution of *fundamental* properties and relations across spacetime points or point-like entities in spacetime, along with spatiotemporal relations between them.² All fundamental properties are *perfectly natural* properties “carving nature at its joints,”³ and all perfectly natural properties are

² For the original, Lewisian formulation of this thesis, see Lewis (1986a, pp. ix–xi; 1994, p. 474).

³ For the origin of this widely shared Platonic metaphor, see Plato’s *Phaedrus* 265e. Recently, the use of the metaphor of “carving nature at its joints” has been strongly connected to a realist (meta)metaphysical position about the mind- and language-independent structure of the world, as well as to the business of natural sciences to reveal this structure by discovering the natural kinds.

intrinsic.⁴ Their intrinsicness ensures that they are local properties, and any particular instantiation of a natural property at a particular place and time does not imply any other particular instantiation of a natural property at any other particular place and time—as such, there are no fundamental modal relations, that is, brute necessary relations, between the point-sized property instantiations. Everything else, the laws of nature, causal connections, chances (not to mention mental states, semantic facts, moral and aesthetic values, etc.) supervenes on the arrangement of local, fundamental properties and relations. In other words, for a particular world, all (nomic) facts supervene on (or all truths are made true by) how things actually exist in that world, and the way how things are in that world can be characterized, without redundancy, in terms of fundamental or perfectly natural properties and spatiotemporal relations. Given that there are no necessary nomic connections between the fundamental atomic elements of the Humean mosaic, every spatiotemporally rearrangement of them is possible. This is the *principle of recombination*, defined by Lewis as “anything can [fail to] coexist with anything else, at least provided they occupy distinct spatiotemporal positions” (Lewis 1986b, p. 88).⁵ In a nutshell, Lewis’s Humean metaphysics is an *atomist* and *amodalist* view about the fundamental nature of reality, while also being a *realist* and *reductionist* view about every other feature of the world.⁶

Now let us consider a particular issue, the most intensively discussed topic of some debates among metaphysicians of (physical) sciences in recent times: the *laws of nature*. Since, in Lewisian Humeanism, laws or nomic facts supervene on particular non-nomic facts, a reductive account of law needs to be elaborated. This is the *Best System Account* (BSA), namely the best-balanced combination of simplicity and strength.⁷ According to the BSA, there is no ontological difference between laws of nature and accident generalizations. Laws of nature differ nevertheless from accident generalizations because laws function as axioms of a complete (or best) deductive system of the natural world, whereas accident generalizations cannot play this special role. Here is a very brief summary of the BSA, which gives the following necessary and sufficient conditions for a law of nature:

L is a law of nature if and only if *L* belongs to the set of axioms of the simplest and strongest true deductive system,

where “simplicity” is concerned with the number of those axioms of the system that contain as many predicates standing for perfectly natural properties as possible; and “strength” relates to the degree of informativeness of the system, that is, how many

⁴ For the original characterizations of perfectly natural properties, see Lewis (1983, 1984, 1986b, pp. 59–69; 1999, p. 1).

⁵ This Humean principle of recombination is one of the fundamental tenets of Lewis’s extreme realism about possible worlds where every possible rearrangement is a concrete universe.

⁶ We can distinguish three more-or-less interconnected reasons for why it may be worth to elaborate and accept such a Humean approach in metaphysics of science: It is metaphysically modest and fits well with scientific practice (Ismael 2015, p. 189), as well as with the manifest image. As Brian Weatherson points out, “Lewis defended Humean supervenience by explicitly showing where the ordinary concepts fitted in to a sparse physical picture of reality, under the assumption that physics tells us that the world consists of nothing but a spatiotemporal arrangement of intrinsic qualities” (Weatherson 2015, p. 109).

⁷ For the Lewisian source of the Best System Account, see Lewis (1973, pp. 72–77), and if you are interested in how the BSA of laws can be extended to a Humean account of chances, see Lewis (1986a, pp. 122–131).

true propositions can be deduced in that system in which L is an axiom. Simplicity and strength are competing virtues that trade off against one another: the stronger a system, the less simple, and vice versa, so that the best possible system is that which achieves an optimal balance of simplicity and strength.

What are the advantages of Lewis's BSA? Firstly, as an *ontologically parsimonious* view, the BSA takes laws of nature to be simple regularities—more precisely, true universal generalizations that are made true by regular patterns in the low-key Humean base. Secondly, this approach is claimed to *fit with the scientific practice* of identifying laws: “The standards of simplicity, of strength, and of balance between them are to be those that guide us in assessing the credibility of rival hypotheses as to what the laws are” (Lewis 1986a, p. 123). The question is that what the disadvantages of this theory of laws are.

2.2 How can laws explain, if at all? The circularity problem

The general answer to the question, “What are laws of nature and what are they good for?” is that they explain what happens and has happened, predict what will happen, and support counterfactuals telling us what would have happened, if things were or had been otherwise.⁸ But how can they be explanatory if they are explained, even if only partially, by their particular instances, given the Humean doctrine that laws of nature are reduced to the Humean mosaic? Without a satisfactory answer to this question, Humeans have to admit that they cannot, on pain of explanatory circularity, provide a tenable account of laws.

One of the best-known solutions to this problem is presented by Loewer (2012). According to Loewer, there are two kinds of explanations here that we have to distinguish: laws *scientifically* explain the particular facts of the mosaic, while the mosaic *metaphysically* explains the laws that are supervened on it. If Loewer is right, the circularity problem does not arise because these explanatory relations belong to different kinds. In his contribution to this special issue, David Mark Kovacs, inspired by Marshall (2015) and Miller (2015), argues that the problem can be solved without recourse to the controversial notion of metaphysical explanation—or as it is widely referred to, grounding. According to Kovacs, Lewis's BSA provides the oldest, and so far, the best, solution to the circularity problem, and he also points out that when Lewis elaborates his reductive account of laws of nature, he never claims or demands that the laws of nature are (partially) explained (in any metaphysical sense) by the particular facts of the Humean mosaic. If Kovacs is right—and Lewis, in his BSA, gives us no more than a proper *analysis* of the notion of laws of nature, maintaining that laws are those generalizations that occur as axioms in the best system—then Lewis's account of laws can be compatible with a scientific practice that is committed to the explanatory role of laws without invoking the much debated and mysterious metaphysical explanatory relation. The main question is whether this overall explanatory priority of the laws

⁸ The problem of (non)governance can be crucial here. If it is a conceptual truth that laws of nature govern regular successions, then the Humean view, which promulgates that laws are not governing (in any literal sense), cannot be true. Though the governance intuition shared by many philosophers and scientists supports an anti-Humean deep modal metaphysics about the nature of the laws of nature (see Maudlin 2007), a Humean should try to defend a non-governing conception (see Beebe 2000).

over the mosaic, defended by Kovacs, does not lead to the anti-Humean doctrine that laws are metaphysically prior to, and cannot supervene on, their particular instances; Kovacs argues that the metaphysical priority of laws can be interpreted in such a modest way that it remains compatible with the standard Humean desideratum of Lewis's BSA.

2.3 The trouble with and the evolution of Lewisian Humeanism

Lewis is convinced that physics “aspires to give an inventory of natural properties” (Lewis 1983, pp. 356–357). However, as is well-known, his simultaneous commitment to physicalism about (the fundamental or perfectly natural properties of) the actual world and the thesis of Humean supervenience is a cause of major problems in Lewisian Humeanism. Humean supervenience is inspired by classical physics, and Lewis was not “ready to take lessons in ontology from quantum physics” (Lewis 1986a, p. xi). However, as many contemporary philosophers of physics—both Humeans and anti-Humeans—have pointed out, quantum physics seems to support the view that our world—on its fundamental physical level—is more than just a spatiotemporal arrangement of perfectly natural intrinsic properties. If true, then this calls for some substantial changes to Lewis's Humean metaphysics. Such changes are possible, since, as Barry Loewer points out,

HS [Humean supervenience] and physicalism are distinct doctrines. HS doesn't entail physicalism since it is compatible with there being Humean properties that are not physical. Physicalism doesn't entail HS since there is no guarantee that the fundamental properties posited by physics are intrinsic properties of spatiotemporal locations. In fact, it seems pretty clear that contemporary physics does dream of non-Humean properties. I have in mind so called “entangled states” that are responsible for quantum nonlocality, i.e., for quantum theory's violations of Bell inequalities. The entangled state of a pair of particles fails to supervene on the intrinsic properties of the separate particles. (Loewer 1996, pp. 103–104)

In the same article, Loewer further develops his own descendant of Lewis's BSA, the so-called Package Deal Account,⁹ in which he argues that the problem of Lewisian Humeanism is its strong commitment to the Humean supervenience thesis, which propagates that everything, including the laws of nature, supervenes on the arrangement of intrinsic and categorical properties instantiated by point-like entities. Lewis maintains that the fundamental laws of nature are those regularities which involve perfectly natural properties, and in his BSA, he tries to explain “why the scientific investigation of laws and of natural properties is a package deal” (Lewis 1983, p. 368). However, as Loewer emphasizes, for Lewis, this does not mean that laws are on a par with perfectly natural properties, since the latter take metaphysical priority over the former.

Contrary to Lewis, Loewer argues that in the fundamental ontology of his PDA, properties do not take any priority over laws, and vice versa. Loewer not only tries to save the core of Lewis's BSA—that is, how we can identify the perfectly natural

⁹ For an earlier version of Loewer's PDA, see Loewer (2007, 2012).

properties in terms of the participation of laws in systematization—but to make this core compatible with contemporary physics. However, this leads him to defend a not strictly Humean but semi-Humean view, as he concedes that the laws of nature may involve fundamental properties that are not categorical (they can be dispositional properties), and that are not intrinsic properties of point-like entities that can be related by spatiotemporal connections (there can be further fundamental non-intrinsic properties and non-spatiotemporal relations to allow for the nonlocality of entangled systems). While Lewis upholds that “If physics itself were to teach me that [Humean supervenience] is false, I wouldn’t grieve” (Lewis 1986a, p. xi), Loewer believes that the time has come to acknowledge its falsity.¹⁰

As opposed to Loewer’s view, Super-Humeans think that the Humean supervenience thesis can be preserved, though for this end, we have to exclude all properties, including Lewis’s perfectly natural ones, from our ontology. Recently, Super-Humeanism has aspired to being the most parsimonious Humean metaphysics: The Super-Humean mosaic consists only of point-sized bits of matter, the spatiotemporal or distance relations that individuate these matter points, and the changes in their distance.¹¹

But why should we believe in such an ontology without properties? Because it avoids two strongly connected regrettable commitments of the Lewisian characterization of the perfectly natural or fundamental properties: a metaphysical commitment to *quidditism*, and the epistemological commitment to *ignorance* about the identities of fundamental properties.¹² When Lewis treats fundamental properties as categorical, he maintains that they cannot be individuated by the causal or nomological roles that they presumably occupy, due to the fact that a categorical property is not essentially disposed to occupy a causal role. The contingent relation between a fundamental property and its causal power leads to Lewis to accept a form of ignorance about fundamental properties, since we cannot know which fundamental property realizes a certain causal or nomological role. Super-Humeanism, with its propertyless mosaic, obviously avoids such quiddistic skepticism about perfectly natural properties.

Moreover, it seems to offer other benefits as well. For example, it alleges to be friendlier to modern physics than Lewisian Humeanism and avoids the standard objections to Humeanism from quantum physics. To achieve this, Michael Esfeld considers the best candidates for perfectly natural properties in Lewisian Humeanism, like mass, charge, or spin, as dynamical parameters that supervene on the Super-Humean mosaic consisting of only the point particles and their changing distance relations. And then, following Loewer, he also maintains that these dynamical properties are on a par with the laws of nature. However, from an ontological point of view, there is a huge difference between Loewer’s and Esfeld’s views. While the former argues that fundamental properties, together with the laws of nature, belong to the ontological basis of reality, irrespective of the question whether these fundamental properties are categorical or not, the latter banishes properties from the minimalist fundamental ontology and treats them as derivative entities. But according to a Super-Humean, as in the case of

¹⁰ He is not alone in making such a diagnosis – see Maudlin (2007).

¹¹ For the details of this extremely parsimonious Humean ontology, see Esfeld and Deckert (2018) and Esfeld (2020).

¹² For the source and details of this quiddistic skepticism about fundamental properties, see Lewis (2009).

Loewer's PDA, all properties, being dynamical parameters, can be identified in terms of the laws of nature they involve, so that Esfeld's view seems to open the door to making Humeanism compatible with contemporary physics.

In his contribution to this special issue, Esfeld argues that besides the above-mentioned advantages over standard Lewisian Humeanism, his view can better account for free will. How can we make the Super-Humean skeletal ontology, which provides, at least according to Esfeld, the most parsimonious but minimally sufficient base possible, accommodate the view that we as persons can have free will? One of the strongest arguments against this and any other such compatibilist views is Peter van Inwagen's consequence argument. In a nutshell, based on van Inwagen (1983), an incompatibilist might argue that the laws of nature (whether they are deterministic or probabilistic) and past events (whether they occurred in the remote or recent past) entail everything that happens in the world, including our present acts; and since neither laws nor past events are up to us, all determinists have to swallow the bitter pill of accepting that our present acts are consequences of the laws of nature and of past events, and as such they are not up to us either. Some Humeans reject this argument, and generally dismiss the premise that the laws of nature are not up to us. Esfeld offers another path to being a Humean compatibilist and refutes the premise that the preliminary or initial states of the universe before our birth cannot be up to us (as particular configurations of matter points) in any significant sense. As mentioned above, according to Esfeld all dynamical parameters, like masses, charges, spins, or even wave functions, that characterize any states of the universe supervene on the configuration of matter points and the evolution of this configuration in the whole history of the universe. If he is right, then the initial conditions of the universe that are characterized by these dynamical parameters are also up to the present motion of matter points, including those that are parts of our moving bodies.

There is no doubt that it would be difficult to elaborate a more parsimonious ontology than the Super-Humean one, although not everyone is satisfied with this new striving after a more feasible Humean metaphysics. Vera Matarese, in her contribution, argues that Super-Humeans, contrary to their main intentions, do not produce a metaphysical view that enjoys the best or even a good partnership with contemporary physics. Matarese focuses on three interrelated issues concerning the presumed close connection between Super-Humeanism and contemporary physics: *scientific realism*, *empirical adequacy*, and *naturalistic metaphysics*. First, since a Super-Humean treats charges, masses, wave functions and the like as continuously evolving dynamical parameters inextricably intertwined with the laws of nature that supervene on the changing distance relations of point particles, they (i.e., charges, masses, etc.) cannot be those entities that are described in terms of joint-carving predicates; for all these dynamical properties are subject to pragmatic concerns, which is reminiscent of an instrumentalist stance toward contemporary physics rather than a realist one. Secondly, though the Super-Humean mosaic consists of only moving point particles, its advocates do not provide any satisfactory empirical evidence that these matter points are not just unobservable theoretical posits. And finally, the ontology of Super-Humeanism, contrary to its proclaimed universality, is compatible solely with one particular interpretation of quantum mechanics, namely, Bohmian mechanics, and this makes Super-Humeanism an a priori metaphysics rather than a naturalistic one. A

lesson from Matarese's argument is that Super-Humeans seem to sacrifice the realistic, empiricist and naturalistic stances that they want to emphasize in their metaphysics for the sake of a (too) parsimonious ontology.

A further issue with the doctrine of Humean supervenience that is discussed in this topical collection is whether the acceptance of this thesis can generate problems for some mixed-level causal models. In his contribution, Tudor Baetu addresses some of the problems that Humean supervenience seems to create for interventionist accounts of causation, such as that defended by Woodward (2003). According to Baetu, careful consideration of experimental designs in clinical biomedical research suggests that one solution to these problems, which purports to eliminate any non-causal determinants of an outcome as potential confounders, is otiose: confounding problems are either already addressed by experimental designs, or they cannot be solved by one's choosing between supervenience and interventionism.

2.4 The strengthening opposition: anti-Humeanism

According to strict Humeans, from an ontological point of view, the world has no modal character, meaning the laws of nature cannot be inexplicable, irreducible features of the world; they are nothing but regular patterns in the Humean mosaic. anti-Humeans deny this and would argue that the laws of nature differ from mere regularities in a substantive metaphysical sense; they are irreducible natural necessities, and the world is uncompromisingly modally laden. Anti-Humeanism is part of a growing trend in contemporary metaphysics and comes in different varieties. According to the universal realist Armstrong (1983), the laws of nature are irreducible nomic necessities, that is, they constitute a *second-order necessitation relation* between first-order universals.¹³ Maudlin (2007) takes laws to be *ontologically and explanatory fundamental* entities for explaining uniformities in nature, as is expected from laws in scientific practice. On balance, the largest anti-Humean camp is that of the dispositionalists, like Ellis (2001) and Bird (2007), who declare that the laws of nature consist in the *essentially modal nature* of properties, each of which is disposed to behave in a certain way in every possible circumstance.¹⁴

In this collection, the only explicit representative of anti-Humeanism is Barbara Vetter, who uses the label "anti-Humeanism" as interchangeable with "dispositionalism" and gives a general characterization of anti-Humeanism in this narrower sense. As she argues, no satisfactory characterization has yet been provided by the advocates of the two different dispositionalist camps that she discusses, i.e., *fundamental* dispositionalism and *liberal ontological* dispositionalism. According to fundamentalists, similar to mainstream Humeanism, there is a fundamental level containing only (the instantiations of) perfectly natural properties, but, contrary to what most Humeans uphold, all

¹³ This view about the laws of nature as universals that bind second-order states-of-affairs is also maintained by Fred Drestke and Michael Tooley. According to the so-called DTA account, the term "second order" simply means that the necessitation relation concerns universals rather than particulars; it does not mean that this modal relation can be reduced to something else that is non-modal. Nevertheless, according to the advocates of the DTA theory, all universals are fundamental properties or relations, including the second-order necessitation relation, and their nature is categorical and not dispositional.

¹⁴ For the different versions of anti-Humean theories of laws, see Hildebrand (2020).

fundamental properties are essentially dispositional. The problem, in Vetter's view, is that fundamentalists about dispositional properties do not offer a satisfactory account of the dispositions of middle-sized objects. However, if a dispositionalist wants to be a liberalist without restricting her theory to the domain of fundamental properties but is unable to draw an exact line between the elite class of fundamental properties and the remaining ungentle properties, she should be a pandispositionalist and recognize that all properties are genuine and dispositional, which is not a popular view among anti-Humeans. As Vetter points out, neither camp provides an adequate and general characterization of anti-Humeanism that would separate it from Humeanism while covering every dispositionalist view, including liberalist and fundamentalist ones. A specific problem lies in a controversial ontological thesis concerning the fundamental level. According to Vetter, a general statement of dispositionalism must not depend on the (non-)existence of the fundamental level, hence she suggests a new, *explanatory* dispositionalism. If there is no level of ontologically fundamental, metaphysically unexplained entities, we are faced with an order of metaphysical explanation in which we try to explain laws and other modal phenomena where the explanans always takes the form of dispositional properties. Whether or not there is a fundamental level, dispositions are not explained metaphysically by anything non-dispositional; they always play a central role in metaphysical explanations. And this is what all dispositionalists can accept and what sharply distinguishes anti-Humeans from Humeans.

2.5 Anti-metaphysical Humeans

In his contribution to this special issue, Sean Morris argues that Quine, in his 1969 paper about naturalized epistemology, defended a form of Humeanism, famously expressed in his memorable phrase: "The Humean predicament is the human predicament" (Quine, 1969, 72). As a metaphysical position, this form of Humeanism was shared, according to Morris, at least in part also by Carnap. Of course, as a prominent member of the Vienna Circle, Carnap is well known for his rejection of metaphysics, a rejection that is typically understood to be justified by semantical or epistemological reasons (see e.g. Bradley 2018). Morris argues that, for Carnap, metaphysics includes both ontological and epistemological aspects, and furthermore that Quine adopts this understanding of metaphysics. He then describes Quine as attacking, in "Epistemology naturalized," the epistemological aspects of metaphysics, in particular the epistemological views according to which there can be sources of knowledge other than sensory ones. Quine's subsequent criticism of Carnap, in the same paper, is considered as internal to their shared Humeanism.

3 Humeanism in epistemology

3.1 Hume(ans) on the problem of induction and the central role of imagination

As stated by Hume, the problem of inductive causal reasoning is as follows:

We have said, that all arguments concerning existence are founded on the relation of cause and effect; that our knowledge of that relation is derived entirely from experience; and that all our experimental conclusions proceed upon the supposition, that the future will be conformable to the past. To endeavour, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question. (EHU 4.2.19)

The main problem with inductive inferences is that a reliable inference from the observed parts of the world (or from the past events) to the unobserved parts (or to the future events) requires a principle or a “supposition” about the uniformity of nature. This uniformity principle is manifested in every form of inductive reasoning whenever someone expects that the unobserved (or the future) that she has never experienced is (or will be) similar to the observed (or the past) that she has experienced. However, if the necessary connection between distinct entities, including a cause and its effect, is denied, then we cannot infer conclusively, beyond reasonable doubt, from the existence of one entity (or a cause) to the existence of another entity (its effect).

The problem is that the uniformity principle that is supposed to guarantee the successful inference from the observed (or from the past) to the unobserved (or to the future) cannot be justified in a non-circular way. According to Hume, the best solution to this problem is a (moderately) skeptical one that appeals to the importance that our faculty of imagination plays in inductive reasoning:

Reason can never show us the connexion of one object with another, tho' aided by experience, and the observation of their constant conjunction in all past instances. When the mind, therefore, passes from the idea or impression of one object to the idea or belief of another, it is not determin'd by reason, but by certain principles, which associate together the ideas of these objects, and unite them in the imagination. (T 1.3.6.12)

However, our imagination—by which we can make a tight connection between two distinct entities as a cause and its effect, as in the case of (the impressions of) fire and smoke—cannot provide more than a “probable inference.” It is only probable because we can always conceive the cause without its effect, and vice versa.

This takes us to the central question in the controversy between Humeans and anti-Humeans: Can we provide a more solid inferential connection between cause and effect than the probable link supplied by imagination? The answer seems to be a straightforward ‘no,’ at least for a Humean: The metaphysical thesis about the lack of necessary connections between distinct entities goes hand in hand with the epistemological view that we have no good reason to believe in exceptionless uniformities in nature. However, for an anti-Humean, the answer can be ‘yes.’ For example, Armstrong (1983) argues that if we deny the metaphysical thesis and maintain that some necessary connection obtains between certain distinct entities, then we are able to

deny the epistemological thesis as well—without having to be skeptical about inductive inference.¹⁵

3.2 Integrating Humean metaphysics and epistemology: the importance of the imaginable-possibility link

When we outlined the different competing interpretations of Hume in Section 1, we provisionally established that Humeans in contemporary philosophy generally agree on embracing the traditional interpretation. According to this interpretation, as we have seen in the previous section, Hume is a *denier* of necessary connections between distinct entities and a *skeptic* about inductive inference. At the same time, it should be noted here that the formulations that Humeans decide to offer as traditional may have a serious and perhaps unpleasant impact on the (un)tenability or (im)plausibility of contemporary Humean metaphysics and epistemology. Aaron Segal, in his paper in the present volume, maintains that contemporary Humeans depart from some of the cardinal elements of the traditional, regularist interpretation of Hume that “we all learned at our mother’s knee”—an interpretative decision that combines the metaphysics of these neo-Humeans with a very implausible epistemological view on the (ir)rationality of inductive inference.

Segal distinguishes two metaphysical Humean theses: a traditional one ascribed to Hume, and a new version formulated by contemporary neo-Humeans. He assumes that the acceptance of each metaphysical thesis also gives us reason to accept a corresponding epistemological thesis. The first thesis he ascribes to Hume contains an *imaginability-possibility* link maintaining that there is some epistemic constraint on the modal space consisting in the possible recombinations of distinct entities, in the sense that a particular recombination is possible if and only if it is imaginable. Segal provides detailed arguments for two main claims. The first claim is that Armstrong and his followers are wrong. Mainly based on Beebe (2011), Segal is convinced that believing in the epistemological thesis concerning inductive skepticism does not depend on the truth or falsity of the metaphysical thesis; we are skeptic about inductive inference because we cannot provide a non-circular reason to believe that the unobserved is similar to the observed. His second and more significant claim is that modifying the original metaphysical thesis will have disastrous epistemological consequences. As he points out, metaphysical neo-Humeans, like Lewis or Loewer, make this fateful modification when they jettison the epistemological component that is included in the traditional Humean view, namely the strong imaginability-possibility link. The lack of this epistemic constraint on the modal space inevitably entangles neo-Humeans in the implausible epistemological thesis that we not only have no good reason to believe that the unobserved is similar to the observed, but that we are *irrational* or *totally unjustified* in this belief. Thus, according to Segal, some Humeans in contemporary metaphysics go too far and pose a considerable risk to the more plausible version of epistemological Humeanism.

¹⁵ For Armstrong’s argument against the irrationality of Humean skepticism about inductive reasoning and why the laws of nature as nomic necessities are so important for solving the problem of induction, see Armstrong (1983, pp. 52–59).

Similarly to Segal, Daniel Dohrn's contribution to this issue emphasizes the crucial role of imagination not just in our modal knowledge, which would seem to be obvious, but also in the justification of some limited versions of two Humean metaphysical theses: Lewis's Humean supervenience thesis and the principle of recombination. First of all, Dohrn raises two pressing challenges that he aims to address in his outline of modal epistemology: on the one hand, the *integration challenge* concerning the best combination of a metaphysics and an epistemology, and on the other hand, the *reliability challenge* concerning the explanation of the reliability of epistemic capacities that yield knowledge about a particular subject matter. To meet the integration challenge in the field of modal reasoning, he turns to two theses of Lewis's Humean metaphysics, namely the Humean supervenience thesis (what he calls simply "Mosaic") and the principle of recombination, both of which are equally relevant for Lewis's theory of modal reasoning. However, according to Dohrn, even if we use these two theses implicitly when we create modal beliefs, they cannot be taken for granted as the basis of our best theory of modal reasoning, partly due to the highly controversial nature of the Humean supervenience thesis, as discussed in detail in Sect. 2. But how can we derive these Humean principles if we want to preserve them in a more sustainable form? What could be the basis for a more tenable modal epistemology? Dohrn's proposal is a *bottom-up* approach based on a particular elementary use of our imaginative capacities by which we can rearrange mid-sized things in many possible ways in spacetime. We are familiar with this method, and we can use it as a reliable epistemic source of knowledge about possibilities: If a particular rearrangement is imaginable, then we are justified to believe that it is possible. Thus, Dohrn provides a justification for the Humean supervenience thesis and the principle of recombination (or versions of both that are governed by imagination) based on our useful capacity of imagination. Moreover, Dohrn does not claim that the modal beliefs based on the familiar everyday use of our imagination cannot or should not be further developed. Science may correct them by refuting or revealing some possible recombinations in spacetime.

3.3 Is there a Humean justification for inductive inference and Hume's empirical method?

Many Humeans would answer this question with a straightforward 'no.' Stefanie Rocknak is not one of them, and in her paper in the present volume, she defends Hume against those, especially Edmund Husserl of the *Logical Investigations*, who assert that the Humean method is not justified in any significant sense and as such is "deeply flawed." Rocknak points out that Hume implicitly appealed to a "pre-theoretical" but not non-naturalistic concept of elementary beliefs that meets the Husserlian demand for a justificatory, pre-theoretical grounding. Rocknak emphasizes two important Humean distinctions, first of all, between "two systems," on the one hand, that of passively received impressions and their memories, on the other hand that of actively manipulated information in making judgements by causal reasoning; and secondly, between the natural relation of causality and the philosophical relation of causality. While

exploring these distinctions, she suggests a path to a purely empirical justification of Hume's empirical method.

3.4 Can we trust in testimony?

What choice do we have but to trust in testimony, given that most of our beliefs about the non-observable parts of the world, including scientific, historical, or religious ones, and even our everyday beliefs concerning observable but presently not observed parts of the world are testimonial. However, the main question in epistemology of testimony is, of course, not whether testimony plays an indispensable role in gaining knowledge about different phenomena of the world but whether it is a reliable source of knowledge. Dan O'Brien, in his paper, discusses the Humean as well as Hume's own approach to testimony. He represents the contemporary debate on the epistemology of testimony between reductionists and anti-reductionists, and shows that this debate can be traced back to two different positions concerning the nature of testimonial beliefs—Hume's evidentialist view in *Enquiry concerning Human Understanding* and Thomas Reid's teleological account. In doing so, O'Brien also reveals that Humeans widely characterize Hume as a reductionist in this debate. According to this reductionist interpretation, the testimonial justification is reduced to the justification of our familiar perceptions, memories and inductive inferences. Contrary to this reductionist view, mainly based on the relevant parts of Hume's *Treatise* concerning the testimony of history, O'Brien defends an anti-reductionist interpretation of testimony, maintaining that it is a *sui generis* source of justification whose reliability is not grounded in any more fundamental epistemic faculties. Moreover, he also argues that if Humeanism in the epistemology of testimony means that Hume was a reductionist then Hume cannot be a Humean.

4 Moral Humeanism

4.1 Humean reasons

Humeanism has been similarly present in several recent question in moral, social and practical philosophy—while providing various answers to them that have been labeled as 'Humean.' Cohon (2008) has pointed out that the "common reading" of Hume's moral philosophy consists in the following three interrelated views. First, moral judgements have no truth value, as they are mere expressions of emotions concerning human behavior; accordingly, Hume was the first advocate of *moral non-cognitivism* who maintained that there is no such thing as moral knowledge. Secondly, we cannot infer evaluative moral statements from representative factual statements because there is a *logical gap* between these two different kinds of statements. And thirdly, beliefs alone are *motivationally inert* mental states, while desires are a certain kind of passion (together with some related means-end beliefs) that motivate us to act

in a certain way.¹⁶ As Cohon notes, “Each of these views is so closely associated with Hume that it has been called Humeanism, and those who hold one or more of them are called Humeans” (Cohon 2008, p. 3). Whether any of these views were accepted by Hume is a different question, of course.

While it is an oft-cited claim of Hume that “Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them” (T. 2.3.3.4) whereby reason alone cannot give us reasons to motivate and explain our actions, its function as “the slave of the passions” is not clear. If we focus on the third view concerning the motivational inertia of our reason and beliefs, we can find two distinct interpretations of Hume’s own view of practical reason—more precisely, about what role reason plays in action explanations. For example, according to Geoffrey Sayre-McCord,

In light of what he says, Hume is regularly read as either an outright skeptic about practical reason or as an advocate of unadorned instrumentalism. According to the skeptical reading, Hume rejects the idea that reason could be practical at all; according to the instrumental reading, he embraces reason as practical, yet sees its role as being entirely a matter of figuring out efficient ways to satisfy one’s desires or achieve one’s ends. The instrumentalist interpretation has become so widespread that instrumentalism is often labelled ‘Humeanism’ (though, in a nod to the plausibility of the skeptical reading people will often say that it is unclear whether Hume is a “Humean”). (Sayre-McCord 2021, p. 141)

Thus, though some Humean views have proven to be incompatible with each other, they typically share a common core: The central form of moral Humeanism owes a lot to Donald Davidson’s (1963) much-discussed view of *reasons* for action as belief-desire pairs. For example, Elizabeth Radcliffe, an advocate of Humean instrumentalism, asserts that the “Humean theory of motivation is often described simply as the view that motivation for action requires a desire for an end and a belief about the means to the end” (Radcliffe 2012b, p. 121). However, there are divergent views, among Humeans and anti-Humeans alike, on whether Humean reasons thus understood can play more than an explanatory role and can serve as reasons for justifying actions.

In her article for the present volume, Radcliffe argues for a Humeanism that can comprise both the explanatory (motivating) and justificatory (normative) roles of reasons. Hume’s ‘common point of view’ allows for reflecting on our primary desires while taking into account how those desires closest to a given action are affected by it. This reflection can yield higher-order desires, most likely in the form of calm passions, that are both explanatory and derived from a normative perspective. As such, Humeanism about reasons can accommodate both crucial aspects, but as Radcliffe

¹⁶ It is widely agreed among Humeans that beliefs and desires are different mental states: Beliefs are cognitive, desires are conative. Michael Smith (1987) introduces the much-discussed metaphor of “direction of fit” to distinguish beliefs from desires in a Humean way: Beliefs represent states-of-affairs attempting to fit themselves to the world; desires gives us goals attempting to fit the world to themselves. According to Lewis (1988), a Humean denies what an anti-Humean accepts, namely that there is a necessary connection between particular mental states, that is, in the present case, between an agent’s desire to act in a certain way and her belief about what is good.

argues, anti-Humean ‘objective-reasons theorists,’ i.e., those considering reasons from a purely normative perspective as independent of desires, have to face certain challenges when explaining how actions can spring from reasons. Thus, Radcliffe reverses the challenge put forward by ‘objective-reasons theorists’ by showing that while Humeanism about reasons can conveniently accommodate this normative dimension, objective reasons have a hard time being explanatory.

4.2 Humean conventions

A similarly central concept with a similarly dominant Humean reconstruction is that of *convention*. David Lewis’s (1969) classic Humean exposition of ‘convention’ analyzes it as an intentional concept: Conventions respond to coordination problems and provide stable solutions to them by the weight of precedents that ground systems of mutual beliefs (concerning preferences) and expectations (concerning behavior). Lewis’s account has proven to be widely influential in and outside philosophy and has inspired competing accounts of convention. Lewis’s analysis was chiefly inspired by Hume’s account of promises, but Hume’s example of rowers illustrates a more basic form of Humean conventions: “Two men, who pull the oars of a boat, do it by an agreement or convention, tho’ they have never given promises to each other” (T 3.2.2.10). These kinds of conventions are plausibly formed, and can be accounted for, without ascribing any robust mentality to the parties—i.e., without any systems of preferences, expectations, mutual beliefs and their mutual ascriptions. Evolutionary accounts of convention (see e.g. Millikan 1998, Skyrms 2014) seem to conform to this line of Hume’s thinking.

Contemporary ‘practice theories,’ discussed here by Rachel Cohon, remain within the ballpark of Lewis’s Humean conventions. They are characterized by the assumption of a moral purpose underlying and justifying our social practices, such as the conventions of promising. Similar to Radcliffe’s discussion, Cohon’s contribution is also focused on the problem of normativity. She argues that Hume’s account provides a causal genealogy of our moral sentiments toward promises in terms of their social and psychological origins. The products of these mechanisms, Humean moral sentiments, are normative in themselves and are not in need of underlying justification. Cohon offers a reconstruction of Hume’s position, and against this background, she addresses the ‘wrong party’ objection: If the obligation to keep promises derives from a more fundamental duty of fair dealing owed to the party of fair dealers, then the duty, on this construal, is owed to the wrong party. Cohon dismisses this objection on the grounds that for Hume, the duty to keep promises does not arise from a more fundamental duty. Yet, she identifies a more pressing problem for Hume and others: whether moral sentimentalism can give a satisfactory account of the ‘directedness’ of obligations. Based on the suggestion that Cohon puts forward, this seems possible, but, as she admits, working out its details “could prove tricky.”

5 Hume beyond philosophy?

The Humean view of conventions has significance beyond the limits of philosophical inquiry—most prominently in economics and political theory. On second look, one finds that elements of Hume’s legacy surface in various fields of theoretical inquiry. For example, Sugden (2006) has questioned the Davidsonian interpretation of Hume’s ‘desire’ as a propositional attitude. Instead, he has suggested that Humean desires are primitive psychological motivations and as such fit more neatly with the requirements of behavioral economics than with those of rational choice theory. Bloor (2010) has suggested that some of Hume’s central insights and commitments are inspiring and useful for empirical inquiry in the sociology of knowledge. But the Humean legacy is probably most prominently present in the field of cognitive science, where he is typically presented as the arch-associationist and one of the forerunners of connectionist theories of cognitive architecture.

Tamás Demeter’s paper explores perhaps the most prominent attempt to appropriate Hume for the cognitive sciences: Jerry Fodor’s *Hume Variations* (2003). As Demeter argues, Fodor’s insights, despite his subscription to the widespread image of Hume as the arch-associationist, can serve as a guide for revising that image. If read more closely with Fodor in mind, Hume turns out to be a faculty psychologist instead of an associationist. Hume’s faculty psychology diverges from his contemporaries in its strong commitment to experimental reasoning: Humean faculties and their principles are the products of this form of reasoning, and not the introspectively or a priori given starting points of psychological inquiry. Fodor’s reading is a crucial testimony to the lasting significance of Hume’s legacy. It shows that Hume’s outlook and insights can inspire theoretical advances even in fields that are seemingly very distant from hard-core philosophical problems.

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