

KANTIAN MINDS AND HUMEAN MINDS: HOW TO READ THE ANALOGIES OF EXPERIENCE IN REVERSE

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Abstract: It is nowadays a commonplace of Kant-interpretation that Kant's response to Hume in the Analogies of Experience is not strictly speaking a refutation of Hume but in fact only an extended critical response to Hume's skeptical accounts of object-identity and causation, that also accepts many of Hume's working assumptions. But this approach can significantly underestimate the extent to which Kant's conception of the representational mind is radically distinct from Hume's. In particular, Kant's conception of the human mind's innately-specified spontaneous actions as ultimate sources of the veridical representation of both logical and metaphysical necessity in the world of objective experience, if correct, entails a flat-out rejection of Hume's conception of the human mind's merely projectivist abilities and activities. This in turn entails that, to this extent, the Analogies contain not only a critical response to Hume, but also a flat-out refutation of Hume.

Keywords: Kant's Second Analogy of Experience. Transcendental Psychology. Hume's Psychology. Mental Causation. Epiphenomenalism.

Now the question is no longer about the community of the soul with other known but different substances outside us, but merely about the conjunction of representations in inner sense with the modifications of outer sensibility, and how these may be conjoined with one another according to constant laws, so that they are connected into one experience. (Kant, *CPR* A386)¹

For it seems to me evident, that the essence of the mind being equally unknown to us with that of external bodies, it must be equally impossible to form any notion of its powers and qualities otherwise than from careful and exact experiments, and the observation of those particular effects, which result from its different circumstances and situations. And tho' we must endeavour to render all our principles as universal as possible, by tracing up our experiments to the utmost, and explaining all effects from the simplest and fewest causes, 'tis still certain we cannot go beyond experience; and any hypothesis, that pretends to discover the ultimate original qualities of human nature, ought at first to be rejected as presumptuous as chimerical. (Hume, *THN* xvii)²

¹ I. Kant, *Critique of Pure Reason.*, trans. P. Guyer and A. Wood (Cambridge: Cambridge Univ. Press, 1997). For convenience I refer to Kant's works infratextually in parentheses, and I also follow the common practice of giving page numbers from the A (1781) and B (1787) German editions only. I generally follow the Guyer-Wood translation, but have occasionally modified it where appropriate.

² D. Hume, *Treatise of Human Nature*, ed. P.H. Nidditch (2nd edn., Oxford: Clarendon/Oxford Univ. Press, 1978).

The idea that drives the supervenience argument can be expressed in the following proposition, which I name after the great eighteenth-century American theologian-philosopher Jonathan Edwards:

Edwards's dictum: There is a tension between “vertical” determination and “horizontal” causation. In fact, vertical determination excludes horizontal causation.

It is easy to see how Edwards's dictum applies to the mind-body problem, causing trouble for mental causation. Mind-body supervenience, or the idea that the mental is physically “realized”—in fact any serious doctrine of mind-body dependence will do—plays the role of vertical determination or dependence, and mental causation, or any “higher-level” causation is the horizontal causation at issue. The tension between vertical determination and horizontal causation, or the former's threat to preempt and void the latter, has been, at least for me, at the heart of worries about mental causation. (J. Kim)³

I. Introduction

There are two distinctively different branches of the philosophy of mind: (1) *the philosophy of the mind-body problem*, which addresses these questions—

(i) What explains the existence and specific character of conscious, intentional minds in a physical world?,

and

(ii) What explains the causal relevance and causal efficacy of conscious, intentional minds in a physical world?,

and (2) *the philosophy of mental representation*, which addresses these questions—

(iii) What explains the object-directedness (= intentionality) of the mind?,

and

(iv) What is the nature of mental content (= intentional content)?

³ J. Kim, *Physicalism, or Something Near Enough* (Princeton, NJ: Princeton Univ. Press, 2005), pp. 36-38.

In this paper I want to address the first pair of questions, or the philosophy of the mind-body problem, by looking comparatively, contrastively, and critically at two importantly different conceptions of the specific character and causal powers of conscious, intentional minds, namely *Kant's* conception of the mind and *Hume's* conception of the mind. So my leading question will be this:

What is the fundamental difference between Kantian minds and Humean minds?

In turn, I want to answer my leading question, by way of what I will call a “reverse reading” of the Analogies of Experience section of Kant’s *Critique of Pure Reason*. It is a *reverse* reading because the Analogies are usually read as containing Kant’s transcendental idealist metaphysics of the causal character of the physical world, in critical response to Hume’s skeptical anti-realist metaphysics of the causal character of the physical world. And of course that is a fully legitimate way of reading the Analogies.

Nevertheless, a Kantian transcendental metaphysics of the causal character of the physical world also necessarily implies a Kantian *transcendental idealist metaphysics of the causal character of the mental*, in critical response to Hume’s *skeptical empiricist metaphysics of the causal character of the mental*, and that is what I am primarily interested in for the purposes of this paper.

So otherwise put, in this paper I am primarily interested in how Kant and Hume respectively deal with *the problem of mental causation* by philosophically reading backwards from how they respectively deal with *the problem of physical causation*.

This in turn will lead to the following answer to my leading question:

The fundamental difference between Kantian minds and Humean minds is that Kantian minds are inherently active and causally efficacious, whereas Humean minds are inherently functional and epiphenomenal, due to the metaphysical tension aptly captured by what Jaegwon Kim calls “Edwards’s dictum.”

Edwards, like Hume and Kant, was an 18th philosopher who saw very clearly that if “vertical” or *noumenal* causation is taken as basic, then “horizontal” or *phenomenal* causation is *excluded and rendered epiphenomenal*, or in Kim’s words, “preempted” and “voided.” The only way to

relieve this metaphysical tension is remove noumenal causation from one's philosophical world-picture altogether, and then to re-install phenomenal causation on its own, as *empirically real*, in a philosophical world-picture that is *fully without levels*, and therefore without any tension-producing difference whatsoever between the so-called "vertical" and the so-called "horizontal" directions of causal determination.⁴ In other words, only the classical Kantian metaphysical combination of *transcendental idealism together with empirical realism* is capable of fixing this problem.

Now since epiphenomenalism is, *prima facie*, a decisive reason for rejecting any metaphysics of mind, it will follow that Kant's transcendental idealist metaphysics of the mind clearly trumps Hume's skeptical empiricist metaphysics of the mind, and thus that Kant decisively refutes Hume for that reason alone, *no matter what one thinks* about their respective metaphysical analyses of physical causation.

II. Kant's Transcendental Cognitivism, the Paralogisms, and Hume's Proto-Functionalism

Hume's conception of the mind and Kant's conception of the mind are of course both intended to imply the direct rejection of Descartes's *substance dualist interactionist* conception of minds as immaterial, non-spatial, non-extended substances (a.k.a. "Cartesian souls") which somehow causally interact with essentially different material, spatial, extended substances.

For Hume and Kant alike, although we can *think* about Cartesian souls, we cannot possibly *know* whether they exist or do not exist, hence we must remain consistently agnostic about them. Cartesian souls, if they existed, would be (in Kant's terminology) *mental noumenal entities*, or *mental things-in-themselves*, that is, non-sensible, non-apparent, non-spatiotemporal mental substances defined by a set of intrinsic non-relational properties, and therefore capable of having an inherently "lonely existence" such that in principle they can exist altogether independently of one another (solipsism), and also altogether independently of the natural, spatiotemporal world (substance dualism).

⁴ See R. Hanna, *Kant, Science, and Human Nature* (Oxford: Clarendon/Oxford Univ. Press, 2006), esp. chs 1-4 and 8. For the same basic idea presented in a non-historical and strictly systematic format, see R. Hanna and M. Maiese, *Embodied Minds in Action* (Oxford: Oxford Univ. Press, 2009), chs. 6-8.

By sharp contrast, both Humean minds and Kantians minds alike are neither noumenal, nor non-sensible, nor non-apparent, nor defined by intrinsic non-relational properties, nor solipsistic, nor substance-dualistic.

But there is where the similarities end. Kantian minds are strictly *transcendental-cognitive minds*, whereas Humean minds are strictly *proto-functionalist minds*. What do I mean by that? Here we need to look more closely at Kant's philosophical psychology, and then briefly at Hume's philosophical psychology.

IIA. Kant's Transcendental Cognitivism

According to Kant, the central fact about the mind is its capacity to represent (*vorstellen*), which is to say that the mind has something "to put before" (*stellen ... vor*) it, and this something is a mental "representation" (*Vorstellung*). Our mental representational capacity cannot be further explained: it's simply a primitive fact about us. Mental representations, in turn, can be either conscious or nonconscious. The primary cognitive role of consciousness (*Bewußtsein*) is to contribute subjective integrity, or a well-focused and uniquely egocentric organization, to a mental representation.

A conscious mental representation is thus an "idea" in the broadest possible sense. Subjective conscious mental representations are internal or immanent to consciousness and lack fully determinate form or structure. Objective conscious mental representations, by contrast, are determinate ways of referring the mind to any sort of objects (i.e., some topic or target of the mind--what the representation is *about*), including the self considered as an object, as in self-consciousness or apperception. Objects of conscious mental representation also include existent or non-existent objects, and actual or possible objects. In short, conscious objective mental representation in Kant's sense is essentially what the Scholastics (and later Brentano, Husserl, and Meinong) call "intentionality."

For Kant, every objective conscious mental representation has both (i) a "form" (*Form*) and (ii) a "matter" (*Materie*) or "content" (*Inhalt*). The form of an objective conscious mental representation is its intrinsic or immanent structure. E.g., sensory perceptions have intrinsic or

immanent spatial and temporal form or structure, and judgments have intrinsic or immanent logical form or structure. *Materie* is qualitative sensory content. *Inhalt* by contrast is intensional content: what Kant calls an objective conscious mental representation's "sense" or *Sinn* and also its "meaning" or *Bedeutung*. The sense, meaning, or intensional content of an objective conscious mental representation is the *information* that the mind has about its objects. Since the same object can be represented in different ways, there is a many-to-one relation between intensional contents (senses, meanings) and their corresponding objects.

Unfortunately, Kant also sometimes uses the term "form" to refer to purely psychological components of our use or grasp of an objective conscious mental representation. Form in this sense is somewhat similar to what Descartes called the "formal reality" of an idea, and the intensional content of an objective conscious mental representation in Kant's sense is somewhat similar to what Descartes called the "objective reality" of an idea. More precisely, for Kant the form of an objective conscious mental representation is what for lack of a better name I will call its *representational character*, by analogy with the "phenomenal character" of phenomenal consciousness. Representational character includes (a) the difference between clarity and unclarity, and between distinctness and indistinctness, (b) different subjective attitudes of all sorts, or what Locke called "postures of the mind," including but not restricted to propositional attitudes, and (c) and our direct conscious awareness of and ability to distinguish between and generalize over types of mental acts or mental operations of all different sorts (e.g., analysis, synthesis, memory, imagination, thought, judgment, etc.), which Kant calls "reflection" (*Überlegung*) and which is somewhat similar to Locke's "ideas of reflection."

Conscious mental representations can be either subjective or objective, but in either case are necessarily accompanied by "sensations" (*Empfindungen*). The "matter" or qualitative phenomenal content of sensations--or what we would now call "qualia"--are intrinsic non-relational phenomenal properties of all conscious representations. More precisely, sensation is "the effect of an object on the capacity for representation, insofar as we are affected by it" (CPR A19-20/B34), or in other words, a sensation together with its content is nothing but the subject's direct response to endogenously- or exogenously- caused changes in its own state. Endogenously-caused sensations are "subjective sensations," or feelings, and exogenously-caused sensations are "objective sensations,"

Objective conscious mental representations are also known as *cognitions* (*Erkenntnisse*), and this Kantian usage is essentially equivalent with the use of the term ‘cognition’ in contemporary cognitive psychology.

Just to make things confusing however, in the B edition of CPR (see, e.g., at CPR Bxxxvi, n.) Kant also sometimes uses the term ‘cognition’ in a somewhat narrower sense to mean *an objective conscious cognition of an actual or possible object of sense perception, an actual or possible empirical object, or empirical state-of-affairs: an empirically meaningful or objectively valid judgment*. This notion of a cognition then directly contrasts with the notion of mere *thought*, which is a conscious conceptual mental representation of any sort of object whatsoever, whether or not it is an object of actual or possible sense perception.

According to Kant, a mental representation is *transcendental* when it is either part of, or derived from, our innate spontaneous (and thus a priori) cognitive capacities.

A representation is *empirical* when it is directly related to, or derived from, what is “given” (i.e., received from beyond the mind) in sensibility. For example, outer and inner sense perceptions are empirical. A representation is *pure* when it contains no empirical content whatsoever.

The *innateness* of a mental capacity means that the capacity is intrinsic to the mind, and not the acquired result of experiences, habituation, or learning. Correspondingly, the *spontaneity* of a mental capacity implies that the acts or operations of the capacity are

- (i) causally and temporally unprecedented, in that (ia) those specific sorts of act or operation have never actually happened before, and (ib) antecedent events do not provide fully sufficient conditions for the existence or effects of those acts or operations,
- (ii) underdetermined by external sensory informational inputs and also by prior desires, even though it may have been triggered by those very inputs or motivated by those very desires,
- (iii) creative in the sense of being recursively constructive, or able to generate infinitely complex outputs from finite resources, and also
- (iv) self-guiding (*CPR* A51/B75, B130, B132, B152, A445-447/B473-475).

There are six fundamental innate spontaneous mental representational capacities (i.e., cognitive faculties, or cognitive powers), according to Kant:

Sensibility (Sinnlichkeit) is the cognitive faculty for sensory awareness (sense-perception, imaging, feeling—which can also include pleasure & pain, and desires).

Understanding (Verstand) is the cognitive faculty for intellectual awareness or thought (conceptualization, describing).

Power of judgment (Urteilkraft) is the cognitive faculty for making judgments (framing propositions, framing beliefs).

Reason (Vernunft) is either (a) the cognitive faculty for logical inference (in particular syllogistic inference) & the systematic organization of thought (theoretical reason), or (b) the innate faculty for decision-making and forming volitional intentions on the basis of desires (practical reason). Otherwise put, reason is the faculty for recognizing and following necessary normative *principles*.

Imagination (Einbildungskraft) is a cognitive faculty that has both generic and specific aspects. When taken generically, the imagination is the source or engine of all sorts of synthesis, or mental processing. But when taken specifically as a “dedicated” or task-sensitive cognitive faculty, the imagination also generates (1) the spatial and temporal forms of intuition, (2) mental images in conscious sensory states, (3) reproductive imagery or memories, and (4) “schemata,” which are supplementary rules for interpreting general conceptual rules in terms of more specific figural (spatiotemporal) forms and sensory images.

Apperception is the cognitive faculty for self-consciousness or judgment-based self-representation, i.e., second-order thought, or belief about one’s own first-order consciousness.

Here is a diagrammatic version of Kant’s transcendental cognitive psychology as I’ve just been describing it:

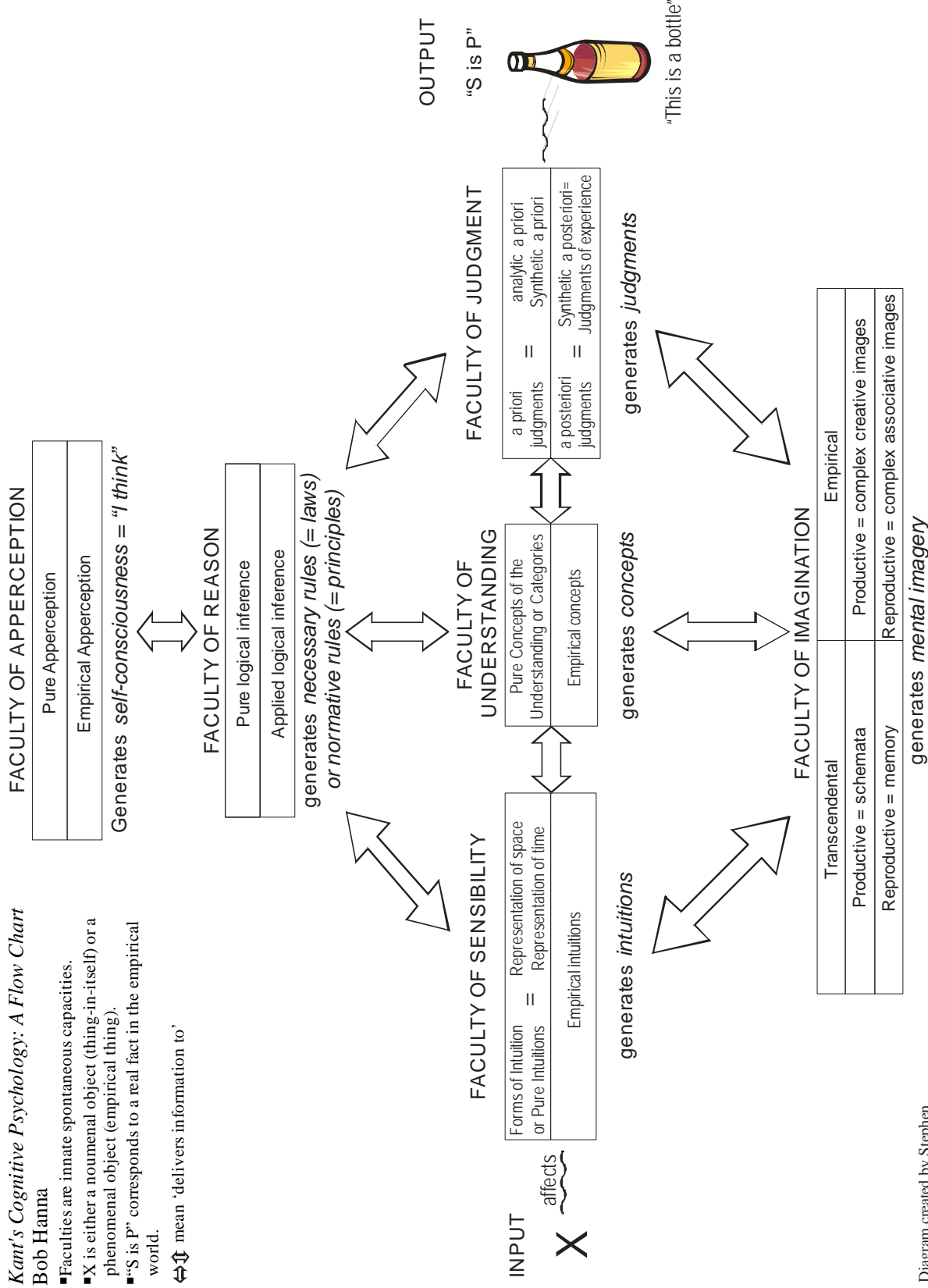
Kant's Transcendental-Cognitive Psychology

Kant's Cognitive Psychology: A Flow Chart

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- Faculties are innate spontaneous capacities.
- X is either a noumenal object (thing-in-itself) or a phenomenal object (empirical thing).
- "S is P" corresponds to a real fact in the empirical world.

↔ mean 'delivers information to'



IIB. The Paralogisms

A paralogism, according to K., is a fallacious inference of reason that consists in advancing from the fact of the **I think** (or apperception, or self-consciousness) to the existence of a simple substantial personal metaphysical soul. This inference in turn is the basis for *pure rational psychology*. This would be a *noumenal or transcendent* psychology, e.g., Descartes's metaphysics of the mind, as opposed to Kant's own *transcendental* psychology.

The basic problem is that we mistakenly convert the highest or executive *cognitive function* (Kant calls it "the vehicle of all concepts whatsoever" [CPR: A341/B399]) into a *transcendent absolute subject or self*. But this is simply a non sequitur.

The **I** in **I think** is merely a cognitive placeholder—that is, a *transcendental subject = X* (CPR: A346/B404)—for whoever it is who is actually thinking at some time and in some context. As a capacity for self-judging, it confers logical unity on the representational contents of the mind, and also brings together the activities of the other cognitive faculties.

So in this sense Kant has what I will call an *immanent structuralist* conception of the thinking subject. According to this conception, subjectivity is defined solely in terms of the a priori intrinsically necessary forms and relations that the innate capacity for apperception actively imposes on representational content.

Along the way Kant also makes some striking and highly suggestive remarks about mind-body relations:

(1) my mind and my body are related to one another as the contents/objects of inner sense and outer sense, hence as ontological or metaphysical complements--dual aspects of a single human animal--standing in direct community with one another (CPR: A342/B400, A385-386, B427-428),

(2) conscious thinking entails the existence of life and more specifically of an animate living organism (CPR: A345/403), hence conscious animals are ensouled living bodies, as in Aristotle: "soul is the first actuality of a body that has life potentially,"

(3) my unity as a single thinking temporally successive subject or person is in fact multiply realizable over personally discontinuous psychological states (*CPR*: A363) and my personhood as an identical rational animal is nothing but a well-ordered immanent structure of inner and outer states that suffices for practical purposes (*CPR*: A365), and

(4) the problem of causal interactionism is nothing but an artifact of Cartesian substance dualism (*CPR*: A392-394), which can be fully avoided when we restrict ourselves to appearances and realize that the mind-body connection is nothing more and nothing less than the synthetically necessary connection between the contents of inner and the contents of outer sense that is described in the Analogies of Experience and the Refutation of Idealism.⁵

IIC. Hume's Proto-Functionalism

Recent and contemporary Functionalism in the philosophy of mind⁶ holds that the mind is not a substance of any sort, but instead is essentially a set of dispositions in a living organism or machine to operate internally (= information processing, reasoning, desiring, and decision-making) and externally (= behavior) in certain ways. Reductive Functionalism type-identifies a mind with an abstract lawlike system of computational or causal-theoretical mappings from inputs to the organism or its brain to outputs from the organism or its brain, and often also token-identifies a mind with whatever actually plays the role specified by that functional organization. The paradigm analogy for Functionalism is the operations of a universal Turing machine, or digital computer, which can be implemented in many different sorts of hardware. Correspondingly, the notion of the wide-ranging multiple realizability of minds accounts for the meaning of the slogan, very popular during the heyday of Functionalism, that “the mind is compositionally plastic.” In this way, Functionalism wants to bind consciousness and all other

⁵ See R. Hanna, “The Inner and the Outer: Kant’s ‘Refutation’ Reconstructed,” *Ratio* 13 (2000): 146-174.

⁶ See, e.g., N. Block, “What is Functionalism?,” in N. Block (ed.), *Readings in the Philosophy of Psychology*, 2 vols. (Cambridge: Harvard Univ. Press, 1980), vol. 1, pp. 171-184; D. Braddon-Mitchell and F. Jackson, *Philosophy of Mind and Cognition* (2nd edn., Oxford: Blackwell, 2007), esp. chs. 1-3; D. Chalmers, *The Conscious Mind* (New York: Oxford Univ. Press, 1996), esp. chs. 1-4; J. Kim, *Philosophy of Mind* (2nd edn., Boulder, CO: Westview Press, 2006), esp. chs. 5-6; and H. Putnam, “The Nature of Mental States,” in H. Putnam, *Mind, Language, and Reality: Philosophical Papers, Vol. 2*. Cambridge: Cambridge Univ. Press, 1975), pp. 429-440.

mental facts about mental representation or intentionality to essentially inert and mechanical facts, extrinsic relational computational or causal properties, and linear dynamic processes that can be *multiply realized* in different kinds of inert matter or compositional stuff, by means of causal laws.

Not all versions of Functionalism are fully reductive, since some functionalists also hold that phenomenal consciousness is non-reducible to functional facts.⁷ But at the same time, for these non-reductive versions of Functionalism, the non-reducibility of phenomenal consciousness also entails that consciousness is strictly *epiphenomenal*, i.e., that consciousness is caused by noumenal physical facts and processes, but has no efficacious causal powers of its own.

Hume's Proto-Functionalism is distinct from recent and contemporary Functionalism in two ways. First, Hume is clearly not a reductive functionalist because he characterizes all cognitive functions in terms of primitive sensory facts (impressions, ideas, and passions) and sensory associations (operations of the imagination). Second, Hume's conception of causal laws is explicitly anti-realistic. Nevertheless, Hume's theory of the mind is functionalist in all other respects, as Jerry Fodor has recently pointed out,⁸ especially including the epiphenomenality of all sensory experience and cognition, as can be easily seen from the well-known text I quoted as the third epigraph of this paper—

it seems to me evident, that the essence of the mind being equally unknown to us with that of external bodies, it must be equally impossible to form any notion of its powers and qualities otherwise than from careful and exact experiments, and the observation of those particular effects, which result from its different circumstances and situations

—together with the following equally famous texts from the early sections of the *Treatise*:

Were ideas entirely loose and unconnected, chance alone wou'd join them; and 'tis impossible the same simple ideas should fall regularly into complex ones (as they

⁷ See, e.g., N. Block, "Troubles with Functionalism," in Block (ed.), *Readings in the Philosophy of Psychology*, vol. 1, pp. 268-305; Chalmers, *The Conscious Mind*; F. Jackson, "Epiphenomenal Qualia," *Philosophical Quarterly* 32 (1982): 127-136; and Kim, *Physicalism or Something Near Enough*.

⁸ J. Fodor, *Hume Variations* (Oxford: Oxford Univ. Press, 2003).

commonly do) without some bond of union between them, some associating quality, by which one idea naturally introduces another. This uniting principle among ideas is not to be consider'd as an inseparable connexion; for that has been already excluded from the imagination; nor yet are we to conclude, that without it the mind cannot join two ideas; for nothing is more free than that faculty; but we are only to regard it as a gentle force, which commonly prevails, and is the cause why, among other things, languages so nearly correspond to one another; nature in a manner pointing out to every one those simple ideas, which are most proper to be united into a complex one. The qualities, from which this association arises, and by which the mind is after this manner convey'd from one idea to another, are three, *viz.* RESEMBLANCE, CONTIGUITY in time and place, and CAUSE and EFFECT. (*THC* pp. 10-11)

These are therefore the principles of union or cohension among our simple ideas, and in the imagination supply the place of that inseparable connexion by which they are united in our memory. Here is a kind of ATTRACTION, which in the mental world will be found to have as extra-ordinary effects as in the natural, and to show itself in as many and various forms. Its effects are every where conspicuous; but as to its causes, they are mostly unknown, and must be resolv'd into *original* qualities of human nature, which I pretend not to explain. Nothing is more requisite for a true philosopher, than to restrain the intemperate desire of searching into causes, and having establish'd any doctrine upon a sufficient number of experiments, rest contented with that, when he sees a farther examination would lead him into obscure and uncertain speculations. In that case his enquiry wou'd be much better employ'd in examining the effects than the causes of his principle. (*THC* 12-13)

Both Hume's strictly operational analysis of the mind, and also his clear distinction between the "vertical" or noumenal causes of the mind's operations and its "horizontal" or phenomenal effects, which directly entails the epiphenomenalism of the mental, are self-evident here.

III. Kantian Minds vs. Humean Minds in the Analogies of Experience

In the Analogies, Kant explicitly offers solutions to three fundamental philosophical problems: Berkeley's problem of how to account for the objectivity of a world made up entirely of wholly subjective sensory objects (i.e., a world of ideas), Hume's problem of the nature of object-identity over time, and Hume's other problem about the validity of our idea of causation or necessary connection in nature.

Berkeley famously argues in the *Principles* that matter is impossible and that to be an object is to be perceived by a thinking subject. Berkeley's solution to the objectivity problem is that a divine mind imposes an order upon the totality of subjective sensory objects by systematically affecting us in sensibility.

Hume equally famously argues in the *Treatise* and again in the first *Enquiry* that continuity of object-identity over time cannot be either directly experienced or legitimately inferred from experiences, and is nothing but a projection of the mind from the repeated association of similar experiences:

Hume also argues, perhaps most famously of all, (a) that the ideas of causally necessary connections we naturally ascribe to perceived objects are false and vacuous because of the contingency of all temporal connections immediately presented to us in sensory impressions (skepticism about causal necessity), and (b) that even if causally necessary connections can in some sense exist "secretly" behind mere sensory objects, they are totally unknowable by means of the senses (metaphysical agnosticism):

Hume's "skeptical solution" to his problem about the idea of causation, then, is that we non-rationally form habits of mind in experiencing constantly conjoined sensory events, and unconsciously project our habitual expectations, in the form of a belief that a necessary connection exists between all events of those types, onto the sensory data (radical psychological empiricism).

Kant's transcendental idealist solutions to these problems, by sharp contrast, avoids both Berkeley's appeal to a transcendent being, and also Hume's skepticisms about object-identity and causal necessity, and his radical empiricist psychology. Kant's idea, in a nutshell, is that all and only creatures minded like us necessarily cannot represent the material world without also representing it as substantially objective, as objectively identically enduring over time, and as causally necessitated in time and space.

Kant says that "[The Analogies'] principle is: Experience is possible only through the representation of a necessary connection of perceptions" (*CPR* B218).

What he means is this. The three Analogies correspond to the categories of relation (substance/attribute, cause/effect, community), which in turn correspond to the relational forms of judgment (subject/predicate, hypothetical, disjunctive). The temporal schemata for the three categories are, respectively, persistence (existence of a thing through time), succession (the passage of events), and coexistence (simultaneity).

In each case, Kant wants to say, assuming transcendental idealism, that the sensory objects given in experience will take on necessary temporal structures that are strictly transcendental--imposed by the subject. The application of all of these structures constitutes a *substantially-objective, identically enduring, causally law-governed* empirical world in time and space. That is, idealism + categories + schematization = a world that is fundamentally metaphysically appropriate for the application of necessarily and empirically true propositions in physics.

The first Analogy is: “in all changes of appearances substance persists, and its quantum is neither increased nor diminished in nature” (*CPR* B224).

What does *that* mean? Think of it this way. Take the logical form of a subject/predicate proposition, and metaphysically interpret it by applying it to objects in general. The result is the notion of a substance (an independently existing thing that supports properties), and its accidents (the contingent properties of the substance). Now take the metaphysical notion and give it a temporal interpretation (schema) in terms of duration. The result is the notion of something which exists “persistently” through time, and is also the substrate for the various changes in properties that occur through time. Well, what is the thing that exists persistently throughout all time and supports various changes in properties? Answer: physical matter. So Kant is saying that necessarily every changing contingent property in appearances must be applied to, or predicated of, a material object that endures through time by virtue of its *intrinsic relational* or *immanent structural* properties.

Here Kant rather puzzlingly talks about two distinct levels of the material substrate of empirical nature: on the one hand, he talks of a single substratum that exists persistently throughout *all* time--that is the totality of matter; but on the other hand, he talks about a plurality of “lesser” substances that exist persistently for a while, and then go out of existence--those are the

particular material beings. These two perspectives on substance can be reconciled, I think, only by assuming that the plurality of substances are *apparent parts* of the *real whole*, or One Big Substance, which is the totality of matter. In fact, there is one and only one substance (let's call it "primary substance"). This primary substance, the totality of matter, is preserved through the coming-to-be and passing-away of the many "secondary substances" by virtue of the fact that particular substances are simply individual organizations of matter, all of which eventually "break up." But the "quantum," or total supply, of matter is permanently preserved or persists.

This makes it possible for K. to give a very simple doctrine of "alteration" (*Veränderung*) or change. For something to alter is for a material substrate to have a succession of changing properties in a single or unique time; otherwise put, things come to be or pass away by virtue of the succession of properties.

The objects we experience are temporal complexes consisting of the One Big Substance + changing properties. Otherwise put, particular objects of experience are nothing but particular events in the long career of the One Big Substance. The unity of an object is nothing more than a certain *orderliness* imposed on the succession of properties applicable to primary substance.

The second Analogy contains Kant's most explicit response to Hume's skeptical empiricist analysis of our idea of causal necessity in nature. It goes like this: "all alterations occur in accordance with the law of the connection of cause and effect" (CPR: B232). This principle clearly builds on the first Analogy. In a nutshell, Kant is saying that the temporal succession of changing "states" or (*Zustände*) of a single One Big Substance (= "alterations" or *Veränderungen*) must include within itself a necessary connection between earlier and later states, such that the earlier states are nomologically sufficient for later ones.

That is because the category of cause/effect derives from the logical form of the hypothetical, which Kant understands as: Logically necessarily (which I'll abbreviate as "L-NEC") if P then Q (i.e., the antecedent is strictly sufficient for the consequent under a logical law). The cause/effect relationship, in other words, is the logical consequence relation as applied to objects in general.

Now the temporal schema restricts this relation to asymmetrically successive moments in time (“time’s arrow”). Hence the schematized category of cause/effect is the logical sufficiency relation as mapped onto asymmetrically successive moments in time, which by virtue of its dependence on time makes it a *synthetically sufficient connection under a general law*, i.e., a nomologically synthetically sufficient connection.

A “state” or *Zustand* of the One Big Substance is the instantiation of a property at a time somewhere in the material world. So necessarily, whenever an earlier state is nomologically sufficient for a later state, *then* the later one is the effect and the earlier one is the cause. Perceptions of states that are ordered in this way (Kant’s famous example is the successive positions of a boat floating downstream) are *objective or law-governed* orderings. By contrast, perceptions of states that are not so ordered are merely *subjective or arbitrary* orderings (Kant’s equally famous example is the succession of sensory objects of someone’s gaze flitting over a house).

The difference between the objective ordering and the merely subjective or arbitrary ordering is also the difference between the objective material world given in outer sense and determinately represented by judgments of experience (= successive states of the external or material world), and the merely subjective conscious world given in inner sense and represented by empirical apperception (= successive conscious mental states, or the stream of consciousness). But notice that this implies the following striking doctrine: For Kant, *the spontaneity of consciousness* is a necessary condition of the representation of an objective external world.

The objective orderings are also called temporal “events” (*Begebenheiten, Ereignisse*), and should be contrasted both with (i) mere “states,” which are just instantiations of properties at times somewhere in the material world, and also with (ii) subjective orderings of perceptions or the stream of consciousness.

Kant’s theory of events has two parts. The first part says that synthetically necessarily (which I’ll abbreviate as “S-NEC”) for any *x* and for any two distinct properties *P1* and *P2*, *x* is a *simple event* or *Begebenheit* (a.k.a. an “occurrence” or “something that happens”) if and only if there

exists an earlier state of x such that this moment in x instantiates a quality $P1$ that is synthetically sufficient for a later state of x which in turn instantiates another quality $P2$.

This is the same as to say that synthetically necessarily the earlier state of a simple event *causes* its later state as its *effect*. If you find quasi-formalizations helpful, what Kant is saying is this:

S-NEC (x) ($P1$) ($P2$) { x is a simple event $\leftrightarrow (\exists y) (\exists z)$ [y and z are both states of x & y is prior to z & S-NEC ($P1$ is instantiated in $y \rightarrow P2$ is instantiated in z)]}

In the second part of Kant's theory of events, he extends the account of simple events to events that are made up of simple events, i.e., *complex events* or *Ereignisse*, which contain at least two simple sub-events, as follows:

S-NEC (x) { x is a complex event $\leftrightarrow (\exists y) (\exists z)$ [y and z are both simple events contained in x & y occurs earlier than z & S-NEC ($y \rightarrow z$)]}

And similarly for complex events containing three simple sub-events, and so-on.

But this is the crucial point: for Kant the objects of experience are *complex events built up out of simple events*, and these simple events, in turn, are *successive sequences of necessarily and nomologically connected states of the One Big Substance*.

In this way, for Kant *the natural world is the totality of causally-structured simple or complex events*, not mere atomistic "things."

This solves both Berkeley's and Hume's problems in single swipe by proposing that objectivity, continuing object-identity over time, and causality in nature are all the result of our transcendently imposing the r-time-schematized Second Analogy of Experience on sensory appearances.

There are, of course, two classical worries about the Second Analogy.

First, there is the non sequitur problem. In *The Bounds of Sense*, Peter Strawson says that Kant commits a “non sequitur of numbing grossness.” This is the fallacious inference from the premise that the *ordering* between two events is necessary (i.e., at time t1 boat B is higher up the stream, and at later time t2 boat B is lower down the stream—but boat B could not have gone downstream without first being higher upstream) to the conclusion that the events follow each other necessarily (e.g., that boat B’s being further down the stream at t2 is a necessary consequence of its having been higher up the stream at t1).

Kant can easily solve this problem, however. The inference described by Strawson is of course fallacious, but Kant is not arguing *from* necessary temporal ordering *to* necessary event-connection. Instead, what he is saying is that what *constitutes* x’s being an objective item in nature is that x is an event which contains not only a necessary temporal ordering but also a necessary event-connection. So it’s not an inference, it’s a *metaphysical analysis*.

Second, there is the problem of simultaneous or synchronic causation. It is a consequence of Kant’s metaphysical analysis of causation and objectivity that causal relations hold exclusively between earlier and later phases of events. But what about the many physical phenomena that are apparently both simultaneous or synchronic and yet causal, e.g.: the centripetal force of the earth’s gravity now acting on me; and the light now illuminating this room?

Kant can also easily solve this problem. In fact he does so simply by offering the Third Analogy of Experience: “All substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing interaction” (CPR B256). That is, all simultaneous or synchronic substances stand to one another in necessary and mutual interactive dynamical relations of co-determination.

Fair enough. But then what we want to know is: Why isn’t this a form of *causation*? Does causation *have* to be successive or diachronic? Why can’t causation be simultaneous or synchronic?

The simple answer is: *It can be*. In the end, since according to the Third Analogy the simultaneity of material substances for Kant necessarily involves reciprocal dynamic causal

interaction, it seems to be no more than a *terminological convention* to say that causation has to be successive or diachronic.

But setting terminological conventions aside, Kant's *actual* doctrine is that causal-dynamic relations between material objects are BOTH successive or diachronic (the Second Analogy) AND simultaneous or synchronic (the Third Analogy).

We are now able to address the leading question of this paper: What is the fundamental difference between Kantian minds and Humean minds?

My answer is that although both Kantian minds and Humean minds alike are fully non-dualistic and non-Cartesian in their nature, nevertheless Kantian minds possess *causally efficacious non-reducible transcendental-cognitive properties* not possessed by Humean minds, which by a radical contrast, are merely *proto-functional* and *epiphenomenal*, or causally inert, *sensory-associative* minds.

Transcendental-cognitive Kantian minds *are innate spontaneous sources* of conscious, intentional activity, and thereby capable of substantive non-empirical cognition and real mental causation, whereas proto-functional epiphenomenal Humean minds are at best *sensory-associative or imaginal functional engines* without any capacity for substantive non-empirical cognition and with no real causal powers of their own.

The philosophical importance of this fundamental contrast between Kantian minds and Humean minds cannot be overstressed. As many contemporary philosophers of mind have pointed out, the problem of the epiphenomenalism of the mental applies to *every version of non-reductive Functionalism*, and indeed to *every version of non-reductive Physicalism* more generally.⁹

What most contemporary philosophers of mind seemed not to have noticed, however, is that *only* a Kantian transcendental-cognitive conception of the mind is able to account for the causal efficacy of the mental, while avoiding both Dualism on the one hand and also Physicalism,

⁹ See, e.g., Chalmers, *The Conscious Mind*, ch. 4; and Kim, *Physicalism, or Something Near Enough*.

whether reductive or non-reductive, on the other.¹⁰ The soundbite version of the reason why this is so, is that *only* the Kantian account locates the transcendental non-reducible, non-dualistic a priori spontaneity of the mental in non-reducible, non-dualistic immanent structural *biological* properties of some complex thermodynamic systems. So non-reducible mental properties are nothing more and nothing less than immanent *forms of life* in suitably complex organisms.¹¹

In any case, and for my purposes here, the upshot is that Kant's famous (or notorious) reply to Hume in the Analogies can be more defensibly and properly seen as a vindication of a Kantian transcendental-cognitive theory of *mental causation* over a Humean Proto-Functionalist *epiphenomenalism*, than as a vindication of a Kantian transcendental-idealist theory of physical causation over a Humean skeptical empiricist anti-realism about physical causation.

So as I said in section I, since epiphenomenalism is, *prima facie*, a decisive reason for rejecting any metaphysics of mind, it will follow that Kant's transcendental idealist metaphysics of the mind clearly trumps Hume's skeptical empiricist metaphysics of the mind, and therefore that Kant decisively refutes Hume for that reason alone, *no matter what one thinks* about their respective metaphysical analyses of physical causation.

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¹⁰ See Hanna and Maiese, *Embodied Minds in Action*, esp. chs. 1-2 and 6-8.

¹¹ For the non-soundbite version of this theory, see Hanna and Maiese, *Embodied Minds in Action*; and also R. Hanna, *The Rational Human Condition* (Unpublished MS, Summer 2010 version), spe. part 1/volume 1, *Deep Freedom and Real Persons*, chs. 1.1 and 1.2.

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