

are not absolutely necessary from a strictly logical point of view.

« 12 » In conclusion, Kastrup deserves some praise for braving the attempt to revive the tradition of deriving metaphysical idealism from epistemological idealism. As I understand it, the constructivist approach in science and philosophy is committed to *epistemological idealism*, namely, to the view that our knowledge of mind-independent reality is suffused with the constructive activities of our own minds and, therefore, that all knowledge involves self-knowledge (see Guyer & Horstmann 2018). However, more often than not, constructivists are reluctant to take an explicit extra step in the direction of *metaphysical idealism*, viz. the contention that mind, or consciousness, constitutes the ultimate make-up of existence. If Kastrup's argument is sound, it follows that the only form of metaphysical realism (broadly conceived as the doctrine that there exists an external reality independent of human observers) consistent with epistemological idealism is metaphysical idealism. As such, the conclusion is of relevance to constructivists insofar as it shows that metaphysical idealism is the only form of metaphysical realism compatible with the constructivist approach.<sup>1</sup> Unfortunately, better arguments are needed in order to substantiate the inference from epistemological to metaphysical idealism.

**Itay Shani** graduated from the University of Western Ontario with a PhD in philosophy (2004). He is now a professor of philosophy at Sun Yat Sen University in Zhuhai, China. He specializes in the philosophy of mind and has published articles on mental representation, embodied cognition, panpsychism, the metaphysics of consciousness, science and religion, and more. He is keenly interested in systems theory, quantum consciousness, process philosophy, and the history of western metaphysics. He is currently working on a book about existential meaning.

RECEIVED: 16 MAY 2018

ACCEPTED: 24 MAY 2018

1| Though, of course, many constructivists may still prefer not to engage with *any* form of metaphysics. I thank the journal's editor for helping me clarify this point as well as the entire last paragraph of the commentary.

## Mind Is an Abstraction

Chris Fields

Independent scientist, France  
fieldsres/at/gmail.com

> **Upshot** • While instantaneous phenomenal consciousness may be (and I would argue should be) regarded as fundamental, as soon as consciousness is extended in time and memory is invoked, the resulting notion of “mind” is as abstract as that of “matter.”

« 1 » Bernardo Kastrup mounts a contemporary version of an argument for ontological idealism familiar since Descartes: since matter can only be known via mind, it cannot be rational to attribute ontological primacy to matter. Mind, on the other hand, is known “directly.” Filling in the tacit premise that being known directly is at least a necessary condition for ontological primacy, the conclusion that mind is at least a better candidate for ontological primacy follows.

« 2 » The premise that “direct” knowledge of X is necessary for, or even evidence for, X being ontologically primary can be questioned, and I will question it later. First, however, let us ask about mind and matter. Kastrup does not define “matter” beyond a few examples (e.g., tables and chairs in §1) and emphasizing that it is “physically objective” (§6). A traditional definition might be “that which occupies space and has mass.” “Matter” on this definition being ontologically primary is difficult to reconcile with contemporary physics, and what, if anything, “physically objective” means has been unclear since the 1920s. The relevance of physics to attributions of ontological primacy can, however, also be questioned. Kastrup clearly questions it; his intuition pump against “ontic pancomputationalism” is aimed squarely at those who would find nonlocality, acausality, superdeterminism or emergent spacetime outlandish. There are doubtless many philosophers, scientists and members of the general public who subscribe to the far more intuitive notions that Kastrup comprehends under “mainstream physicalism,” and Kastrup's point that the “matter” or “physical objects” to which they appeal are abstractions is difficult to argue with.

## Is mind a “given”?

« 3 » Kastrup explicitly defines “mind” as “phenomenal consciousness” with the clarifications that “(mind) entails only the presence of phenomenal properties, in that it is defined as the substrate or ground of experience” (§9) and “experience can be coherently regarded as an excitation of mind” (§10). Kastrup's argument for an epistemological asymmetry between mind and matter depends on “mind” so defined being not an abstraction, or at any rate significantly less of an abstraction than tables or chairs.

« 4 » Interestingly, Kastrup gives no explicit argument that either “phenomenal consciousness” or “the substrate or ground of experience” are not abstractions. He states that mind is “a given” (§34), pointing to an argument of Andrei Linde quoted in §23. Linde is not, however, talking about mind (as Kastrup defines it) in the quoted passage; he is talking about perception. Perceptions, Linde argues, are given; “everything else is a theory” (§23). The examples Linde lists – pain, green and sweet – are, however, not strictly speaking perceptions; they are rather raw qualia. Perceptions are complex experiences that join such raw qualia with other raw qualia of a distinct, “epistemic” class, those involved in “source monitoring” (e.g., Griffin & Fletcher 2017), i.e., distinguishing perceptions from imaginations, intuitions or memories, in assigning levels of what Kastrup calls “concreteness” (§9), assigning subjective probabilities given background knowledge, and so forth. Such epistemic qualia are subject to their own illusions, which can be recognized from a third-person perspective but not corrected from a first-person perspective; the “more real than real” experiences accompanying insular-cortex seizures are compelling examples (e.g., Picard 2013).

« 5 » The signal failure of materialist, physicalist, computational, or to date any other approaches to explain the presence of raw qualia in terms of anything else (e.g., Chalmers 1996; Dietrich 2015) makes it reasonable, at any rate, to take raw qualia as given. Raw qualia occur, and though much can be said about the correlates of their occurrence, their occurrence itself seems inexplicable. But raw qualia are not mind for Kastrup, they are “excitations of mind.” They are, moreover, by their very nature instanta-

neous and ever-changing. We all know what pain is, but separating a particular raw quale of pain – *this* pain – out from the flow of experience is difficult at best.

### Experience and its “ground”

« 6 » Mind is, for Kastrup, both the “ground” of experience and “the ground within which, and out of which, abstractions are made” (§34). This “ground” is, crucially, extended in time, “for experience entails different phenomenal states that can be qualitatively discerned from one another” (§16). It must also be extended in *capacity*: it must be able to “hold” phenomenal states to be discerned from one another and their discerned differences, and phenomenal states to be abstracted and their recognized abstraction(s). To perform either of these operations, moreover, it must have *inferential capabilities* that act on experiences to generate other experiences, e.g., an experienced difference between two phenomenal states, or the experienced conceptualization of an abstraction.

« 7 » What, however, is this “time” that allows different phenomenal states to be discerned? Once can “experience” time, e.g., while waiting for a traffic light, but what one is experiencing in such cases is itself a difference between phenomenal states (e.g., Allman et al. 2014). Experiencing this difference requires memory, an ability to “hold” a phenomenal state – or an abstracted representation of a phenomenal state – for some period of time so that it can be compared with a later phenomenal state. But what is “later”? Appealing to an external clock is appealing to an external system, and must be disallowed in the present context. From a phenomenal perspective, a “memory” is an experience that includes a particular epistemic quale, a “marker” that indicates that the rest of the experience happened in the “past,” perhaps accompanied by other qualia indicating how “far” in the “past” it occurred. The “past” or “external (clock) time” from this perspective are explanatory abstractions, inferences from the experience of such markers.

« 8 » These notions of “markers” for “memory” or “duration” are, however, themselves abstractions. The idea that mind has the “capacity” to “hold” multiple experiences – much less “representations” of experi-

ences – is an abstraction. “Inferential capabilities” are abstractions. “Excitation” and “ground” are abstractions; indeed, the latter in its present usage is a philosophical term of art understandable only as metaphor. These abstractions – the philosophical usage of “ground” aside – are the stock in trade of abstract, computational models of “mind” as a processor of the information contained in experiences (e.g., Fields et al. 2018).

« 9 » Kastrup suggests that abstractions such as these may be artifacts: “in order to speak of the substrate of experience we must give it a name, such as ‘mind’ or ‘consciousness,’ thereby linguistically objectifying the subject” (§35). It is, however, the very notion of a *substrate* that is the key abstraction here. We are given raw qualia – instantaneous experiences. Among these is a sense of coherence. It is this coherence that we objectify, thinking it to be observer-independent, meaningful, informative coherence. We seek to explain it, and postulate a “ground” with a set of abstract properties such as duration, capacity, inferential power and memory. These must be *objective* properties of mind if they are to bear any explanatory weight. Thus, we convince ourselves that we objectively have minds, not just fleeting experiences. This self-convincing seems automatic; Philippe Rochat (2012) argues that it is innate.

### The grin without the cat?

« 10 » Kastrup’s primary objection to ontic pancomputationalism is precisely that it rejects the abstraction of a “ground” for information: “To say that information exists in and of itself [...] is a grammatically valid statement devoid of any semantic value” (§16). Hence an obvious question: Is any claim that instantaneous experiences are what is fundamentally given, and exist in and of themselves, similarly “devoid of any semantic value”? (Q1) For the claims seem entirely parallel. The slogan “information is physical” refers to information that has been recorded in a thermodynamically irreversible way (Landauer 1999); it refers to a memory that can be counted on to faithfully preserve its content. That content is preserved is, however, inevitably just an assumption: that the content is experienced now is no guarantee that it was ever experienced previously, and indeed no guarantee that a past

even exists. Memory and time are not given; they are explanatory abstractions.

« 11 » The idea that information itself is the fundamental given, at least among physicists, has its origins with John Archibald Wheeler (1983: 195): “what we call ‘reality’ [...] consists of an elaborate papier-mâché construction of imagination and theory fitted in between a few iron posts of observation.” But as Wheeler emphasizes, the “iron posts” are only iron, and indeed only posts, given another abstraction from experience: that there are other observers and that communication between observers is possible. Other observers are, effectively, memories into which records of observations can be encoded and from which records of observations can be obtained. They are memories of a particular sort: a kind that can also make their own observations that may confirm or disconfirm your own.

« 12 » Kastrup also objects to the ambiguity of the term “information,” claiming that as it is merely a “*human concept*,” its ambiguity renders any claims for an ontological status of information “strictly meaningless” (§19). This is clearly question-begging, as any proponent of ontic information would claim that information is a “natural entity,” indeed the fundamental natural entity. But, again, the parallel between information and instantaneous experience is striking. The nature of instantaneous experience is hard to pin down, as 3,000 years of recorded philosophy attest. Hence the question: Is instantaneous experience itself a mere abstraction, a “human concept” for which any claim to ontological status is strictly meaningless? (Q2)

### Is ontology possible?

« 13 » All theories have ontologies, relational networks (in some cases hierarchical) specifying what the theory is about. The “entities” represented may be events (e.g., observations) or processes; they need not be “things.” Such ontologies can be viewed as purely pragmatic.

« 14 » What is of concern here, however, is not the pragmatic ontology of some theory, not even that of quantum cosmology. It is *fundamental* ontology. But this concern rests on an assumption: that fundamental ontology is possible, that there are answers to the questions of whether mind derives

from matter, matter from mind, or both from something else. “Answer” here means an authoritative answer, an in-principle, objective, observer/theorist-independent, completely trustworthy answer. The ontologist’s quest is, as Kastrup puts it, for an answer that “liberates us,” that allows “making sense of self and world” (§42).

« 15 » Perhaps, however, this is all a chimaera. Matter, mind, memory, spacetime, information, inferences, knowledge ... all are abstractions. Once the cat has been deconstructed, even the grin appears suspect.

« 16 » Perhaps, in other words, it is this quest for an authoritative answer that should be rejected. Perhaps self and world do not make sense, at least not in combination (Dietrich & Fields 2015). A dialethic world – one in which some contradictions are true as well as false (Priest 1994) – permits limited and pragmatic theories, but disallows any universal and fundamental ontology.

**Chris Fields** is an independent scientist working on the physics, developmental biology and cognitive neuroscience of object perception and object re-identification over time. His recent publications in quantum theory, endophysics, morphogenesis, cognitive modeling, and the etiology of autism spectrum disorders can be found at <https://chrisfieldsresearch.com>.

RECEIVED: 12 MAY 2018

ACCEPTED: 18 MAY 2018

## Concepts, Intuitions, and Hypotheses

Sebastian Kletzl

University of Vienna, Austria

[sebastian.kletzl/at/gmail.com](mailto:sebastian.kletzl@at/gmail.com)

> **Upshot** • In this comment I formulate two questions. The first concerns the role and nature of concepts and intuitions; the second is about the status of the “existence of objective matter” as a “hypothesis” or “explanatory model.”

« 1 » Bernardo Kastrup’s ultimate goal is to show that – ontologically speaking – idealism is more parsimonious than physicalism, since the latter involves more abstrac-

tions and less direct observation. As an example of the “epistemic cost of substituting explanatory abstractions for empirical observation” (§7) he alludes to ontic pancomputationalism. According to this view, neither mind nor matter constitutes the fundamental bits of a mind-independent reality but “ungrounded information.” Abstract mathematical entities and their relations are the basic building blocks of everything, not entities like atoms, molecules, qualia, or experiences.

« 2 » Kastrup criticizes this view on the ground that he does not agree with the concept of “information” employed by pancomputationalists. To support his claim he cites Luciano Floridi, who admits that “information” may be an elusive concept. Against this, Kastrup appeals to another understanding of “information” which – as he assumes – expresses “[o]ur *intuitive understanding of the concept*” (§16, emphasis added) and he implies that the meaning of his understanding is clear, i.e., without any vagueness or elusiveness. Since “information” is a concept invented by humans, it is either possible to clearly define what it means, or the concept is not ontologically meaningful at all.

« 3 » I want to seize on two conditions on which this claim rests: first, that concepts necessarily need to be clear and distinct in order to have an ontological meaning and, second, that the intuitiveness of a concept is a reason for or against employing it. First, it seems dubious to say that we must be able to clearly define what a concept means for it to be meaningful. Since, as Kastrup agrees, concepts are *human* concepts, we have only our human, finite set of experiences to define them. What follows from this observation, as Friedrich Waismann puts it, is that

“we can never exclude altogether the possibility of some unforeseen situation arising in which we shall have to modify our definition. Try as we may, no concept is limited in such a way that there is no room for any doubt.” (Waismann 1945: 123)

This is why our concepts have what Waismann called an “open texture.”<sup>1</sup> Note that

1| Of course, this is the same idea as expressed in Ludwig Wittgenstein’s “language games” but here I prefer Waismann’s way of putting it since it is much more concise.

open texture is not simply vagueness. The point is not that we are not able to determine, say, large quantities because of our perceptual limitations. Rather, open texture is more fundamental and concerns all sorts of concepts: empirical, conventional and logical. In none of these contexts can we, even in principle, foresee all possible further uses of our concepts, so we can never clearly and unambiguously define them. Changes in our definitions are always possible, and sometimes they may even be very fundamental ones. An example is the use of “subjective” and “objective” in the Middle Ages, which, back then, meant the exact opposite of our use of these terms today (Daston & Galison 2007: 29). Why should “information” be immune to this possibility of changing its meaning? And does this make this concept ultimately meaningless?

« 4 » Our situation is not that either there is a clear definition available, or the concept is “ontologically meaningless.” Ever since the collapse of the project of creating an ideal language, philosophers have been amenable to accepting that our concepts – in philosophy, in science as well as in everyday life – are defined well enough for the given purposes; if not, we refine them by adding further requirements, or by altering or deleting older ones. The criterion for being defined “well enough” is that the relevant peer group accepts the definition as sufficiently exact. More cannot be achieved since all our concepts are open textured. And they are open textured because we are finite beings who cannot foresee the future. If this impossibility of providing clearly specified definitions would make the concept of information ontologically meaningless, then every concept is ontologically meaningless.

« 5 » This understanding of concepts and how they function links back to the second condition I find problematic in Kastrup’s line of thought. As I have presented my concern so far, Kastrup could reply by saying that the pancomputationalists’ concept of information is wrong since it is counterintuitive. Our intuitive understanding of “information” is expressed in saying that information is the state of a system, that is, dependent on there being a system in the first place (§16). I will leave aside the question of how it is possible that intuitions – something like educated linguistic guesses – are