

## **Review of David J. Chalmers' *Constructing the World* (OUP 2012)**

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### *1. Introduction*

David Chalmers burst onto the philosophical scene in the mid-1990s with his work on consciousness. Chalmers awakened slumbering zombie arguments against physicalism, and transformed the explanatory gap into the Hard Problem of consciousness. Chalmers' Hard Problem resonated with many researchers and students in those heady days of the Consciousness Wars. His distinction between Hard and Easy problems of consciousness became a central dogma of the movement. Chalmers' influence in philosophy and consciousness studies is unquestionable.

But enthusiasts of Chalmers' framework for thinking about consciousness may be excused for not fully appreciating Chalmers' own justification for drawing the Hard/Easy distinction, or even exactly which distinction he is drawing. Those nuances were absent or downplayed in the early *Journal of Consciousness Studies* and *Scientific American* articles. And even in his landmark *The Conscious Mind* the reader was invited to skip those early chapters and go directly to the zombie arguments.<sup>1</sup> Consequently it is not clear that "Chalmers' Hard Problem" that has been widely influential is in fact Chalmers' "Hard Problem" of consciousness. For it is doubtful that many advocates have ever come to grips with the full story, and it turns out that the full story is very important. Chalmers' approach involves a great deal of nuanced epistemology, among other things: a methodological view about how philosophy—metaphysics, especially—ought to be

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<sup>1</sup> "There are a few sections that are philosophically technical. These are marked with an asterisk (\*) and readers should feel free to skip them" (Chalmers 1996: xvi).

conducted, a view about the requirements for explanation and reduction in philosophy and in the sciences, and a theory of the semantics of concepts. These ideas are advanced in the early chapters of *The Conscious Mind*, and further developed in his later work—some with Frank Jackson, including an important *Philosophical Review* paper. Although Chalmers writes that the present book is not intended as a foundation for his work on consciousness, it is hard not to read *Constructing the World* as such. At last we have a book that sets out thoroughly Chalmers' philosophical worldview.

## 2. *Scrutability*

What is Chalmers' worldview? It is a self-consciously Carnapian one, designed to vindicate the spirit of the *Aufbau*—particularly the idea that the structure of the world is “logical” in that it is rationally comprehensible. The failure of Carnap's *Aufbau* project showed that the “logical” structure of the world is not that of standard deductive logic. But Chalmers still aims to show that the structure of the world is a priori epistemically accessible to an ideal reasoner. Chalmers introduces the term “scrutability” for a this special epistemic relation of which “inferential scrutability” is one species, and so on for “deductive inferential scrutability” and other variations. The core idea is that there is some sparse or “compact” set of truths from which all other truths are scrutable. The particular compact set of truths that Chalmers focuses on are the truths of fundamental physics (P), the truths about qualia (Q), some indexical information about where and when we are located within those truths (I), and a closure clause to the effect that there are no other compact truths (T). Chalmers calls these, collectively, PQTI. PQTI is less sparse than a purely physical base, and (at least on one way of thinking) less sparse than

the phenomenal base of the *Aufbau*; but it is relatively compact. Chalmers takes it as obvious that all truths are scrutable in some sense or other from some base or other; after all, one can always add extra truths to the base (making it less compact) or admit some extra inferential links (making scrutability less austere.) The interesting question is whether all truths are scrutable in a special way from a relatively compact base like PQTI.<sup>2</sup>

The special kind of scrutability is *A Priori Scrutability*. As formulated by Chalmers: “*S* is a priori scrutable from *C* (for *s*) when a material conditional from *C* to *S* is a priori (for *s*).... Near-equivalently, *S* is a priori scriptable from *C* when *S* can be logically derived from some sentences in *C* and some a priori truths” (59). So Chalmers’ view is that all truths *S* are such that they are either in PQTI or else there is a material conditional with *S* as the consequent and the conjunction of PQTI and a priori truths in the antecedent.

Obviously, if there are no a priori truths then Chalmers’ view is equivalent to the view that all truths are deductively inferentially scrutable from PQTI, which would make it very similar indeed to the *Aufbau* but with a different set of compact base truths in the antecedent. As Chalmers’ himself does not find that view very plausible, we can be confident that those who doubt that there are any a priori truths will be generally skeptical of his project. Knowing this, he takes some time to argue that the Quinean case against a prioricity is unsuccessful, and that there are some substantial a priori truths. I will not discuss these arguments herein. They are but one example of a general phenomenon in the book: *Constructing the World* is chock full of rich digressions, quasi-

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<sup>2</sup> This is also the framework, approximately and in different jargon, employed by Chalmers and Jackson in their *Philosophical Review* paper. The question of physicalism for Chalmers, not emphasized in *Constructing the World*, is the question of whether *Q* is scrutable in a special way from *PTI*.

technical “excursus” chapters, and incisive short arguments that are of significance for myriad debates quite independently of their contribution to the central argument of the book. For these alone the book is worthwhile and can be expected to create a broad impact. They can be important resources even for readers who are not convinced that this *Aufbau* project is more successful than its predecessor. Here I will focus on some doubts about Chalmers’ basic defense of A Priori Scrutability.

### *3. A Priori Scrutability and Definitional Scrutability*

Chalmers is aware of the need to defend the idea of A Priori Scrutability. In particular, he makes sure to distinguish this kind of scrutability from the Definitional Scrutability relied on by Carnap in the *Aufbau*, and to argue that objections to Definitional Scrutability are not ipso facto objections to the kind of A Priori Scrutability theses advanced in *Constructing the World* (12-16). Chalmers holds that even if *S* is not a definitional consequence of *C*, “it remains plausible that there is some strong epistemological relation” between the *C* truths and the *S* truths (12-13). In particular, of course, Chalmers finds it plausible that the strong epistemological relation is such that given the *C* truths an ideal reasoner can know the *S* truths a priori, even if *S* is not defined in terms of *C* or there are no such definitions at all, and even if there is no compact set of sufficient conditions for *S*. That is, the claim of A Priori Scrutability. But building up to an argument for A Priori Scrutability, Chalmers aims to clear the air by showing that standard objections to scrutability-like relations based on analyticity do not apply to scrutability as well.

The central case is the capacity we have for evaluating thought experiments, such as the Gettier example: “On the face of things, Gettier’s argument was an a priori

argument, in which empirical information played no essential role, and its conclusion is a paradigmatic example of a non-obvious a priori truth” (14). If any example of A Priori Scrutability is supposed to be compelling, it is the Gettier reasoning. Chalmers parries objections to a priori scrutability that are objections to definitional scrutability. But on his first pass he sets aside more general objections, writing:

An opponent of A Priori Scrutability may hold that there are not even long nontrivial sufficient conditions for knowledge and the like, or that any sufficient conditions here do not yield a priori scrutability. These remain separate substantial issues, distinct from the standard objections to Definability and addressed in the arguments for A Priori Scrutability in later chapters. For present purposes, it suffices to observe that the standard objections to Definability are not objections to A Priori Scrutability and that A Priori Scrutability remains an attractive thesis in the face of them.

(15-16)

One does not have to wait long for Chalmers’ subsequent arguments for A Priori Scrutability. But it is notable that Chalmers hangs so much, even in a preliminary way, on his conviction that the Gettier case is an example of A Priori Scrutability. The line of reasoning proceeds: Suppose that if there are successful arguments against Definitional Scrutability then there are successful arguments against A Priori Scrutability. Next, we note that arguments against Definitional Scrutability are successful. But the Gettier case is still an example of A Priori Scrutability, we are told. So by *reductio*, it is not the case that successful arguments against Definitional Scrutability are arguments against A Priori Scrutability.

Despite Chalmers' repeated assurance that it is plausible that the Gettier argument is an example of A Priori Scrutability, I am unconvinced. I do not myself have an alternative account of what goes on in reasoning about cases, or what goes on in the Gettier reasoning in particular. But I have no reason to think that, to repeat Chalmers' description, "Gettier's argument was an a priori argument, in which empirical information played no essential role, and its conclusion is a paradigmatic example of a non-obvious a priori truth" (14). Any of a variety of things could be going on, cognitively and epistemically, in reasoning about cases (Block and Stalnaker 1999, Byrne 1999, Williamson 2007, Polger 2008).<sup>3</sup> Consequently, I am inclined to reject the premise that the Gettier argument is an example of A Priori Scrutability rather than reject the conditional linking Definitional and A Priori Scrutability.

I recognize that my reasons for doubting that the Gettier case is an example of A Priori Scrutability may be "separate substantial issues, distinct from the standard objections to Definability" (15) that Chalmers' hopes to address with his later positive arguments for A Priori Scrutability. But I do not think he can divide and conquer in this way. First, his insulation of A Priori Scrutability from arguments against Definitional Scrutability depends on accepting that there can be examples of A Priori Scrutability without definitions, and the Gettier case is supposed to be the evidence. But my doubts are precisely about Chalmers' characterization of the Gettier case. So in one way of thinking these issues are not separate after all; I cannot be expected to hold those concerns for later. Second, a positive argument for A Priori Scrutability in general would not show that philosophical reasoning involving cases or the Gettier argument in

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<sup>3</sup> Chalmers offers arguments against some of the alternatives, in the later sections of chapter 4, and in chapter 5.

particular are examples of A Priori Scrutability in action. There might be a priori scrutable truths, but if reasoning about the Gettier case does not involve them, then the argument that A Priori Scrutability survives objections to Definitional Scrutability is incomplete. On this alternative way of thinking, general doubts that the Gettier case is an example of A Priori Scrutability are separate after all, in that they can persist even if an in-principle argument for A Priori Scrutability can be made.

#### *4. A Priori Scrutability and Frontloading*

Chalmers' positive arguments for A Priori Scrutability are developed in chapter 4. The most important of these, and I think the one on which he means to rely, is the Frontloading argument, which is given in both conditional and probabilistic versions. The basic idea is just that one can always add more information to the scrutability base. Suppose that some *S* is Conditionally Scrutable on some *C*, which is to say, roughly, that one can know that "if *C* then *S*." Perhaps this conditional is, "if the Gettier situation is possible, then justified true belief is not sufficient for knowledge" or "if the world is like so, then the substance kind water is identical to the substance kind H<sub>2</sub>O." Such conditionals may be a priori knowable, or not. Suppose that one is not. If the conditional from some *C* to *S* is not a priori knowable, this must be because there is some empirical evidence *E* that is required in order for *S* to be scrutable from *C*. In that case, Chalmers argues, we can simply conjoin *E* to *C*, and the resulting conditional "if (*C* & *E*) then *S*" will be a priori knowable. In short, we can "frontload" empirical information into the antecedent of conditionals used in our reasoning.

I confess that I find this line of reasoning enticing. But I also find it troubling. It is plain that we could stipulate a notion of scrutability, Explanatory Scrutability, such that *S* is Explanatorily Scrutable on *C* just in case we can explain *S* based on evidence *C*. This puts the weight of scrutability on an account of explanation. Suppose, just for illustration, that one believes something like the deductive-nomological model of explanation. In that case, Explanatory Scrutability would occur when there was a law of nature linking *C* and *S*. But A Priori Scrutability would further require that those laws be a priori, which is unlikely to say the least. The Frontloading argument responds to this problem by having us make the conjunction of the evidence and the laws into the antecedent of a conditional, and proposing that the conditional itself is knowable a priori: it is A Priori Scrutable, say, that if a thing has a certain mass *and the laws of gravitation hold* then it will accelerate in such-and-such a way. Chalmers holds that reductive explanation *must* go something like this:

I think there is an important sort of reductive explanation in science for which scrutability is at least a tacit constraint.... If it turned out that such scrutability were impossible in principle, then the reductive explanation could reasonably be regarded as defective, or as failing to satisfy an important desideratum of transparency. In practice, reductive explanations typically proceed by giving just enough detail to make it plausible that a fleshed-out story of this sort could be obtained. (307-308)

A Priori Scrutability is, according to Chalmers, a normative guide for reductive explanation; and actual reductive explanations succeed by approximating that ideal. Chalmers explores the connection between scrutability and reduction in Excursus 12.

Recognizing the wide array of reductionisms in philosophy of science, he focuses on what he calls “classical” varieties, a group in which he includes his own notion of “mechanistic” explanation. However it is not clear that, for example, the influential picture of mechanistic explanation advanced by Machamer, Darden, and Craver (2000) is relevantly similar. According to Machamer, Darden, and Craver many mechanistic explanations are incomplete—mechanism sketches or schema—that could be filled-in more completely. But the explanatory filling-in aims for causal completeness, not A Priori Scrutability. It is not clear that A Priori Scrutability is a widely accepted norm on even reductive explanation.

An alternative is to conclude that if science has in fact accomplished some reductive explanations, it must be that those explanations do not require A Priori Scrutability. For science is conducted by far from ideal reasoners who conduct experiments to discover the structure of the world, and provides explanations that are at least sometimes recognized as successful by other less than ideal reasoners. Scientific explanations do not generally take the form of a priori conditionals, and we have no special reason to think that our explanations even approximate A Priori Scrutability.

Even if it is possible to use the Frontloading strategy to restate scientific explanations into a priori conditionals, it is far from clear why we would or should do so. Consider an example frequently mentioned in relation to reduction: the boiling of a kettle of water. It is an idealization to suppose that we have a complete explanation of the boiling of water in terms of its physical components. But suppose that we have discovered such an explanation. Whatever knowledge of the world is thereby gained concerns the relation of some microscopic phenomena to a macroscopic phenomenon. It

is not at all obvious what would be achieved by reformulating the explanation into a conditional that is A Priori Scrutable, even if that were possible. If we could do it, I don't why should we? And if we did, how would we better understand the structure of the world by doing so? On the contrary, we might be misled. For the Frontloading argument tempts us to mistake the structure of our understanding of the world for the structure of the world.

This points to a basic commitment of Chalmers' framework that some of us do not share. Scientific explanation may require that the world be ordered. (It may not require even that.) But scientific explanation, even reductive scientific explanation, does not require that the world be rationally ordered to conform to the epistemic requirements of scrutability. It need not be ordered such that even the ideal reasoner could reconstruct it a priori. The structure of the world may itself be knowable only a posteriori. Why should we expect or demand more?

## 5. References

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