Science as Intuition Pump:

Dennett's Methodological Legacy for Philosophy

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Abstract: We take a fresh look at Daniel Dennett's naturalist legacy in philosophy, focusing on his rethinking of philosophical methods. Critics sometimes mistake Dennett for promoting a crude naturalism or dismissing philosophical tools like first-person intuition. We present his approach as more methodologically radical, blending science and philosophy in a way that treats inquiry as an evolving process. Concepts and intuitions are tested and adjusted in light of empirical findings and broader epistemic aims. For Dennett, science isn't a limitation on philosophy, but a tool that sharpens it, with empirical data helping to refine our understanding both of concepts and philosophical phenomena alike. By exploring Dennett's methodological contributions, we underscore the ongoing importance of his naturalist perspective in today's philosophical landscape.

Keywords: philosophical method; naturalism; intuition pumps; explication; semantics

1. Introduction

One of Dennett's most important yet misunderstood legacies for philosophy is his commitment to reconciling our first-person understanding of mental phenomena with our best third-person commitments in science. Some read this legacy as a crude endorsement of naturalism and accuse Dennett of rejecting obvious intuitions to, as Nagel (2017) puts it, "maintain a thesis at all costs". Others associate it with the replacement of traditional philosophical tools of analysis for scientific storytelling that aims at changing the subject matter of our philosophical questions (Robinson 1993). Both readings fall short in understanding the radical methodological character of Dennett's philosophical approach.

In this paper, we target these methodological considerations that characterize Dennett's thinking with focus on the special epistemic role science plays in his philosophy. We argue that, for Dennett, our third-person commitments in science are a toolkit for philosophical use in constraining and revising first-person intuitions, philosophical concepts, and the boundaries of philosophical phenomena. This identifies what we call the *empirical sensitivity constraint* operative in Dennett's philosophy. Intuitions, concepts, and philosophical phenomena are *empirically sensitive* when third-person commitments constrain, revise and/or pump novel proposals for how

we understand their meaning. With this constraint articulated, we show how Dennett undermines the purported dichotomy between first-person intuitions and third-person commitments that underlie the standard criticisms. Apparent conflicts in our understanding do not reveal a dichotomy between first-person and third-person commitments; they simply foreground opportunities to revise our concepts in tandem with our inherited linguistic practices and a sensitivity to our scientific commitments. Thus, while these criticisms are superficially plausible, we show they build on a fundamental misunderstanding of Dennett's methodological stance towards philosophy. We revisit this methodological heritage to reflect on its distinct opportunities for philosophical inquiry today.

2. Dennett and His Critics

Broadly construed, philosophical naturalism (henceforth naturalism) is, as Quine (1981) puts it, "the recognition that it is within science itself, and not in some prior philosophy, that reality is to be identified and described" (21); it is the "abandonment of the goal of a first philosophy prior to natural science" (67). Dennett's philosophy of mind takes up this stance: "since we human beings are a part of nature – supremely complicated but unprivileged portions of the biosphere, philosophical accounts of our minds, our knowledge, our language must in the end be continuous with, and harmonious with, natural sciences" (1984, ix).[1]

Dennett, we argue, extends this naturalist attitude in radical and generative ways often misinterpreted by naturalist and anti-naturalist alike. This results in frequently misplaced criticisms of his philosophical toolkit and theoretical proposals. In what follows, we outline three common claims that, when diagnosed and answered, illuminate the significance of Dennett's naturalist legacy and his project to reconceptualize perennial philosophical questions:

(1) The rejection of obvious first-person intuitions
(2) The begging of philosophical questions in favor of naturalism
(3) The use of revisionist methods to change the philosophical topic

2.1 Critique #1: First-Person Intuitions

[1] Given the typical association between naturalism and reductionism, it is worth clarifying that naturalism's minimal commitment to intertheoretic reductions is a modest one. Following figures such as Carnap (1963), Quine (1995), and Dennett (1995), naturalism only requires what Dennett articulates as a "bland" reductionism. Bland reductionism asserts there is an ontological unity to the sciences while remaining agnostic about intertheoretic reduction. As Carnap (1963, 52) succinctly puts it, this ontological unity is simply the rejection of "a fundamental difference between natural sciences and *Geisteswissenschaften*." In fact, Dennett doubts there will ever be such an intertheoretic reduction (what he calls a "preposterous" version of reduction). Consequently, naturalists ought to guard themselves from extrapolating from lower-level theories to higher-level ones in ways that "deny the existence of real levels, real complexities, real phenomena" in science (1995, 83). This differentiation is all the more important given the variety of reductionist accounts beyond intertheoretic reduction (e.g., "ruthless reductionism" (Bickle, 2003) and caution that intertheoretic extrapolations often appear more motivated by armchair reflections about what we ought to want from reductionism rather than explanatory practices within science itself (McCauley, 1996).

The first claim identifies a standard complaint against Dennett, which is that he ignores obvious first-person intuitions to accommodate his naturalist commitments. As in most things, there is an element of truth to this common criticism. Dennett states in multiple works that first-person intuitions do not hold a privileged status in philosophical investigation (1991, 2013). Furthermore, he chastises philosophers for taking their intuitions too seriously. For example, he writes of the Knowledge Argument: "The fact that philosophers would so much as *entertain* such an interpretation [i.e., positing the existence of qualia] of a causal exercise of the imagination fills me with astonishment. I had no idea philosophers still put so much faith in the authority of their homegrown intuitions" (2007a, 17).

It is helpful to briefly focus on the case of "homegrown" philosophical intuitions about qualia. Qualia is a technical term introduced to both articulate and explain the apparently private, ineffable, and subjective qualities of conscious experience. It identifies the apparent property of what it feels like to be in a certain state for a subject. Dennett and his critics agree that this is, in fact, how conscious an experience seems to us. What they disagree about is how to appropriately theorize about this *seeming* and its nature.[2] Philosophers traditionally take our judgments about this seeming to license an endorsement of a special type of property uncaptured by third-person scientific investigation. These are phenomenal properties. Dennett, on the other hands, argues that these judgments must be weighed against our other commitments in science. Cataloging these subjective "feels" of conscious experience is the start, rather than end, of discerning what inferences they license for us in our theories.

Critics are perplexed by Dennett's theoretical distance to our judgments about qualia. For example, Nagel (1991) accuses Dennett of rejecting *obvious* first-person intuitions about consciousness to fit his "Procrustean conception of scientific objectivity." Chalmers too resists and claims that "the very obviousness of what we are describing [intuitions about qualia] works in [his] favor and helps shift the burden of proof further onto the other side" (1996, 96-97). There simply *is* something about the very concept of consciousness as essentially private, ineffable, and subjective that licenses us to posit the existence of qualities uncaptured by third-person science. Similarly, Tye (2021) writes that Dennett's rejection of our first-person intuition about these qualities of consciousness is simply "hard to take seriously".

Dennett's skepticism about qualia intuitions is just one instance of a patterned criticism of his general approach to intuitions. Critics read Dennett as sacrificing the *prima facie* authority of first-person intuitions, including something as near to us as our first-person conscious experience, at the altar of third-person science.[3] Yet, given our interest in foregrounding Dennett's distinctive

[2] Our ability to take a step back to theorize about these "seemings" is cashed out by Dennett in his method of heterophenomenology (2003, 2007b).

[3] Notably, similar criticism has been directed at other 'new naturalists' in the same context, such as the Churchlands (McCauley, 1996) and Frankish (2016). This criticism has recently been revived with a resurgence of panpsychist theories of mind (criticism of the criticism in Barwich, 2021).

methodological approach to philosophy, it is worth slowing down to identify some of the implicit assumptions at work in this criticism. Again, we will focus on the topic of consciousness.

These critics take for granted that the meaning of the term consciousness is rigidly specified such that this meaning is both fixed by prior usage and, at least in the case of Nagel and Chalmers, this fixed usage is incompatible with third-person scientific explanation. This is why, for these critics, Dennett's proposal for a physicalistic rendering of consciousness amounts to surrendering the "obvious" meaning of the term. As a result, the conditions that must be satisfied to make the predicate "…is conscious" true or false of an object is posited as fixed by our first-person intuitions about the term. More so, critics presuppose the essential meaning of the term is both beyond the scope of and insensitive to revision from our scientific investigation of *prima facie* relevant empirical phenomena. The challenge remaining for Dennett, therefore, is to address to what extent it is philosophically respectable and explanatorily fruitful to theorize about our first-person intuitions, such as consciousness, with this sort of skepticism.

2.2 Critique #2: Question Begging

Another criticism is that Dennett often begs the question against his opponents. We focus here on just two examples: Dennett's criticisms of the Language of Thought (LOT) and his criticisms of qualia. In the first case, Dennett takes for granted that the intentional stance theory of mental states is a better option than the LOT theory even in situations where they accommodate the same data.

The shared data of interest is the success of propositional attitude psychology for describing, predicting, and explaining our own and each other's behavior. We form new beliefs, systematically integrate these beliefs with other ones, make inferences from these beliefs in accordance with rules, and do so in shifting environmental contexts, with different natural languages, varying natural language proficiencies, and a range of attitudes (desiring, hoping, believing, etc.). Furthermore, despite differences, we intuitively take ourselves to be thinking about the same things as one another. LOT (in)famously posits a mental architecture with representations and syntax that mirrors our propositional attitude to explain this data (Fodor 1975, 1987; Quilty-Dunn, Porot, and Mandelbaum 2022). Consequently, LOT treats our propositional attitudes as directly characterizing the sub-personal processes that causally explain them.

Dennett thinks this inference to causal structure is too fast. Propositional attitude psychology, which he clarifies in terms of his intentional stance theory, only "characterize the mechanisms indirectly – by directly characterizing the 'world' those mechanisms are designed to cope with" (1988, 204). The superficial characterization of our mental life is, for Dennett, a distinct issue from the question of its underlying causal structure.

Dennett highlights that the intentional system theory's ability to accommodate the data of our propositional attitude psychology without positing LOT poses a problem for the opponent theory. Why? For Dennett, it is simple. As long as his intentional stance theory accommodates the same data motivating LOT, we do not have to confuse our conceptual answers about the "abstracta" of propositional attitude psychology with causal answers about the sub-personal cognitive

psychology underlying them (1988, 497). We can, he (1988, 228) suggests, be "realistic" about propositional attitude psychology without being "Realist" in the sense demanded by LOT. Meanwhile, Dennett (1993, 217), although arguing directly against LOT in various places,[4] playfully returns the dismissive attitude often directed at him. "I am accused of begging the question against intentional laws. Again, I plead *nolo contendre* [no contest]. I had thought the idea of intentional laws was so obviously mistaken that it was not worth arguing against."

Similarly, in "Quining Qualia" (1992), Dennett's opposition to qualia amounts to showing how we have no way of deciding whether the qualia strategy *or* the naturalist strategy is the correct explanation for someone's changes in qualitative reports. They can both accommodate the same introspective data. Nonetheless, Dennett contends that this indeterminacy rules in favor of his dispositional account of consciousness. Proponents of both intentional laws and qualia are of course unconvinced by these arguments. They suggest that these arguments are, at best, philosophically shallow and, at worst, viciously circular (Fodor and Lepore, 1993).

This critique relies on the assumption that philosophical analysis can legitimately bracket background commitments and focus solely on the data of the isolated inquiry. In short, faithful philosophical analysis is atomistic rather than holistic. The challenge to Dennett, therefore, is a philosophical vindication of this methodology of presuming default entitlement and interpretative constraints on our theorizing in virtue of other background commitments we might hold dear.

2.3 Critique #3: Revisionist Philosophy

A third criticism against Dennett is that he engages in "revisionist philosophy" (Nagel, 2023). That is, he doesn't engage with the *relevant* philosophical issues of the tradition; he alters the terms of the topic and changes the subject matter. Or, as Robinson (1993, 174) cleverly put it, Dennett engages in the "Jericho Method":

> He believes that if he marches around a philosophical problem often enough, proclaiming what are, plausibly, relevant scientific truths, the problem will dissolve before our eyes. In so far as he is inviting us to adopt a new way of looking at things, this method is quite appropriate. It does mean, however, that moments of direct philosophical argument are rare, and are to be cherished when found.

We focus on his accounts of consciousness and free will in response to this criticism.[5] Dennett argues that consciousness needs to be revised away from its special properties/qualia view and

[4] Dennett offers familiar criticisms such as the lack of empirical progress on central psychological activities relevant for adjudicating the LOT hypothesis, the "Frame Problem", the problem of animal minds, and the mysteriousness of evolutionary accounts of LOT (1988). Debate surrounding LOT, invoking similar issues, has recently been revived in Quilty-Dunn, Porot, and Mandelbaum (2023).

[5] This type of critique is also levied against his accounts of meaning and intentionality. See, for example, Charles Taylor's comments (1988, 532) on the *Intentional Stance*: "'This book is about how to talk about the mind,' says Dan Dennett on page 1. But among many interesting subjects in this excellent book, this is one he never quite gets around to talking about. The central issues are all elided, glided by… Dennett writes from within a complex of interlocking philosophical doctrines which have the effect of interpreting away the central phenomena of mind. So what emerges from the laborious dialectic is another demonstration of the quasitautology: If you can't see something, you probably won't know when you've failed to explain it."

free will away from its strong libertarian features (Dennett, 1984; 1991; 2013). He cites various scientific resources from software engineering, evolutionary theory, and the brain and behavioral sciences to motivate what we *really* ought to want from our terms while either explaining away or eliminating the problematic stuff. What is left in each case is a term that fits with our existing scientific worldview. In the case of consciousness, it's illusionism—the view that the seemingly intrinsic qualities of conscious experience are a "user illusion" and not real, causal properties (Dennett 2020).[6] For free will, its compatibilism—the view that our manifest concept of freedom is compatible with a fully deterministic and causally closed system. The challenge against Dennett's methodology is to demonstrate how this tinkering with our concepts, including through scientific appeals, avoids charges of *ad hoc* corrections to satisfy idiosyncratic aims and accusations of simply changing the subject while not addressing the genuine philosophical problem. What is the difference between science as a *deus ex machina* device and science as a philosophical tool?

2.4 Taking Stock: Intuition, Holism, and the Task of Philosophy

We canvassed three pivotal criticisms of Dennett's naturalist philosophical method. First, the challenge of balancing first-person intuitions with third-person scientific commitments. Second, the question of how background commitments should constrain philosophical theorizing, particularly when data underdetermines theory. Third, the need to justify the philosophical value of revising and refining concepts through science-based appeals and speculations.

3. Science as a Toolkit for Philosophical Inquiry

We contend that the problem with these three standard criticisms is that they fail to appreciate how Dennett resituates the task of philosophical inquiry within the accountability structure of our third-person commitments in science. Namely, Dennett contends that philosophizing ought to begin within and at the cutting-edge of our best scientific theories where our conceptual work is "pioneering perspectives from which new empirical questions can be asked and answered" (Dennett, 2016b, 68). We call this the empirical sensitivity constraint for philosophical inquiry.

> **Empirical Sensitivity Constraint**: The satisfaction conditions[7] for our philosophical terms are evaluated, revised, and/or proposed in tandem with our current best *and* cutting-edge third-person science.

[6] "We may think our sensations have 'special qualities' but in fact, I am claiming, our sensations (considered as events in our brains) are better seen as representing, not having, special qualities-affordances-of things in the world. Sensations, considered as intentional objects, not the causes of our beliefs in sensations, are wonderfully useful illusions. 'Projecting' those qualities must mean endowing the things in the world with those properties, skewed as they are in favor of their user-friendliness to us. Things in the world really do have those wonderful (or awful, or boring or exciting, …) qualities, a fact as much about us as about them (Dennett 2020, 11).

[7] Satisfaction conditions are "the conditions that must be satisfied for our predicates to be true or false of particular objects" (Ebbs, 2009, 22).

Consequently, in situations where conflicts arise *either* during philosophical reflection *or* scientific investigation, the philosopher's role is to resolve these conceptual puzzles in a way that is faithful to her current linguistic practice *and* the empirical sensitivity constraint.

We argue that this empirical sensitivity constraint contextualizes Dennett's radical revisions to the traditional understanding of intuitions, concepts, and the task of philosophical analysis in a way that illuminates both where the standard criticisms go wrong *and* why his philosophical methodology holds significance for contemporary philosophical work. This section develops these ideas first in Dennett's own work and then in conversation with different thinkers whose work fruitfully overlaps with one or more of these methodological features.

3.1 Response to Critique #1: From Fixed to Heterogeneous Intuitions

Dennett's commitment to the empirical sensitivity constraint undermines the traditional assumptions behind privileging our first-person intuitions in philosophical inquiry. This undermining is expressed in two ways. The first is a challenge to the *philosophical reliability* of first-person intuitions in general. The second is a challenge to *the fixed nature* of these intuitions in light of the revisability and discordant nature of our linguistic practices and scientific commitments.

Beginning with the first, Dennett rejects the privileged philosophical reliability of intuitions because he identifies them with our linguistic practices that are often scientifically impoverished. This is why he calls first-person intuitions "folk intuitions" or expressions of "folk ideology" (Dennett, 2013, 356). "They at best clarify and articulate the implications of the everyday concept involved" in our intuitive judgment (Dennett, 2016b, 68). Importantly, their identification with ordinary linguistic practices makes their philosophical contribution highly restricted. There is no *prima facie* reason to anticipate our ordinary language is apt for resolving disputes about specialized questions within the discipline of philosophy. In fact, as experimental philosophy has recently suggested, it is unlikely there is anything such as a universal set of folk intuitions held by competent wielders of a shared language (Machery, 2017). Intuitions are not only philosophically unreliable, therefore, but discordant.

Of course, the discipline of philosophy has its own articulation of specialized terms that are deliberately crafted to answer and resolve philosophical disputes. Discussion invokes not only folk but distinctly *philosophical* intuitions about our terms that may guide inquiry (Ludwig 2010). Yet, philosophical intuitions are not necessarily above suspicion either. There are, for example, a variety of issues with how to identify philosophical expertise and determine the criteria for evaluating philosophical intuitions (Machery 2017). Furthermore, it is not obvious that these intuitions are anymore scientifically informed. Thus, while there is certainly folk psychology, Dennett (1994, 139) also warns of "pholk psychology", when philosophers "have massaged each other's intuitions with a host of intuition pumps" for thinking about the mind rather than contemporary empirical work in the brain and psychological sciences. Both ordinary and philosophical intuitions can be insensitive, therefore, to considerations from science that, at least from within the perspective of naturalism, warrants our skeptical reservation as opposed to our immediate acceptance. Intuitive judgments—whether from everyday linguistic practices or

specialized philosophical reasoning—are unlikely to align reliably with empirical science in ways necessary for sound philosophical conclusions.

The philosopher's real task, therefore, is not to construct theories based solely on these intuitions, including those elevated by philosophical tradition, but to navigate the terrain between these first-person intuitions and the privileged status of our third-person scientific commitments. This means that both our folk and received philosophical intuitions are likely apt for revision in light of our third-person commitments in science. As they are often currently pursued, their relationship to science is one of "playing catch-up" with science rather than being conceived of from the beginning in such a way that "novel predictions" in science are aided *and* clarified by their articulation (Dennett, 2016b, 67). This is the kind of philosophical revision to our ordinary *and* philosophical concepts that Dennett routinely endorses in his work. This adds methodological weight to Dennett's seemingly radical rejection of *obvious* first-person intuitions. The reality of intuitions is that they are either vague and discordant or empirically insensitive to be immediately philosophically useful.

But Dennett (2013, 415-416) does not dispense with intuitions altogether: "Since at least a large part of philosophy's task, in my vision of the discipline, consists in negotiating the traffic back and forth between the manifest and scientific images…it wouldn't hurt to have a careful map of the folk terrain instead of just eyeballing it." Dennett's target criticism is not first-person intuitions in general, but *how* we have been conceiving of their role in philosophical inquiry. We have privileged the immediate reliability of our first-person intuitions independent of considerations of their empirical sensitivity. The corrective is to take these folk intuitions seriously *and* evaluate them in relation to our third-person commitments.

Dennett argues, for example, that we ought to look to evolution, engineering, and the brain and behavioral sciences to build up new intuitions about the meaning of intentionality, free will, and consciousness. Scientific resources are introduced as "tools for thinking" (2013). They are tools because they calibrate our intuitive judgments and conceptual proposals to fit with our broader third-person commitments. In the middle of *Intuition Pumps and Other tools for Thinking*, for example, he (2013, 107) pauses to "teach [the reader] how to write programs for the world's simplest computer" and instructs her to go code for a few hours to create space for the satisfaction conditions of her mental terms to be *sensitive* to both tacit and explicit features of our basic third-person commitments about uncomprehending but nonetheless competent and simple computer functions.

Furthermore, *Consciousness Explained* is Dennett's explicit attempt to reconceive the imaginative space for our grasp of conscious experience by negotiating our ordinary understanding of its ineffable and subjective qualities with empirical work, such as Neisser and MacKay's analysis by synthesis school of neuroscience and evolutionary ethology (Dennett 1991). In this, we see how these scientific resources may explain *how* we have these judgments about our own experience without vindicating the underlying causal reality of what the judgements purport to be about (Dennett 2015). This project has been followed up by philosophers and scientists working from the tradition of predictive processing, such as Clark (2019) and Seth (2021).

On this account, the notion of intuition pumps serves Dennett to calibrate our intuitions in accordance with his commitment to empirical sensitivity. Intuition pumps, like thought-experiments, are narrative situations that elicit judgments about terms in response to variations in modal situations (Dennett, 1980): a "well made" intuition pump either generates judgments that are "reliable and convincing", or generates "dubious" judgments that help refocus our philosophical attention (2013, 197). In either case, intuition is treated as a practical guide to philosophical reflection.

To address Dennett's practical approach to intuitions, we propose interpreting his view of intuitions as judgments that express one's practical competence with terms in specific scenarios. These judgments involve applying satisfaction criteria, which are subject to revision when proven inadequate. They are practical because they stem from what Ebbs (2009, 85) describes as "a learned yet non-deliberative ability acquired over a period of years." This practical competence develops through participation in a shared linguistic, physical, and social environment, including the various sub-groups one belongs to (Dennett, 1988). While intuitions are broadly continuous across contexts, they remain multifaceted and open to refinement. Practical competence with a term does not indicate a fixed understanding but reflects a flexible capability to use the term in diverse contexts, a skill that becomes more precise through specialized inquiry.

Dennett leverages science as a source for intuition pumps and thinking tools to bridge the gap between ordinary intuitions and third-person scientific commitments. These tools help refine the often imprecise and revisable intuitive judgments we rely on in everyday reasoning. For Dennett, the philosophical task is to preserve the utility of intuitions while accommodating the insights that make them fruitful. Through this iterative process, there is continuity in how meaning is revised and developed.

Interestingly, Dennett resists drawing the full philosophical implications of intuition pumps relative to his empirical sensitivity principle. He (2013, 429) describes them as "not, typically, an engine of discovery, but a persuader or pedagogical tool—a way of getting people to see things your way once you've seen the truth." However, if our interpretation of intuition pumps and empirical sensitivity is correct, these tools go beyond persuasion. They facilitate both implicit and explicit refinement by navigating the space between ordinary intuitions and scientific commitments. Intuition pumps, particularly those rooted in science, help refine satisfaction criteria by incorporating insights from contemporary and speculative science. Rather than serving merely as rhetorical devices, they contribute to genuine discovery, offering new perspectives grounded in scientific inquiry. This process is not an exception but a central and ubiquitous feature of Dennett's philosophical method.

Altogether, this situates Dennett somewhere between a strong and a weak reading of intuitive judgments. We associate a strong reading with philosophers that treat intuitive judgments to be expressions of one's *a priori* competence in one's grasp of concepts (Sosa, 2007, Ludwig, 2010), necessary intellectual seemings in virtue of one's grasp of concepts (Bealer, 1998), or products of the faculty of intuition (Bonjour, 1998). In a strong reading, intuitions are expressions of fixed meanings one possesses in virtue of their linguistic competence and this fixed meaning is

revelatory of obvious claims we would be irrational to reject (if we are to count as being users of that language). A weak reading, on the other hand, treats intuitions simply as snap judgments independent of explicit reasoning processes (Gopnik and Schwitzgebel, 1998). In a weak reading, intuitions are fallible and not obviously useful to guiding philosophical reflection at all. In the middle of these readings, Dennett's modest approach treats intuitions as practical, albeit fallible, guides to inquiry.

We are now better positioned to reflect on the first criticism against Dennett. Given Dennett's commitment to the empirical sensitivity constraint on intuitions, we can see why even a widespread intuition in either ordinary life *or* philosophical theorizing is not a compelling reason to reject physicalism: "You[r qualia intuition] could be wrong, and until we have canvassed the alternatives, we should put our intuition on the back burner, not honor it" (2016b, 67). Intuitions are rarely empirically sensitive in the ways our naturalist commitments ought to demand. Rather than privileging intuitions about qualia the committed naturalist should interrogate the intuition's place within her third-person scientific commitments and see whether, through some philosophical revision in our system, she can either redescribe the term in a way that fits the intuition without its ensuing puzzles *or* accommodate the term as a feature within her naturalist commitments. In the case of consciousness, Dennett's preferred strategy is to accommodate the qualia intuition by explaining *why* we have the intuition without subscribing to the existence of phenomenal properties that the intuition is supposed to lend credibility towards. The important element to note for the purposes of this paper is that this *methodological stance* is not ad hoc or crude. In fact, by foregrounding Dennett's naturalist considerations about the revisability of linguistic meaning, it seems nearly *obvious* that our intuitions could only ever be practical rather than privileged guides. Dennett doesn't reject intuitions; he shows how the naturalist can reasonably put them within their proper bounds.

Furthermore, his commitment to the empirical sensitivity of intuitions clarifies how science can play a more immediate role in philosophical inquiry. By putting our intuitions in conversation with science as we navigate between folk and scientific practices, scientific endeavors can be sharpened and proposals offered to better explain a philosophical phenomenon of interest. The philosopher's diagnosis, revision, and/or elimination of bad concepts and metaphors, such as qualia and the Cartesian Theatre in the realm of consciousness, opens possibilities for novel empirical projects unhampered by traditional puzzles. This is a risky set of moves, but what it allows for is a dialogue with science where science is not determining how to theorize *ex cathedra*. It too is refined and calibrated through reflection on how the best science of our day interacts with our current intuitions in a variety of domains, including ordinary and engineering intuitions about behavior and design.

Notably, this critical dialogue is not neutral—it is imbued with presuppositions about how scientific research is to be interpreted, especially in relation to philosophical questions and intuitions. Naturalistic methodologies, then, are not free from their own internal assumptions. These assumptions come to the fore in philosophical debates over Dennett's use of empirical

research as evidence for his broader accounts of mind, brain, and evolution. On this account, some of the most pointed criticisms of Dennett arise from within the naturalist tradition itself.

Churchland and Ramachandran (1993), for example, argue that Dennett's behaviorist and engineering intuitions shape his interpretation of scientific evidence, and in doing so, compromise the integrity of the empirical data. In particular, they focus on Dennett's rejection of the "filling in" theory of vision in favor of the "ignoring" thesis in *Consciousness Explained* (1991). Here, Churchland and Ramachandran suggest that Dennett's inclination towards behaviorist interpretations lead him to dismiss the empirical data on neural activation for visual events involving occlusion or blind spots. Given this activation, they argue the brain must be "filling in" some information not present. Whether or not this is a valid criticism is not relevant for our point.[8] Instead, we use it to highlight how the concern with first-person intuitions in this context notably departs from earlier non-naturalist critiques, pointing to a different issue: Dennett's philosophical commitment to folk psychological and engineering intuitions may unduly shape his intuitions in ways that *distort* the scientific findings, or too strongly skew the interpretation of underdetermined cases.

Rather than undermining the naturalist perspective, critiques of Dennett's interpretations in scientific research reinforce his methodological stance. Naturalist arguments show that neither philosophy nor science can claim a detached, de-contextualized vantage point. Interpretations of empirical data are always shaped by the specific modeling frameworks that guide inquiry (Stanford, 2010). This issue is central to the philosophy of science, where diverse disciplines apply distinct conceptual lenses to the same phenomena, often leading to divergent understandings (Nersessian, 2022). (A case in point is Lazebnik's (2002) provocative question: *Can a biologist fix a radio?*)[9]

The key issue that emerges is the inherent ambiguity of scientific research, which seldom provides a singular or definitive account of the phenomena under investigation (Dupré, 1993;

[8] We side with Dennett (1993) and Akins and Winger (1993) on this particular dispute, one of us more strongly than the other, who show that this criticism from Churchland and Ramachandran is rooted in a misconception of Dennett's view. The brain is certainly active and supplying information regarding the occluded and/or blind spot areas. The question is what strategy it is using: an ignoring and extrapolation strategy or a full capture and filling in the scene strategy (or, in light of potential future upheavals in neuroscience, something else entirely).

[9] Lazebnik's (2022) radio analogy illustrates how distinct modes of inquiry the progress and limitations of knowledge generation. Biology tends to advance through an empirical, trial-and-error methodology, wherein researchers classify components (like proteins) and test hypotheses by isolating or altering these elements. While this approach generates an abundance of descriptive knowledge, it may fall short in constructing predictive models that offer systematic explanations. Engineering, by contrast, approaches complex systems like a radio—or indeed a biological system—through formalized languages that permit quantitative modeling and predictive accuracy. Engineers, by applying such frameworks, are able to diagnose system failures with precision, capitalizing on their capacity to map interactions quantitatively. The disparity between these approaches hinges on the tools and languages each discipline adopts. It points to a broader epistemic issue: the absence of formalized, systematic approaches in biological research can hinder the transition from mere data collection to a deeper, mechanistic understanding.

Cartwright, 1999; Giere, 2006; Wimsatt, 2007; Chang, 2012; Massimi, 2022). As disciplines evolve and develop their own tools, concepts, and models, these elements inevitably begin to cross disciplinary boundaries. The interplay between fields reshapes the frameworks through which phenomena are understood, allowing for a dialogue that is not restricted to one particular method or theory. This process, in turn, aligns with Dennett's argument that tools from different scientific disciplines serve as intellectual resources, opening up new ways to rethink our intuitions and refine our understanding of complex phenomena.

Importantly, Dennett's broader point does not rely on the accuracy of any specific philosophical interpretation of empirical findings. His position gains strength from the methodological stance he advocates: a naturalist philosophy that integrates scientific tools and methods as central to philosophical inquiry. In this way, as his interpretations of particular scientific developments can and, in fact, *should* be debated, his call for a philosophy that is grounded in and informed by science remains unscathed. When scientific tools are shared across disciplines, they don't just deepen empirical insights—they also become essential for philosophical inquiry, enhancing our grasp of both scientific and philosophical questions alike.

3.2 Response to Critique #2: The Method of Working from Within

Dennett extends the empirical sensitivity constraint to inform how we evaluate concepts and theories. He inherits from Quine the method of "working from within" (1955, 252). As Quine puts it, "The naturalistic philosopher begins his reasoning within the inherited world theory as a going concern. He tentatively believes all of it, but believes also that some unidentified portions are wrong. He tries to improve, clarify, and understand the system from within" (1981, 72). This inheritance, following Carnap, includes our various practices across both ordinary talk, folk psychology, and the sciences (Ebbs 2022).[10] The task of the philosopher is to rely on this inherited empirical and conceptual background to work out existing puzzles and ambiguities as they arise within the framework. This means we can do no better than to start from within our current best folk and scientific commitments and evaluate the relevance of concerns, concepts, and theories in virtue of these total commitments. Dennett (1993, 204) affirms this naturalistic shift in the task of philosophy:

> I am shy about drawing ultimate conclusions about Reality, Truth, Meaning, Time, Causation, and other grand topics of metaphysics and epistemology…I take myself to be just working out some of the more surprising implications of the standard scientific picture, roughly the one I was given in school, and I don't even include all of that standard picture.

[10] Ebbs (2022) helpfully articulates this particular continuity between Quine and Carnap in a recent argument. Ebbs cites Carnap who writes (1949[1938], 410), "We use the word 'science' here in its widest sense, including all theoretical knowledge, no matter whether in the field of natural sciences or in the field of the social sciences and the so-called humanities, and no matter whether it is knowledge found by the application of special scientific procedures, or knowledge based on common sense in everyday life…What usually is called science is merely a more systematic continuation of those activities which we carry out in everyday life in order to know something."

Dennett's commitment to philosophy as beginning *in medias res* directly relates to the second criticism often lodged against him, which is that he routinely begs the question against his opponents in favor of his version of naturalism.

Dennett assumes that strategies that avoid posits that conflict with our fundamental commitments to evolutionary theory and physicalism are *prima facie* more successful than those that do despite explaining the same data. Yet, we argue that this is not appropriately labeled question begging when considered in light of the method of "working from within". From this vantage point, philosophical questions and proposals cannot be considered in isolation from our total empirical and pragmatic commitments across the sciences, including the challenges we are currently facing. That is, the very demarcation of what questions to ask, how to evaluate theoretical proposals, and what possibilities are *prima facie* most plausible must be subjected to the criterion of empirically sensitivity. They are to be informed and constrained by the existing folk and scientific concerns that show up within our existing conceptual scheme. According to Dennett (2013, 416), the philosopher aims her inquiry at what is "relevant to the rest of the world, both lay concerns and scientific concerns."

This plays an important role in his criticism of both LOT and qualia. Dennett doubts that our current best theories in the evolution of brain and behavior *and* neuroscience will ever reconcile with the atomistic account of meaning in the brain posited by the LOT. LOT runs into classic problems such as "combinatorial explosion" (1988), the "Frame problem" (1988), the inability to faithfully describe nonhuman animal and infant behavior (1997), and the evolution of minds (1995). Consequently, an alternative naturalist account that accommodates the data *while* avoiding these inconsistencies with our total empirical commitments is *prima facie* the better option. This is analogous to his argumentation against qualia. Qualia have raised problem after problem for physicalist theories of mind. Dennett's strategy is to show how an alternative theory of consciousness can accommodate the same data without running amok with our commitments to physicalism. Our third-person commitments in science, therefore, play a significant philosophical role in constraining the plausibility of alternative theories. Dennett's methodological insight in the philosophy of mind is to demonstrate how philosophical inquiry must begin with empirically grounded presuppositions, and their clarification.

Thus, returning to the second criticism, Dennett's philosophical method recognizes that inquiry itself depends on a background of inherited empirical commitments about the world and our practices. The act of raising a meaningful question *presupposes* we know at least something about what we are saying and/or asking about in the first place. From this perspective, while demonstrating the *plausibility* of claims within a specific knowledge context is possible, the goal of some philosophers to discover the *a priori* meaning of our linguistic practices is akin to the old image of angels dancing on a pinhead—a conceptual exercise that sharpens thought on the use of concepts but has little bearing on matters of reality.

This raises the bar for what counts as a genuine challenge to naturalism. Challenges to naturalism are powerful only if they defeat naturalism within its best possible version; a version always ready to incorporate novel insights from philosophers and scientists working at the cutting

edge of an evolving array of disciplines. Dennett does not to beg the question against alternative theories; he demonstrate how, by working from within the full breadth of naturalism's resources, naturalistic philosophy remains a consistent framework of explanation that fits our current scientific Zeitgeist; an outcome that is desirable for any committed naturalist. On this account, we entertain and inquire into how to best think about an issue without supposing we are right. And, in the course of this inquiry, we may conclude that the reasons supporting an initially compelling thought are incoherent, illusory, or problematic. Furthermore, this inquiry may suggest previously unseen possibilities for revision that allow us to conserve our fundamental explanatory commitments *while* accommodating the newfound challenge or inconsistencies. This is not purely a philosophical method but, as both Chang (2004) and Nersessian (2015) argued, a characteristic feature of scientific inquiry, modelling practice, and concept formation in general. Science develops through iterative mode of constructing, evaluating, and adapting one's framework to achieve one's epistemic goals.

Dennett's methodological stance of "working from within" reveals its legacy in the current philosophy of cognitive science. A salient illustration is Raja's (2024) concept of "motifs," which encapsulates flexible, open-ended explanatory frameworks that guide scientific reasoning. Raja's motifs offer a structured yet adaptable way to frame unresolved questions in neuroscience, such as the nature of sensory encoding or the neural basis of experience. Motifs present "unconstrained and somewhat vague concepts that allow for open-ended families of explanations…[that] lie beyond experimental evidence while shaping the scientific practice in the field" (2024, 2). For instance, in modern neuroscience, motifs arise as guiding frameworks that address fundamental yet unresolved questions: (1) how are stimulus, sensation, and experience interconnected; (2) how is the brain functionally organized, particularly concerning localization versus holism; (3) what are the neural mechanisms underlying experience; (4) what are the appropriate methods for studying these mechanisms; and (5) what is the scope of the framework, including its concepts and methods? In this context, motifs do not represent rigid formalisms but function as iterative tools shaped by the collective ambitions, challenges, and practices of the scientific community. Take sensory 'encoding' as a motif that prompts debates over its precise meaning, such as whether encoding refers to spike frequency, number, or multiplexing, and how these processes occur (Raja, 2024). Such questions exemplify the evolving, socially embedded nature of scientific inquiry.

Motifs strike a balance: they are structured enough to direct research yet remain adaptable across scientific paradigms and interpretations. Similarly, Dennett's philosophical method avoids imposing fixed definitions or boundaries at the outset, allowing philosophical problems to evolve in tandem with empirical progress. This adaptability ensures that philosophical puzzles, like motifs in science, are open-textured and responsive to new discoveries. Throughout his investigations, Dennett refrains from treating philosophical phenomena—such as consciousness or intentionality—as static or predetermined. Instead, his method exemplifies a dynamic process of conceptual refinement that draws from empirical data, intuitive reasoning, and evolving disciplinary practices.

The parallel with motifs illustrates how Dennett combines logical precision with speculative exploration. Just as motifs guide scientific inquiry by offering enough structure to foster progress without constraining it, Dennett's approach blends empirically sensitive reasoning with a willingness to revise foundational assumptions. This ensures that philosophical inquiry remains dynamic, avoiding rigid categories or fixed solutions that could prematurely narrow its scope. For Dennett, the interplay between speculative reasoning and empirical grounding is central to addressing philosophical problems. Rather than relying on circular definitions or metaphysical absolutes, he uses empirical insights to clarify and refine concepts while remaining open to refinement through future discoveries.

3.3 Response to Critique #3: Philosophy as Elucidation and Explication Work

Finally, Dennett applies the empirical sensitivity constraint to *how* we revise philosophical concepts and philosophical phenomena. For Dennett, philosophical judgment works in tandem with folk intuition and our third-person commitments to refine and/or eliminate old terms or introduce new ones. This attitude towards revision again rejects the idea that our philosophical inquiry ought to be faithful to some pre-inscribed ordinary or *a priori* meaning of a term. Instead, the philosopher's role is to responsibly evaluate what we like about our terms and then to clarify how we ought to make sense of them in light of our other commitments and explanatory aims. Commitments and aims that are themselves open to revision. Consequently, there is no essence to ordinary practice or token inscriptions that the philosopher ought to uncover or is beholden to. The philosopher is doomed to be free (in her inquiry).

A consistent theme in the criticisms of Dennett starts to take shape. The third criticism arises from a methodological misunderstanding comparable to that of the second: Dennett's working assumption is to begin *within a framework* and parse out how the existing practices and concepts help us not only to clarify and resolve problems, but sometimes to recast them entirely to get a better understanding of the phenomenon itself. Thus, we cannot always start with a well-defined problem space, as it may itself be flawed and require clarification. This clarification project involves applying what is currently mostly clear to more uncertain phenomena, aiming for greater precision. We suggest this takes on two forms in Dennett's philosophy: elucidation and explication.[11]

Elucidation is the clarification of the satisfaction conditions for our term in relation to our other ordinary practices and/or our third-person commitments in science. A successful elucidation is one where our grasp of the relevant satisfaction conditions is strengthened, and existing puzzles are resolved while maintaining the continuity of the term's satisfaction conditions. What changes is not the application conditions, but our logical consciousness about these conditions. Dennett elucidates, for example, the term "consciousness". The tricky feature of consciousness has always been its apparent private and ineffable content. To address this, Dennett uses various mundane and scientific resources to reframe our understanding of the private and ineffable satisfaction conditions of consciousness. The aim of this elucidation is to redescribe the felt ineffability of

[11] We are indebted to conversations with Gary Ebbs for helping to draw out this distinction.

consciousness in connection to patterns of explanation that fit within our physicalist commitments in science. What changes, however, is not the satisfaction conditions that consciousness is *felt* as private and ineffable, but how we understand the philosophical import of these satisfaction conditions. The *feels like* satisfaction conditions that pick out our conscious states are not eliminated or revised; they are elucidated. Dennett draws on science, therefore, to expand the imaginative boundaries of our speculations to get us to elucidate a novel way of conceiving of not only our use of the term consciousness, but the boundaries of what resources were relevant for thinking about it in the first place. Dennett (2013, 285) encourages us in fraught philosophical times like these to look to science and resist an "impoverished imagination."

Explication is a more technical term referring to the replacement of an old use of a term with a new one that fits with what we like about the old *while* avoiding the puzzles or confusions it previously wrought. In Quine's (1960, 260) terms:

> Explication is elimination. We have, to begin with, an expression or form of expression that is somehow troublesome. It behaves partly like a term but not enough so, or it is vague in ways that bother us, or it put kinks in a theory or encourages one or another confusion. But it also serves certain purposes that are not to be abandoned. Then we find a way of accomplishing those same purposes through other channels, using other and less troublesome forms of expression. The old perplexities are resolved.

This elimination condition is why Dennett's theory of consciousness is an elucidation rather than explication. He still conceives of the "what it's like" private and ineffable satisfactions conditions for the term. The difference now is that the conclusions we draw from this role do not entail the metaphysically extravagant claim about qualia. This is why he is an illusionist rather than an eliminativist about consciousness. This contrasts with his explication of free will in which he combines folk intuitions about the principle of alternative possibilities with scientific resources from engineering and animal ethology to "wean [us] from [scientifically untrained] ideology about free will and get [us] to see a better concept, a concept of real free will, practical free will, the phenomenon in the manifest image that matters" (Dennett 2013, 356). The novel introduction of a more "practical" notion of free will eliminates the demand of the libertarian requirement for an utterly free cause by an agent. What matters most, according to Dennett, is not *utter* freedom but practical freedom. At the end of this analysis, we have a novel introduction of the term "free will" that is completely devoid of any libertarian criteria but satisfies our folk intuitions about what made it an important term in the first place.

Thus, in opposition to the third criticism, we see that Dennett is engaged in robust philosophical argumentation but in a subtle and imaginative form. He takes into account the available resources of our intuitions, sciences, and their interaction in order to interrogate the satisfaction conditions of our terms *and* how we are conceiving of the boundaries of what they could possibly mean. The philosophical aim is to reconceptualize problems and avoid entanglement in traditional puzzles. Dennett acknowledges that our understanding of terms for complex phenomena may be flawed, necessitating a re-description of the inherited problem space. This runs counter to philosophers who "have to secure (or so they think) the utterly fixed

boundaries of their problems and possible solutions before they can venture any hypothesis" (Dennett 2013, 79). Dennett challenges this habit by pointing out that the complexity of philosophical questions often defies rigid boundaries from the outset—especially when those boundaries are shaped solely by first-person intuitions. As he notes, strict definitions at the start would be "premature"; instead, Dennett (1993, 79) likens the process to that of a sculptor, who "roughs out the form in a block of marble, approaching the final surfaces cautiously, modestly, working by successive approximation". Consequently, the boundaries and definitions of philosophical phenomena should evolve through an iterative process, shaped by ongoing investigation and our broader epistemic commitments. For Dennett, sometimes the terrain or phenomenon is the problem itself that needs to be clarified. To put it crudely, don't logic chop too soon; we may need to look to, speculate about, o*r* even help conduct scientific investigations for "imagination-stretching" that "open our minds to yet another possibility not yet found but imaginable" (Dennett, 2013, 302).

Dennett's naturalist semantics, especially his method of defining—or deliberately not defining—central philosophical terms, becomes clearer when considered through Schickore's (2018) framework of 'explication work' in the philosophy of science. The notion of explication operative in Schickore is likely to mend together what we defined separately as elucidation *and* explication. Schickore argues that philosophical inquiry should not impose fixed definitions or test ideas against abstract, idealized frameworks. Instead, she contends that the task of philosophy is to clarify concepts and methods as they naturally emerge within scientific practice. The goal of explication work, therefore, is not to test philosophical concepts against scientific case studies (past or present) or to establish some idealized transhistorical scientific criteria or concepts on behalf of science; the goal is "the gradual clarification of concepts of concepts, methods, and techniques insofar as it is required for the function of science" (2018, 207).

The interaction between philosophy and science in the course of explication is inevitably dynamic. Philosophical concepts and methods are refined in light of scientific case studies and, vice versa, contemporary and historical understandings of scientific case studies are clarified by the work of philosophical analysis. As Schickore (2018, 204) writes,

> … such an analysis is transformative: pitting concrete philosophical conceptions against science sources is not simply a reality check for current philosophy of science but is likely to transform the philosophical conceptions as we are trying to make sense of the particular episode.

Schickore supports this view with two insights about what bottom-up and top-down approaches neglect. Bottom-up approaches fail because they ignore the role of background commitments in making sense of one's choice and evaluation of case studies as well as investigation into concepts in science. "We still need," as she writes, "a point of view, otherwise the analysis will not get off the ground" (2018, 203). Top-down approaches fail because they ignore how philosophical concepts are relative to an existing body of knowledge that, upon a clearer understanding of history or scientific practice, may itself undergo alterations and clarifications. Our concepts, and their definitions, are not fixed: "…neither the historical record nor the philosophical conception that are the starting points of our analyses can be taken as given – none are left untouched when we apply

philosophical conceptions to historical record… [this inquiry] transforms both sides" (2018, 205). Historical adequacy models of the philosophy of science fail because they miss this productive reciprocity between the analysis of concepts and one's attention to scientific practices.

Dennett's empirical sensitivity constraint on inquiry follows a similar path, particularly in his refusal to adopt fixed definitions at the start of inquiry. Rather than defining key terms like "mind" or "consciousness" prematurely, he allows their meanings to emerge progressively, shaped by empirical investigation. While his critics presented this as a flaw, Dennett views definitions as limiting when it comes to open-ended philosophical problems that require flexibility and continuous revision. Like Schickore's analysis of philosophy of science, Dennett assumes that philosophy begins within a background of presupposed empirical commitments which involves practical and epistemic resources spanning across models, methods, and concepts in various disciplines.

These insights dovetail with Dennett's use of elucidation and explication. The measure of an explication's success is not determined from a view from nowhere, but relative to the goals of the investigators and the fruits it bears for the existing framework being worked within. Indeed, a key insight of Schickore for understanding Dennett is how she emphasizes the task of clarifying discordant and messy concepts, methods, and data within one's actual body of knowledge when she summarizes the German philosopher Herbert Schnädelbach: "the aim of philosophical reflection [is] finding one's place in a chaotic present" (2018, 211). Dennett's philosophy begins from the same orientation. Philosophical problems emerge relative to the messes we are already tangled in within our practices and body of knowledge.

Emphasis on conceptual revision and transformation in light of scientific developments is vital to understanding Dennett's semantic strategy. Just as Schickore highlights the dynamic relationship between philosophy and science, Dennett's methodology reshapes both philosophical inquiry and the scientific concepts it engages with. His treatment of problems like consciousness or intentionality is not based on fixed definitions but evolves as the inquiry progresses, integrating insights from cognitive science. In both Schickore and Dennett, elucidation and explication leads to transformation in our understanding across all of the relevant domains engaged in the inquiry.

4. Revisiting Philosophical Methodology

In clarifying Dennett's commitment to the empirical sensitivity constraint on philosophical theorizing, we have reached the aim of our analysis, and it is important to recognize the broader significance this holds for contemporary philosophical practice. For philosophy to remain relevant and empirically grounded, it must reassess its methodological commitments, particularly in terms of what constitutes evidence for or against a philosophical position. Unlike traditional rationalist approaches that rely on fixed definitions and logic chopping that, as we saw, might come before the requisite "imagination-stretching", Dennett's naturalist philosophy aligns with the evolving nature of scientific inquiry, where concepts must adapt as new data and empirical evidence emerge. This shift in methodology reflects a broader understanding that philosophical analysis

cannot be decoupled from the realities of scientific practice and the presuppositions of our third-person commitments.

Twentieth-century philosophy has largely left behind its initial naturalist accounts of language and meaning, instead assuming that concepts like “mind” or “consciousness” have intrinsic meanings or fixed linguistic definitions. Such definite meanings are considered sufficient for evaluations of the proper subsequent usage of a term. These approaches often depend on extensional semantics, where terms are presumed to have clear boundaries, determined either by descriptive criteria or essential features (Searle, 1958; Putnam, 1975; 1977; Kripke, 1980; Eco, 1983). While this may appeal to those seeking certainty, such models don’t align with the empirical realities of how language and thought evolve in scientific and everyday contexts (Eco, 1979). In the natural sciences, concepts or categories of kinds are rarely stable across time or even homogeneous across different disciplinary contexts at the same time (Goodman, 1955; Hjelmslev, 1961; Nersessian, 1984; Temmerman, 2000; LaPorte, 2004; Barwich, 2013). Take “memory”: once thought of as simple information retention, neuroscience has revealed multiple forms—procedural, declarative, working—each with its own distinct features. What seemed like a singular concept has splintered, reflecting the complexity of the underlying phenomena (Allen, 2017; Bickle and Barwich, 2022).

For Dennett, this semantic fluidity is essential to naturalist philosophy. A naturalist approach insists on grounding our understanding of mind and brain in empirical evidence, which rarely conforms to neat, pre-defined categories. As our knowledge of neural systems and behavior expands, the concepts we use—consciousness, perception, cognition—must adapt and shift accordingly (Churchland, 1983; Dennett, 1991; Churchland, 1996). This view aligns with ‘finitist semantics’. Finitist semantics posits that no concept—whether in science, philosophy, or vernacular language—is ever fully determined by prior usage or rationalist principles (Barnes, 1982; Kusch, 2004). The application of a concept involves a choice, shaped by context but not exhausted by past meanings. New data, technologies, and discursive contexts inform how we deploy a concept, reflecting the evolving needs of those who use it. This contextual fluidity is not a limitation of language, but a fundamental feature of how humans categorize, communicate, and reason about the world.

Dennett’s philosophical method thus diverges from non-naturalist critics, and the methodological differences between naturalist and non-naturalist philosophy are substantial. In non-naturalist philosophy, judgment centers on the formal analysis of arguments, where terms are applied in a standardized manner within a particular intellectual community. This expresses preferences for a fixed form of information exchange. By contrast, naturalist philosophy evaluates frameworks based on their epistemic productivity, with attention to the contingent features of the specific context in which they are developed. On this account, we have framed Dennett’s use of concepts as motifs in this paper, meaning contingent patterns of application in current scientific practice, positioning his philosophical method as elucidation and explication work outside the communal norms of his non-naturalist critics.

This divergence in methodology and standards of evaluation is not immediately obvious. Both Dennett and (some of) his critics frequently invoke examples from scientific research to support their positions (e.g., Chalmers, 1996), leading to the impression that their competing views on the mind) are operating on a similar plane, perhaps comparable to the competition between different empirical models in science.

Yet, this impression is misleading. In non-naturalist philosophical debates, the use of scientific case studies, not unlike the use of thought-experiments as hypothetical scenarios (Machery, 2017), serves primarily to illustrate and lend credibility to a philosophical position, rather than providing decisive evidential support for the structure of the argument or the validity of its terms. By contrast, in naturalist philosophy, scientific evidence plays a far more substantive role. Dennett's use of empirical data is not illustrative; it is central to the process of refining philosophical concepts.

Thus, Dennett's views on the mind cannot be judged by reference to technical definitions of philosophical terms as fixed meanings. The legitimacy of his approach lies in its ability to incorporate discordant data to advance a fruitful philosophical account that is able to adapt to new empirical insights. In Dennett's framework, the meaning of central concepts in philosophy thus must be seen as a product of human activity, and as this activity changes—especially through advances in ongoing scientific research—our concepts shift as well. This is a *feature* of naturalist philosophy, not a bug.

Meaning, on this account, emerges from practice, not from semantic analysis of previously fixed usage. This adaptability is not so much a failure of language or philosophy, but a sign of their vitality, evolving in response to growing knowledge. It is this semantic adaptability underling his naturalist philosophy that substantiates Dennett's methodological legacy for contemporary philosophy. What we are left with is a naturalism that does not uncritically *conserve* whatever science tells us about the world. It is naturalism that operationalizes science to clarify, revise, and redescribe philosophical concepts and phenomena in our pursuit of truth. If this is crude, then philosophy ought to prefer rough edges like these.

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