

Explanationist Plasticity & The Problem of the Criterion

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Abstract: This paper develops an explanationist treatment of the problem of the criterion. Explanationism is the view that all justified reasoning is justified in virtue of the explanatory virtues: simplicity, fruitfulness, testability, scope, and conservativeness. A crucial part of the explanationist framework is achieving wide reflective equilibrium. I argue that explanationism offers a plausible solution to the problem of the criterion. Furthermore, I argue that a key feature of explanationism is the plasticity of epistemic judgments and epistemic methods. The explanationist does not offer any fixed judgments or methods to guide epistemic conduct; even the explanatory virtues themselves are subject to change. This feature of explanationism gives it an advantage over non-explanationist views that offer fixed epistemic judgments and epistemic methods. The final section of this paper responds to objections to explanationism.

My goal in this paper is to layout an explanationist treatment of the problem of the criterion. How should we distinguish between impressions? What criterion should we use? I will argue that we should distinguish between impressions so as to increase one's overall explanatory position, and we should use the method or criterion that increases one's overall explanatory position. The explanationist assumes that explanation is the criterion for goodness in belief. As I explain later this criterion is malleable. The malleability—or, the 'plasticity'—of explanationism confers a distinctive advantage on it with respect to the problem of the criterion. This will all take some explaining to persuade you that explanationism very well might be the correct solution to this vexing problem. In the first section, I explore in more detail the problem of the criterion, laying out the options as presented by Chisholm and then explaining how explanationism fits within the standard responses to the problem. In the second section, I

develop the explanationist view in more detail. In the third section, I present an explanationist treatment of the problem of the criterion. In the final section, I answer two prominent objections to explanatory coherentism.

I. The Problem of the Criterion

The problem of the criterion formed a powerful weapon in the arsenal of the ancient skeptic.¹ Sceptics like Arcesilaus, Carneades, Aenesidemus, and Sextus used the problem of the criterion to argue for a skeptical philosophy. These skeptics resisted dogmatism by asking the dogmatist to provide the means by which they distinguished true from false impressions. This simple question raised difficult issues for the dogmatist. On the one hand, the dogmatist could refuse to answer the question. But this left the dogmatist lacking a fundamental answer to a very simple and important question. On the other hand, the dogmatist could take up the challenge. But then he would find himself trapped in a vortex of skeptical arguments. If the dogmatist claimed to have some criterion for distinguishing true impressions from false impressions, the skeptic could press the issue about the justification for this criterion; is it based on an impression or not? If not, then it is arbitrary. And if the criterion is based on an impression, then one needs another criterion and one is off on the regress of reasons. If, though, the dogmatist claimed that some impressions are evident, then the skeptics would either argue against this claim or argue that evident impressions do not provide sufficient material for a dogmatic philosophy.²

The problem of the criterion finds its way into contemporary discussion by way of Roderick Chisholm's 1973 Aquinas lecture. Chisholm introduces this problem through the work of the French

1 For an excellent introduction to ancient skepticism see Vogt (2010).

2 This structure to ancient skeptical arguments is clearly seen in Agrippa's five modes: disagreement, regress, relativity, arbitrariness, and circularity. See also Cling (2009) for an interesting discussion of the relationship between the regress problem and the problem of the criterion.

philosophers Montaigne and Cardinal Mercier. Montaigne formulates the puzzle as follows:

To know whether things are as they seem to be, we must have a *procedure* for distinguishing appearances that are true from appearances that are false. But to know whether our procedure is a good procedure, we have to know whether it really *succeeds* in distinguishing appearances that are true from appearances that are false. And we cannot know whether it does really succeed unless we already know which appearances are *true* and which ones are *false*. And so we are caught in a circle.³

Chisholm explains this circle via possible answers to two simple questions: *what do you know* and *how do you know*? The first question asks about the *extent* of knowledge and the second asks about the *criteria* for knowledge. If you could first know the answer to one of the questions you could then solve the other. If you determine the extent of your knowledge then you can come up with the general features that distinguish the cases and answer the second question. If, however, you can first figure out *how* you know then you can determine the extent of your knowledge by applying those criteria to individual cases. But if you do not know the answer to the first question then it seems you cannot answer the second question. Similarly, if you do not have the answer to the second question you cannot answer the first question.⁴ The problem is fundamentally one of epistemic dependence. An epistemically good answer to the first question depends on an epistemically good answer to the second question, but a good answer to the second question depends on a good answer to the first question.⁵

Chisholm introduces two positions on how to handle this problem.⁶ The first position is *methodism*. A methodist begins epistemological reflection with an answer to the second question: *how do you know*? Chisholm describes methodism by way of Locke's empiricism. According

3 The Essays of Montaigne, 'The Apology of Raymond Sebond' Book II, Chapter 12. Quoted from Chisholm (1973), 3.

4 Cf. Chisholm (1977), 120.

5 See Cling (1994) for a good discussion on how to formulate the problem of the criterion.

6 Chisholm (1973), 15.

to Chisholm, Locke is a methodist because he assumes that the criterion for distinguishing true beliefs from false beliefs is whether those beliefs are grounded in experience. Only those judgments whose ideas are based in experience are rational. Chisholm remarks that Locke never explains *how* he arrives at this criterion and that this seems especially odd for an empiricist who wants to proceed in a careful step by step manner to begin with a general criterion whose justification is at best unclear.⁷

Chisholm sees two weaknesses with the methodist position. First, the methodist proposes a criterion that 'is very broad and far-reaching and at the same time completely arbitrary.'⁸ On Chisholm's reading of Locke, this criterion is proposed independently of investigation. Second, the methodist lays down general high-level principles that float free from actual investigation. Chisholm describes this consequence in connection with empiricism, which he argues lands in skepticism. Chisholm explains, 'If Hume is right, a consistent application of these criteria indicates that we know next to nothing about ourselves and about the physical objects around us.'⁹ One may put Chisholm's point more generally: it should not be an implication of general *a priori* principles that skepticism is true. One has to first learn what kind of cognitive resources are available prior to deciding the issue of skepticism.

The position that Chisholm prefers is *particularism*. A particularist begins epistemological reflection with judgments about what one knows. Particularism grows out of the epistemologies of Thomas Reid and G.E. Moore. According to Moore, if an epistemological theory implies that we do not know that we have hands then that is sufficient grounds for rejecting the view. Commonsense is to be privileged in epistemological

7 See *Ibid.*, 17. Chisholm's presentation of Locke's empiricism completely misses the ways in which Locke argues for an empiricist methodology. Locke engages in a sustained attack on the notion that there are innate ideas. Locke concludes that since there are no innate ideas, ideas must come from experience. As I understand Locke's position, he is best characterized as an explanationist.

8 *Ibid.*, 17.

9 Chisholm (1977), 120.

reflection. Chisholm follows Reid and Moore by taking for granted that many of our ordinary claims to knowledge are correct. The truth of these claims forms the ground floor for theorizing about epistemic principles.

Particularism, though, faces several serious objections. First, the particularist begs the question. Chisholm owns up to the validity of this charge, writing, 'What few philosophers have had the courage to recognize is this: we can deal with the problem [of the criterion] only by begging the question. It seems to me that, if we do recognize this fact, as we should, then it is unseemly for us to try to pretend that it isn't so.'¹⁰ To see this more clearly, reflect on the particularist answer to the second question: *how do we know?* The particularist begins with putative cases of knowledge and from these cases formulates general criteria designed to approve of these cases. So, the answer to *how* one knows is that one knows in such a way as to align with *what* one knows. But that is not an illuminating answer. It is akin to an admission committee first making decisions about whom to accept and then gerrymandering a criterion to later *justify* the decisions. The gerrymandered criterion does not *explain* the rationality of the decisions. On a Moorean epistemology, prior to any theorizing about the epistemic merits of our doxastic attitudes, we decide that radical skepticism is false. We take it that, apart from anything we may learn in epistemology class, skepticism must be false. But contra Moore, it is possible that we might learn that our epistemic position is so poor that we cannot know many of the things we pre-theoretically take ourselves to know.

A second problem with particularism is that it rides roughshod over skeptical concerns. According to particularism, it is *a priori* that a correct epistemology is not skeptical. But how could anyone know *a priori* that skepticism about the external world is false? Skepticism, even radical forms of skepticism, must be ruled out on the basis of what one learns about the world. Contrary to Chisholm's particularism some skeptical possibilities very well may become serious scientific hypotheses. I

10 (1973), 37.

recently heard Michael Turner, a cosmologist at the University of Chicago and the president elect of the American Physical Society, say that as cosmological reflection improves we may learn that our universe is an experiment of a technologically advanced civilization.¹¹ Turner's point is that our current understanding of the universe is so poor that we may well discover extremely surprising things about the nature of our universe. One of these 'farfetched' hypotheses is similar to the simulation hypothesis, the hypothesis that our world is a computer simulation of a very advanced civilization. It is not inconceivable that something akin to the simulation hypothesis comes to be taken seriously by the scientific community. The Moorean particularist must take a provincial attitude that completely disregards this possibility.

In light of these problems, what is Chisholm's master argument for particularism and how might it go wrong? Chisholm argues for particularism by a destructive trilemma. He presents three possible views: methodism, particularism, and skepticism. Skepticism is off the table and methodism implies high-level general principles that float free from actual investigation. So the best approach is particularism. If this were the true situation then Chisholm is correct: prefer particularism and bite the bullet on the problems. But there is an option that Chisholm ignores: explanationism.¹² The explanationist cuts the Gordian knot by denying that any judgment, whether a judgment about the criterion of knowledge or a judgment about the extent of knowledge, is to fix the structure of a theory prior to actual theorizing. To put the point in the now familiar Quinean way: *any judgment may be revised for overall gains in one's explanatory position.*

Consider, as an analogy, political debate. The particularist view is that we decide prior to the give and take of debate which speakers are to have more authority than others. The methodist view decides the rules for political debate prior to any actual debating. The skeptic reasons that

11 Cf. Harrison (1995).

12 Both DePaul (1988) and Cling (1994) point out that Chisholm's argument by elimination fails to consider a coherentist response.

rational political debate is not possible. The explanationist, by contrast, recommends debate with both the significant players and the rules open-game. The explanationist hopes that the best position and player will win but, then again, what is the best position and who is the best player is up for debate. This situation might seem unruly but it is the position we find ourselves in and scientists manage to create something beautiful out of the chaos. The explanationist argues that the methods of rational inquiry are not distinct from the methods of the sciences and that that method is explanation. What the problem of the criterion shows is that the very best we can do is to believe a proposition to the extent it coheres with our best explanatory theory. As I shall argue the method of explanation is plastic. What this means is that using the method of explanation can produce different criteria for distinguishing true beliefs from false beliefs. The history of science shows how explanation can give rise to different criteria. I view this as point in favor of the method of explanation.

Explanationism is often joined with the method of reflective equilibrium. Nelson Goodman originally proposed this method as a way for justifying logical rules¹³ and John Rawls extended this method to justifications in ethics.¹⁴ The method of reflective equilibrium enjoins us to start with the data and principles we have and then to work out the best explanatorily coherent account that takes into consideration most of the data and principles. Once this is achieved one will have achieved *narrow reflective equilibrium*. The second stage is to seek *wide reflective equilibrium* in which one attempts to bring on broad as much information as one can: information from the natural and social sciences, information from testimony, information from history, etc. The goal is to construct the best explanatory position that one can, a position that gathers together the most data while offering an elegant, fruitful, testable, explanatory, and conservative account of all that information.

13 See Goodman (1965).

14 See Rawls (1999).

II. What is Explanationism?

The goal of this section is to layout the explanationist position. James Cornman introduced the term ‘explanationism’ to describe explanatory coherentism.¹⁵ William Lycan has been the most vocal proponent of explanationism, arguing for it in a book and several subsequent papers.¹⁶ According to Lycan, explanationism is ‘the doctrine that all justified reasoning is fundamentally explanatory reasoning that aims at maximizing the ‘explanatory coherence’ of one’s total belief system.’¹⁷ As he formulates the doctrine, explanationism is a doctrine about justified *reasoning*. It has to do with a *change* in one’s doxastic position. As Lycan says, ‘Any epistemic *move* on the subjects’ part must contribute to a better overall explanation of the available data than does any competing move.’¹⁸ If explanationism is a view about *changes* in doxastic position, in adopting a new belief or giving up an old belief, what does the explanationist say about the justification of one’s current beliefs? Until we can answer this question we do not have a complete explanationist view of the justification of belief. My goal in the first part of this section is to fill out the explanationist view so that it provides necessary and sufficient conditions for a belief’s justification.

A. The Explanationist Theory of Justification

Explanationism should be taken as a general theory in normative epistemology. Explanationism stands alongside reliabilism and evidentialism in its ambition to provide a general account of the conditions under which a belief is justified. Explanationists hold that the explanatory virtues exhaust the materials for a belief’s justification. Lycan writes, ‘Whatever ultimately justifies a belief is a matter of the explanatory contribution of that belief.’¹⁹ Lycan provides necessary and

15 See Cornman (1980).

16 See Lycan (1988), (1996), (2002), & (forthcoming).

17 Lycan (1988), 128.

18 (1988), 208; italics added.

19 (1988), 133.

sufficient conditions for a belief's justification in terms of the explanatory virtues.²⁰ His specific account is,

A belief is epistemically justified if and only if it is rated highly overall by the set of all-purpose, *topic-neutral* canons of theory-preference that would have been selected by Mother Nature for creatures of our general sort, where 'topic neutral' means being subject-matterless.²¹

This complex account involving what sort of canons Mother Nature would choose obscures the central explanationist account. A simpler account is,

A belief is epistemically justified if and only if it is rated highly overall by the canons of theory preference.

Lycan prefers the more complex account because his story about Mother Nature is intended to provide a truth grounding explanation for the canons for theory preference. Mother Nature would want us to have efficient and reliable cognitive heuristics. Lycan tells a just-so story according to which the standard canons of theory choice are just the ones that a benevolent Mother Nature would give us. For my part, though, I do not understand the Mother Nature story apart from an agent with beliefs and desires. Furthermore, since I think that the canons of theory preference do not need any additional grounding, I stick to the simpler formulation of explanationism.

Two features of explanationism are noteworthy. First, explanationism covers changes of beliefs by stating that a new doxastic move is justified by an improvement in one's explanatory position. If a subject replaces the belief that *p* with the belief that *q* then that change is justified if and only if the resulting position is a better explanatory position. This result falls out immediately from the explanationist doctrine as formulated.

The second aspect of explanationism addresses how the initial data for the explanatory project is justified. One of the canons of theory

²⁰ See *Ibid.*, 160.

²¹ (1988), 160.

preference is conservatism. Conservatism states that *other things being equal, one should give more weight to the theory that fits with one's current beliefs*. Our preference for theories that fit our existing beliefs is deeply embedded in our schema for deciding what is rational to believe.²² The preference of current astronomers to explain the rapid expansion of the universe in terms of unknown energy and matter—dark energy and dark matter—reflects the virtue of conservativeness. Instead of this inference, one could infer instead the *anti-conservative* theory that our views of gravity are radically mistaken. This is just one example of many evidentially underdetermined theories that are highly favored in virtue of the conservative canon of theory preference.

The explanationist idea is that one's beliefs have epistemic weight by being held with conviction. But as more and more data come in and the other epistemic virtues come into play, the justification had by conviction can easily be lost. Lycan stresses this aspect of explanationism by discussing different stages of a belief's justification.²³ At the initial stage a believed proposition is justified simply by virtue of being believed. This stage corresponds to the weakest level of justification for a belief. At a second stage the belief is assessed for its fit with other spontaneous beliefs. A third more demanding kind of coherence is fit with one's larger belief structure. At this stage Lycan remarks that some initial data is thrown out. For example, the apparent perception of a pool of water ahead does not fit with the background belief that it is incredibly improbable that there is standing water in the middle of a desert. The fourth stage of justification amounts to incorporating the belief into an explanatory story. At this stage one aims to explain the believed proposition. A final stage of coherence involves a story as to how one came to have the belief by specifying a reliable mechanism for producing the belief. Thus, on an explanationist picture even though one starts with a very small level of

²² See Sklar (1975).

²³ Lycan (1988), 167 and Lycan (1996), 7-8.

justification that justification can be increased through the more and more demanding levels of coherence.

The explanationist thus has a principle that specifies the normative conditions for a belief's justification. It allows that some beliefs are justified simply in virtue of being held with conviction. Further, it holds that any change in a doxastic position is justified by improving one's explanatory position. But what is explanation? Let us briefly delve into this question.

B. Explanation

Explanatory coherence is a matter of how a subject's beliefs fare with respect to the theoretical virtues: simplicity, scope, fruitfulness, testability, and conservativeness. The guiding intuition is that the fact that a subject's beliefs form a coherent explanatory system confers justification on the subject's beliefs. The explanationist takes subjects to have the epistemic burden of explaining themselves. This is no light burden. But what is the nature of explanation?

The history of theorizing about explanation has taught us that explanations can have a number of different virtues, and, as Lycan argues, these virtues are motley.²⁴ In one area, goodness in explanation may consist of some feature that in another area a good explanation lacks. In the Hempel and Oppenheim model of explanation, a good explanation *subsumes* the explanandum under a covering law. Yet some acceptable explanations lack this feature: if we want to know why a fair die came up 3 then an acceptable explanation is that it had a one in six chance of doing so. There is no need here for a deterministic covering law. A related feature of covering law explanations is that a good explanation leads one to *expect* the explanandum given the explanans. But again some good explanations lack this feature. Darwin's theory of the origin of the species does not lead us to expect highly complex physical organisms. Some explanations are *complete* in the sense that they

24 Lycan (2002), 411&ff.

contain enough information to *entail* the explanandum. Other explanations are *causal*. Yet mathematical explanations fail to have this feature. Some explanations are *analytical-functional*—e.g., how a carburetor works—while other explanations are *psychological* carried out in terms of *belief* and *desire*. Other explanations attempt to *reduce* the unfamiliar to the familiar. Furthermore, some explanations are entirely *analogical*.

All of these features can be marks of goodness in explanation. But it is doubtful that there is any account of goodness of explanation that will unify these features in terms of necessary and sufficient conditions. What then *is* explanation? The best account is van Fraassen's account that explanation is a matter of filling a gap in understanding by answering a contextually relevant *why* question.²⁵ When one possesses a successful explanation one has a good answer to a why question. In some cases a good answer requires a covering-law, but in other cases an analogy may suffice for filling a gap in understanding. What counts as goodness in explanation is what actually fills a gap in one's understanding. On an explanationist view a subject is justified in believing a proposition if it is rated highly by the explanatory virtues. These virtues give rise to a successful answer to a contextually relevant why question.

But isn't this view subject to a radical relativism according to which as long as one believes that some story explains then one has a contextually relevant answer to a 'why' question and thus one fills a gap in one's understanding? No. The objection wrongly equates believing one has an answer with filling a gap in one's understanding. But there is significant space between believing one has filled a gap in one's understanding and actually filling a gap in one's understanding. In the last half of the seventeenth century many scientists believed that the round shape of opium particles enabled them to sooth the nerves²⁶ but this actually did not fill a gap in their understanding; they were just mistaken. One may

25 See van Fraassen (1980), Chapter 5 'The Pragmatics of Explanation.'

26 See Kuhn (1962), 104.

think that a gap is filled in one's understanding when it is not. Understanding is not luminous.²⁷

The fact that understanding is not luminous does not arise, however, because understanding requires truth. One can fill a gap in one's understanding without requiring that the gap is filled by a true theory. Newton's *Principia* managed to fill significant gaps in understanding the nature of the cosmos. But from the framework of general relativity and quantum mechanics, Newton's theory is false. What is the difference between Newton's theory and the belief that the round shape of opium particles soothed the nerves? In short, the difference lies in coherence. Newton's theory exhibits strong explanatory coherence. Newton's three laws of motion and the inverse square law of gravitational attraction entailed Kepler's laws of planetary motion. Yet, the belief that the *round* shape of a particle *soothed* the nerves is not supported by any deeper understanding of the connection of those two properties. Why should the geometric property *roundness* (i.e., having a circumference of $2\pi r$) feel like *this* (i.e., *soothing*)? Once people realized that there was no connection between the two properties, they realized that the widespread belief actually did not fill a gap in understanding. To actually fill a gap in one's understanding requires more than believing it so and yet it requires less than the actual truth.

III. Explanatory Plasticity & the Problem of the Criterion

Now that we have an adequate grasp of explanationism let us turn our attention back to the problem of the criterion. I claimed at the end of the first section that explanationism offers a non-skeptical alternative to Chisholm's master argument for particularism. Chisholm presented us with the options of skepticism, methodism, or particularism, and argued that since skepticism and methodism are unpalatable, we must opt for particularism even though it is provincial and it begs the question. Yet explanationism provides another option; it denies that epistemology

²⁷ See Williamson's anti-luminosity argument in chapter 4 of Williamson (2000).

must be constrained by choices we make prior to inquiry, choices to adopt some criterion for knowledge or choices to build theory around pre-theoretical cases of knowledge. In place of fixed methods or fixed judgments, the explanationist upholds the explanatory virtues and claims that these and only these are the guides to correct epistemic conduct.

But doesn't the explanationist in virtue of offering up the explanatory virtues give us another form of methodism? In place of Locke's empiricism that presupposed we know by experience, don't we have an account that says we know by explanation? How does explanationism differ in genus from empiricism? It looks as if both views offer criteria for knowledge and justification prior to actual theorizing. My purpose in this section is to grapple with this charge. The key move in addressing this concern is that the explanatory virtues are plastic; they are not fixed prior to theory. The plasticity of these virtues clearly distinguishes it from methodism because the explanationist offers no fixed scheme to constrain the structure of epistemological theory. The method of explanation and its virtues change with responses to intellectual challenges. There are no fundamental, unalterable epistemic methods or judgments.²⁸ I turn now to substantiate these claims.

A. The Plasticity of Experience

The notion of plasticity comes from Paul Churchland's discussion of the plasticity of perception and the plasticity of understanding in his book *Scientific Realism and the Plasticity of Mind*.²⁹ Churchland argues for explanatory coherentism based upon arguments against a fundamental observational language, against the analytic/synthetic distinction, and

28 Another response is to distinguish two varieties of methodism: fixed and variable methodism. Empiricism would then be considered fixed methodism and explanationism would be variable methodism. One could then claim that explanationism is methodism *par excellence*. This response is a nominal variant of the one I consider.

29 Churchland (1979).

against reductionism. The picture that emerges is one in which the goal of philosophy is ‘to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term,’³⁰ where both *what is the data* and *how the data is assessed* change with changes in theory.

In his second chapter, ‘The Plasticity of Perception,’ Churchland contends that perceptual judgments can change with changes in theory. He argues that the natural information that is contained in perception lacks cognitive significance unless it is conceptually exploited.³¹ Since sensory data must be conceptually interpreted, the ‘data’ of perception can change with changes in theory. As Churchland writes, ‘It is clear that our current modes of conceptual exploitation of sensory information barely scratch the surface, and that suitable training and education could result in different and more powerful modes of exploitation, and even in the displacement of their more primitive precursors.’³² He illustrates this kind of change with our normal sensations of warmth and coldness.³³ Our sensations of warmth and coldness are reliable indicators of the mean kinetic energy of the contacted objects. In virtue of this connection, it is possible that our conceptual utilization of these sensations is in terms of mean kinetic energy rather than warmth and coldness. That is, in place of conceptualizing a sensation as *cold*, one may conceptualize that very sensation as *low mean kinetic energy*. For Churchland, the plasticity of perception consists in the possibility of a different conceptual utilization of the natural information contained in perception. Whereas we learn at our mother’s knee to perceive things in terms of commonsense substance-property ontology, we may come to replace that training with a superior physical theory. Where we once issued the non-inferential perceptual judgment that *x is red* we would

30 Sellars (1963), 1.

31 Churchland (1979), 7.

32 *Ibid.*, 28.

33 Churchland is using a reliable covariant sense of ‘of’ here. Sensations are of *x*, if they reliably covary with *xs*.

now issue the non-inferential judgment that *x selectively reflects electro-magnetic waves at $0.63 \times 10^{-6} m$* .³⁴

One need not accept everything Churchland says about the ways non-inferential perceptual judgments could change to appreciate the point that perception is plastic. Contrary to some of his claims, it may be that some perceptual judgments are simple and that the simplicity of basic perceptual judgment precludes the possibility of a non-inferential perceptual judgment that *x selectively reflects electro-magnetic waves at $0.63 \times 10^{-6} m$* . Even so, the larger point that non-inferential perceptual judgments conceptually exploit the natural information contained in sensation by being embedded in a larger theory is true. Given this, it is possible that those judgments change with changes in theories.

What is the upshot of the plasticity of experience for the problem of the criterion? The consequences affect both methodism and particularism. Locke's empiricism assumes that the general criterion for distinguishing good beliefs from bad beliefs is conformity to experience. If a belief does not arise out of experience then it is to be rejected. But how should experience be conceived? On classical empiricist accounts there is a fundamental observation language for experience. At a basic level, experience is not subject to conceptual exploitation; the judgments one draws from experience are not subject to changes in one's overall theory. If, however, experience is plastic then this picture is false. The broader lesson for methodism is that the criterion itself might very well change with changes in theory.

The particularist faces an acute challenge as well from the plasticity of experience. The Moorean particularist begins by assuming that the deliverances of the senses are sacrosanct. These deliverances provide the unalterable data for epistemological theorizing. But the plasticity of perception challenges this by undermining the idea that the conceptual judgments drawn from the senses are not possibly correctable.

34 Ibid., 28. In general, see section 4 'The expansion of perceptual consciousness' on pp. 25-36 for Churchland's discussion on how the conceptual exploitation of sensory information might change.

Perception is the conceptual manipulation of sensory information. We may come to find that our perceptual judgments do not adequately represent sensory information. The point here is not a skeptical point that we do not know what the particularist thinks we know. Rather the point is methodological: the particularist assumes that inquiry is closed with respect to the basic judgments used to construct an epistemology. Recall Moore's claim that if an epistemological theory implies that one does not know that one has hands then that is sufficient grounds for rejecting the theory. But it is conceivable that future inquiry uncovers that our basic perceptual judgments are not the best responses to the evidence at our disposal.

B. The Plasticity of Understanding

Churchland observes that the epistemological significance of the plasticity of perception is that there are no fundamental, unalterable, perceptual judgments. The data that is taken up in perception could be reconceptualized in the interest of a more comprehensive, elegant, and explanatory theory. In a similar fashion, understanding itself is plastic. In his third chapter, 'The Plasticity of Understanding,' he examines the putative semantic foundations that support a non-coherentist epistemology. Churchland argues that the alleged analytic/synthetic distinction is not principled, and that, as a result, semantic holism is true. I will not repeat his arguments. Instead I want to focus on the epistemological significance of this. The picture of confirmation that one gets from the logical positivist is that confirmation for a theory comes in two forms: deduction from the meaning postulates and empirical confirmation from the observation sentences. If a sentence is deducible from the meaning postulates then it is analytic. And if it is not analytic then a sentence must receive confirmation from the observation sentences. These sentences—the synthetic ones—were claimed to be analytically equivalent to a set of observation sentences. What this meant was that there is a principled account of the confirmation of some sentences. Correspondingly, there is a principled method for

philosophy: to analyze language and construct a theory of confirmation for a given language. Every synthetic sentence, in virtue of being analytically equivalent to some set of observation sentences, was either consistent or inconsistent with some observations. Thus, theory confirmation rested on *a priori* semantical analysis.

Churchland follows Quine in arguing against this picture. The arguments show that no sentence is analytically equivalent to some set of observation sentences. As Quine says, any sentence can be held true if one makes enough adjustments to theory. The point that Quine is making here is often misunderstood. The point is not that it is rational to believe any sentence come what may; Quine is not an epistemological nihilist. Rather, the point is that there is no principled theory of confirmation. Confirmation relations are holistic; it requires good sense to determine which sentences one should accept and which sentences one should reject. This implies that our understanding is plastic. It rests on flexible adjustments that one can make to theory rather than rigid analytic equivalences. As Churchland writes, 'What an adequate epistemology must begin by acknowledging is the thoroughgoing *plasticity* of human understanding, and among the things it must be able to account for is the rationality not just of minor but of wholesale changes in the form that understanding assumes.'³⁵ Given the failure of an analytic/synthetic distinction and the corresponding failure of reductionism, there is no principled theory of confirmation. What sentences are confirmed is a matter of the internal relations to other sentences and the conceptual integration of the natural information of the senses.

We can restate this discussion more explicitly in terms of the problem of the criterion. The particularist assumes, prior to epistemological theorizing, that we have some instances of knowledge or justified belief that are to be used as fixed points for correct epistemological theorizing. The methodist assumes that, prior to epistemological theorizing, we

³⁵ *Ibid.*, 88.

have some method that serves as a criterion to sort beliefs into epistemological categories. Churchland's coherentism denies both assumptions: the putative 'instances' of knowledge are plastic, being influenced by changes in greater theoretical virtues, and the putative 'methods' are plastic, being influenced by changes in greater theoretical virtues. What we are left with is the method of reflective equilibrium: start with your current data and theory, and then work to improve it by bringing it to full equilibrium with the best theories and most comprehensive data.

C. Plasticity and Relativism

Explanationism states that the rational method to follow is the method of explanation. But this method is plastic. The plasticity of the method distinguishes it from particularism and methodism in that both offer fixed pre-theoretical judgments to constrain epistemological theorizing. One concern about an epistemology with plastic methods is that it leads to a radical relativism in which any belief is justified. This concern is easily met. As Kuhn stresses, even though the values that guide scientific theorizing are subject to contextual shifts, they are nonetheless values that make rational some decisions and make irrational others. Radical relativism is false because some beliefs do conflict with the standards of the existing paradigm. Kuhn writes, 'Simplicity, scope, fruitfulness, and even accuracy can be judged differently (which is not to say they may be judged arbitrarily) by different people.'³⁶ Kuhn's point is that scientific values are malleable but once they are fixed they do provide a rational basis for making decisions about the merits of different theories. The plasticity of the values or the methods does not imply radical relativism.

This point can be reinforced by Larry Laudan's reticulational model of theory change.³⁷ The reticulational model identifies three components

³⁶ Kuhn (1970), 262.

³⁷ See Laudan (1984), Chapter 4.

of a scientific theory: ontology—the entities and properties postulated by the theory; methods—the approved investigative methods; and values—the shared values of the theory’s practitioners. Laudan’s aim in offering the reticulational model is to resist the perceived epistemological anarchism that comes from Kuhn. For our purposes, we can use Laudan’s model to provide one interpretation of the plasticity of epistemic methods. Laudan agrees with Kuhn that the three components of theories change over time. But he argues that the change occurs in a piecemeal fashion, not all at once. What is crucial for Laudan is that there is a shared basis of values that is sufficient to motivate an epistemic decision between rival theories. The reticulational model accounts for this. As long as at least one of the three components is held largely fixed for the time, that shared component can provide a basis for rational adjudication between rival paradigms. This can be seen in very significant shifts in cognitive values. For instance, the shift from the ideal of infallible knowledge to the ideal of fallible knowledge did not result in an ‘anything goes’ standard for scientific theorizing. Similarly, the momentous shift away from the requirement that physical processes be picturable to the allowance of empirically adequate mathematical models did not result in epistemological anarchism. In these cases, we can see how Laudan’s reticulational model distinguishes between rational and irrational beliefs even though cognitive ideals and methods are plastic.

At times, though, Laudan seems to think that anarchism is avoidable only if there are fixed pre-theoretical methods. If this were correct then anarchism is avoidable only if methodism is true. Responding to Kuhn’s ‘ambiguity of shared standards’ argument, Laudan argues that the standards of internal consistency and consistency with other theories provide clear, unambiguous cases of standards that can be used to reach a rational decision.³⁸ But contrary to initial appearances the role of consistency-based arguments is not pellucid. We have learned to live with inconsistent theories—general relativity and quantum mechanics.

³⁸ Laudan (1984), 91-2.

Because these theories are our best-confirmed theories of large-scale and very small-scale features of our universe, they are accepted even though they are known to be inconsistent. Furthermore, the development of alternative logics to model what occurs at the quantum level suggests that Laudan's attempt to provide a non-malleable standard does not succeed. Nonetheless, rational judgments are possible based on shared standards.

IV. Objections and Replies

I close by considering two standard objections to explanatory coherentism. Richard Fumerton acknowledges that the method of reflective equilibrium requires a coherentist epistemology, and like many a philosopher, he finds coherentism objectionable.³⁹ The three standard objections to coherentism are the alternative systems objection, the input objection, and the problem of the truth connection.⁴⁰ Each of these objections focuses on the *internal* nature of coherence. Coherence is defined over a set of propositions that comprise a subject's perspective. Because coherence is an internal relation, coherentism permits the possibility of alternative justified belief systems, worries about how one gets input from the external world, and fundamentally how greater coherence leads to greater degree of truth. Each of these three standard objections gets at the same worry: what is the connection between coherence and truth. In the first section, I address this concern. The second major objection to explanatory coherentism focuses on the claim that one should always believe the best explanation of some set of data. In some cases, though, one explanation may beat all the other explanations even though it is a horrible explanation of the data. If explanationism enjoins one to believe a hypothesis in the case in which it is (a) horrible and yet (b) beats all existing explanations then the core explanationist doctrine is false. Let us turn now to address these objections.

39 Fumerton (2008), 12.

40 See BonJour (1985), section 5.5.

A. The Truth Connection

Good inquirers aim for true beliefs. But the most fanciful stories may be highly coherent. Ergo, high coherence does not give us a reason to think that the story is true. This simple argument is the basis for the oft-repeated charge that coherentism is misguided because there is nothing about coherence that implies a coherent set of beliefs are true or even likely to be true. One way of pressing the concern is that different, incompatible systems of beliefs can be justified on coherentist grounds. Another way to press this objection is that it looks like nothing from the external world gets into the coherentist framework since coherence is an internal relation between assertive representational contents.

What does the explanationist say to this problem? The explanationist has two responses to the charge that the internal relation of coherence is not properly connected to the truth. The first is a *tu quoque* argument that all internalist theories of epistemic justification have this problem. Internalism in epistemology is the view that the only items that determine the justificatory status of a subject's beliefs are those items that comprise a subject's perspective. Given internalism, justification is determined by internal relations within a subject's perspective. If a subject has adequate evidence for some claim then regardless of whether or not that claim is true, the subject is justified in believing this claim. Internalism has the consequence that within a specific world the justification conferring elements may all be present even though most of one's beliefs are false.

The second response the explanationist can offer to the truth-connection objection is that the norm to believe the truth is followed by following the norm to believe what is rated most highly by the canons of theory preference. For many beliefs, one cannot directly determine whether they are true. One can only look for signs of truth. As the explanationist sees it, the signs are the canons of theory preference. To the extent a belief is conservative, elegant, great in scope, testable, and fruitful a person does well epistemically to believe that claim. Of course,

it is possible that the proposition turns out to be false. But this is not an objection to the view. Any internalist view has this consequence. The problem of the truth-connection is not a good objection to explanationism.

B. Should One Believe the best Explanation?

Keith Lehrer considers the objection that the *best* explanation of some set of data might not be good enough.⁴¹ The *best* explanation of some data beats every other explanation. It is entirely possible that each competing explanation of some data is no good and yet one is clearly better than the rest. In such a case, one is not justified in inferring that the best explanation is true. To support this verdict consider the following case. A valuable painting has been stolen from the MET. The police are baffled. They have three hypotheses: the curator arranged the heist; some local thugs broke in and grabbed the painting; and the Russian mob executed the theft. These three hypotheses explain parts of the available evidence, but they are each strongly in tension with other parts of the evidence. Yet the curator hypothesis is the best among the three. Should the police believe the curator hypothesis? Of course not. Even though it is better than the other two hypotheses it is in considerable strain with other parts of their evidence.

This case illustrates the fact that sometimes the best explanation is not coherent with the rest of the data one accepts. In cases like these explanationism issues the correct verdict: one is not justified in accepting the best explanation. The best explanation has to be *coherent* with the data one accepts. Similarly, in cases like this the best explanation cannot be brought into reflective equilibrium with everything one accepts for the simple reason that it conflicts with other data one accepts. To put this point a different way: reflective equilibrium and explanatory coherence require plausibility. Implausible hypotheses are not in equilibrium nor are they coherent with everything one accepts.

⁴¹ See Lehrer (1974), 180.

Conclusion

Explanatory coherentism is a plausible solution to the problem of the criterion. Chisholm sets up the problem of the criterion as a choice either to determine the contours of epistemology prior to theory or to accept skepticism. This is a false dilemma. A third option is to adopt the method of reflective equilibrium and explanatory coherentism. I have argued that explanatory coherentism is itself credible and that it does not suffer from any obvious faults. Explanationism holds that our methods and judgments are plastic and that they are both justified by the explanatory task.

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