
DESCRIPTIVE VS REVISIONARY SOCIAL EPISTEMOLOGY:
THE FORMER AS SEEN BY THE LATTER

1. 'Descriptive' vs. 'revisionary'
philosophical attitudes: What's at stake?

When Peter Strawson (1959) subtitled the most celebrated book in ordinary language philosophy, *Individuals*, 'An essay in descriptive metaphysics', he shocked mainly for having reintroduced 'metaphysics' into intellectually respectable English a quarter-century after A.J. Ayer had consigned it to the logical positivists' index of forbidden philosophical words (Passmore 1966, 504). Few at the time appreciated the import of the modifiers 'descriptive' and its opposite, 'revisionary'. Now, another half century on, philosophers have come around to Bertrand Russell's original view that both the ordinary language philosophy Strawson championed and the ideal scientific language philosophy Ayer championed offer alternative metaphysical visions. The remaining question of philosophical interest is what hangs in the balance between a descriptive and revisionary approach to metaphysics – or, for that matter, any branch of philosophy. This paper critically examines the currently dominant descriptive approach from a revisionary standpoint, initially relying on the terms Strawson uses to frame the distinction, and then moving outward to consider its implications for our understanding of the history of modern philosophy, especially the 'naturalist' sensibility that has been especially influential in analytic social epistemology.

As evidence that we live in descriptivist times, consider this statement by one of Richard Rorty's most distinguished students:

The concept of a vocabulary plays a pivotal role in the philosophical world-view that Rorty has been developing over the past three decades. His use of this trope has its roots in Quine's critique of attempts by Carnap and other logical positivists to divide the explanatory labour addressed to linguistic practice between meanings and beliefs. ...Quine pointed out that this model overdescribes actual linguistic practice. For we simply do not see sharp differences between changes of meaning and changes of belief of the sort that the model predicts (Brandom 2000, 156).

Historians of recent philosophy will immediately notice a bit of Whiggishness at work here. Whatever else the logical positivists were trying to do, they were not trying to describe 'actual linguistic practice', somehow overshot the mark and hence 'overdescribed' it. Indeed, it was precisely their suspicions about ordinary modes of speech that led the positivists to require that knowledge claims be translated into the artificial medium of formal logic prior to their evaluation. It was only in this translated guise that distinctions between 'meanings' and 'beliefs' could be sensibly drawn. This, in turn, implies alternative interests in, say, prediction. Whereas Quine was interested in what speakers would say in the presence of certain stimuli, the positivists were concerned with what logically follows about empirical reality if a certain set of theoretical propositions is assumed to be true. 'Overdescription' is thus an unflattering, perhaps even Orwellian, way of referring to prescription, the hallmark activity of philosophy in a revisionary key.

The descriptive-revisionary divide has a special urgency for social epistemology, especially when seen as a development in the analytic philosophical tradition that subsumes both Ayer and Strawson. It would be fair to say that so far the most distinctive contributions to analytic social epistemology have taken a 'descriptive' turn, which in Strawson's technical sense really means 'conservative'. After all, Strawson's sense of 'descriptive' is meant to capture what is normally taken for granted. He himself characterizes descriptive metaphysics as a more conceptually satisfying 'reidentification' of what we already know. If analytic social epistemology is revisionary at all, it is only with respect to analytic epistemology, which has traditionally retained the Cartesian ontological shell of classical theories of knowledge: an individual agent who encounters an external reality in a largely contemplative state of mind. Thus, the innovations of analytic social epistemology include theories of credible testimony, consensus formation, division of cognitive labour, and epistemic paternalism (Schmitt 1994, Fuller 1996). The reference points for these innovations are the complex collective enterprises that characterize contemporary natural scientific research and expert judgement in judicial and policy-making contexts.

Since Strawson held that much of the history of philosophy – indeed, most modern expressions of both idealism and materialism – has been revisionist in intent, it is worth considering why he favoured the descriptive approach. The answer that seems to satisfy most philosophers is that descriptive metaphysics does not succumb to the sceptic's exorbitant epistemic demands but properly values the knowledge on which we normally rely to get around the world. From the standpoint of social epistemology, the operative word here is 'we'. The standard of conduct descriptive metaphysics requires of 'us' is adequate to the maintenance of civility – no less but no more. To be sure, in its heyday, ordinary language philosophy was often defended on quasi-democratic grounds as protecting commonsense – in the guise of what we

'always already' know – from the incursions of the crypto-theologians (i.e. the idealists) and the crypto-scientists (i.e. the materialists) who wanted to foist a revisionary metaphysics that would require our deference to their alien epistemic authority. Thus, as Strawson saw it, descriptive metaphysics was engaged in the never-ending task of recapturing perennially real differences in terms that speak to the current generation. Such a stance is conservative in its presumption that metaphysical revisionism would not improve things and might well make them worse.

In contrast, the revisionary perspective engages in what may be called semantic descent, as questions that the descriptivist raises to the second order are brought back down to the first order of discourse. In other words, disagreements over how to understand a common reality are reduced to conflicts over how to construct alternative realities. Philosophy is thus no longer a metalanguage in terms of which competing substantive visions must be resolved, but rather itself the source of these competing visions. As a positivist might see it, the revisionist relocates philosophy back in the context of discovery rather than the context of justification. Strawson himself appreciated this aspect of the revisionary approach, when he observed that philosophical revisionists treat the default objects of common sense as a restricted set of many possible combinations of elements, full access to which requires revision of our metaphysical horizons. Philosophy then becomes the theory of these elements and their combinations. Whereas the descriptivist aims to close the possibility space by showing how things must be as they are, the revisionist aims to open the possibility space by showing how things could be other than they are.

In this respect, the metaphysical revisionist treats reality as a potential that is multiply realizable. In current philosophical parlance, to make good on her vision, the revisionist probably needs to be an 'antirealist' about the future, if not time more generally. (An antirealist approach to intellectual history is defended in Fuller 2002b.)

Here it is important to stress the sense in which the antirealist is 'anti' reality, since the position has been subject to tongue-tied friends and too-clever-by-half enemies. To be an antirealist is to treat reality as something resisted and overcome rather than accepted and imitated. The antirealist does not deny the existence of reality in either the ordinary sense or even most of the philosophically salient senses. However, for the antirealist, reality is a necessary means, not a sufficient end, for inquiry. This basic metaphysical intuition has underwritten my own work in social epistemology. I believe it also captures the revisionary metaphysical universe shared by the idealists, positivists, and pragmatists who flourished in the 150 years following the Enlightenment. It implies that philosophers can do more than simply authorize what people are already inclined to believe. Rather, philosophers can contribute to the substantial revision of reality because the present always provides enough raw material from which to construct mutually incompatible futures. (Here 'enough' is also meant in its negative sense of 'just enough', for if we lived in a world governed by the generation – as opposed to the conservation – of matter and energy, then the alternative futures projectible from the present would be jointly realizable. Perhaps the parallel universe hypothesis associated with some interpretations of quantum mechanics would satisfy this condition.) In that case, one needs to take a decision about what reality will be, or at least the reality for which we wish to be held accountable. At this point metaphysics yields to politics but the problem remains very much in the realm of philosophy.

The relevant political precedent for distinguishing descriptive and revisionary metaphysics may be found in Rawls (1955), the landmark discussion of the alternative conceptions of rules that underwrite the two main modern theories of justice, the Kantian (descriptive) and the utilitarian (revisionary). In most general terms, rules may be worth upholding either for their own sake or only as long as they facilitate some end external to the maintenance of the rule. The former captures the

Kantian and the latter the utilitarian sensibility toward rules. This difference, in turn, underwrites two rather opposing senses of justice, which an Aristotelian would call 'commutative' and 'distributive', respectively. The commutativist operates with a backward-looking standard that aims to right past wrongs, thereby restoring the natural order, the normative desirability of which is taken for granted. (In a strict Kantian view, legitimacy requires self-legislation, which means that those governed under the rules must have given their consent at some point.) In contrast, the distributivist operates with a forward-looking standard that sees the work of justice less in terms of repairing damage than fulfilling promise. Rules function here as hypotheses collectively undertaken for the sake of promoting the general welfare. The value of these grand social experiments lies solely in the consequences that flow from them. If the general welfare is not increased, then the rules are abandoned. Moreover, rules may be introduced that may appear unjust to a commutativist because they expressly propose to violate past rules in the aid of normatively desirable vision of the future. Affirmative action legislation is precisely of this revisionary character.

2. A revisionary history of the descriptive philosophical attitude

Strawson's two titans of descriptive metaphysics are Aristotle and Kant. Seen simply in terms of philosophical content, they are not natural allies. Nevertheless, Aristotle and Kant share a common political context that reinforces their standing as descriptivists. In Popperian terms, both flourished in a period when the 'open society' was under threat, if not in retreat. Aristotle lived in the aftermath of the Peloponnesian Wars, which ended the Golden Age of Athens that had been marked by the free and spirited inquiry of the sort immortalized in Plato's dialogues. However, the verbal recklessness of the sophists, perhaps including Socrates himself, had been largely held responsible for the political volatility that made

Athens vulnerable to foreign conquest. The conquerors included first the Spartans and then the Macedonians, for whom Aristotle himself worked. Whereas Plato had wanted kings to undergo training first as philosophers to purify their minds and strengthen their resolve, Aristotle called for a strict division of labour between kings and philosophers, with the latter acting in a purely advisory capacity that rendered them immune to political consequences. This attitude also helps to explain Aristotle's normative orientation to rhetoric, which rejects the sophistic reliance on audience uptake as the arbiter of discursive adequacy. Instead Aristotle fixates on the speech's formal properties, detached from the heat of debate. This shift in focus enables the speaker, at least in principle, to determine the soundness and validity of what he says before opening his mouth. In that way, no words are wasted, no crowds unnecessarily aroused. Aside from privileging the logic and grammar in rhetorical criticism, Aristotle's approach was prudent for times when speakers might not get a second chance to correct a verbal misfire.

For his part, Kant lived under a 'benevolent despotism' that took an exceptionally privatized view of the liberal principle that society should promote the most freedom that is jointly realizable by all its members: In Prussia, people were entitled to believe anything they wished as long as they did not try to persuade anyone else of it. The aim was to maintain religious toleration without denying the royal privileges of the state religion. This principle was fully formalized as the Religious Edict of 1788, which forbade Kant from teaching on religious topics, since his critical philosophy appeared to turn God into a figment of the human imagination, a proposition contrary to Prussia's Lutheran orthodoxy. However, Kant had not been trying to challenge religious authority, as such 'Young Hegelians' as Feuerbach and Marx would do a half-century later. Rather, Kant unwittingly fell foul of the censors simply because his status as a civil servant made whatever he said appear more dangerous, as

instruction was easily interpreted as proselytism. Kant had tried to avoid any trouble by insinuating potentially controversial knowledge claims – say, about, the existence of God – as propositions that must be assumed in order to make patently uncontroversial claims about the everyday world. Thus, God was presupposed as a regulative ideal in our search for a rational understanding of reality. This strategy of holding the patently uncontroversial hostage to the potentially controversial is Kant's famed 'transcendental turn'. Notwithstanding Kant's own difficulties, the rhetorical force of this strategy has been to pre-empt arguments that might not be otherwise won on more straightforward empirical or political grounds. For a recent example, consider that the massive appeal of Rawls (1972), which elevated the guiding intuitions behind the welfare state to the transcendental basis for the good society, coincided with the rise of neo-liberalism, a time when welfarist intuitions became less compelling in the political arena (Fuller 2002a).

This brief excursion into the social epistemology of Aristotle and Kant is meant to highlight the peculiar relationship between reason and society that underlies the descriptivist approach to philosophy. This relationship can be stated as a series of interlinked propositions. Philosophy, properly done, aims to justify the world as it is, which is normally how it appears – and not turn it into something substantially different. However, some philosophers want to deny this point by claiming that reason can provide either a better understanding of reality or, more ambitiously, an understanding of a better reality. However, their revisionary impulses are often informed by 'fallacies' (Aristotle) or 'paralogisms' (Kant) that merely imitate reason without actually securing sound judgements and valid conclusions. An important part of the descriptive philosophical task, then, is to identify and, where possible, pre-empt such pseudo-rational arguments, given the ease with which they could pass the scrutiny of naive reasoners, potentially damaging their understanding of reality. Descriptivist

philosophers may no longer aspire to be Platonic kings, but they see a vital role for themselves as guardians against the verbal excesses of their revisionary counterparts. In recent times this role has been most enthusiastically embraced by various philosophical campaigns against 'pseudo-science' and, more recently, 'intellectual impostures' (Sokal & Bricmont 1998).

Here it is worth observing that from the revisionary standpoint, descriptive metaphysicians are themselves revisionists after a fashion. Descriptivists appear to concede that there is sufficient fluidity – or at least plasticity – to reality that it matters which second-order account of reality commands our assent. Does that mean they are covert antirealists? Descriptive metaphysicians certainly disavow at least one version of realism – the one that portrays reality as completely indifferent to our descriptions. Of course, with the aid of counterfactual analysis, historians have argued that a particular outcome was 'overdetermined' in that it would have happened regardless of whose description of the situation were dominant. However, descriptive metaphysics would be pointless if all historical outcomes were overdetermined in this sense, even though a very strong sense of realism would be vindicated in the process. In that respect, a philosophical description of something we already know under another name reinforces the sense that we know it, especially in the face of those who would shift our epistemic allegiance to more dangerous ground. This suggests that for the descriptivist, at least some aspects of the future depend on not only our describing reality correctly but also our not describing it incorrectly. The latter, seemingly pedantic point is important because the two great descriptivists, Aristotle and Kant, lived in times when getting things wrong potentially carried an existential risk. Put it this way: When a trade-off must be made between telling the whole truth and only the truth, the descriptivist errs on the side of the latter.

This tendency for descriptive metaphysics to err on the side of caution is well illustrated in the career of the informal fallacies known as 'red herrings'. Familiar from introductory logic textbooks, red herrings are arguments that purport to establish a conclusion on the basis of what are taken to be 'logically irrelevant' premises. On closer inspection, these 'fallacies' consist of explanatory strategies frequently found in the social sciences. Cognitive scientists would call them 'heuristics', namely, conceptual frameworks whose *prima facie* informativeness trades off against hasty generalization. Below is a list of these argumenta in their canonical Latin guises, alongside an explication that brings out their latent social scientific content:

- Ad origines: The origins of a claim are relevant to determining its validity.
- Ad vericundiam: The authority backing a claim is relevant to determining its validity.
- Ad baculam: The force of threat behind a claim is relevant to determining its validity.
- Ad populum: The popularity of a claim is relevant to determining its validity.
- Ad hominem: The kind of person making a claim is relevant to determining its validity.
- Ad misericordiam: The emotional response elicited by a claim is relevant to determining its validity.
- Ad consequentias: The consequences of a claim are relevant to determining its validity.

All of these argumenta assume that the circumstances surrounding the production and reception of a knowledge claim are material to an assessment of the claim's validity. To social researchers, these are reasonable opening moves that then need to be tested, modified and perhaps even overturned in light of further empirical inquiry. Yet, the philosophical force of calling these arguments 'fallacies' is to discourage their use in the first place. It is worth pointing out that the original catalogue of fallacies, Aristotle, did not regard such arguments as especially fallacious. Rather, he treated them as 'rhetorical syllogisms', which is

to say, enthymemes (Hamblin 1970, 71-3). In other words, the audience tacitly supplied premises missing in the explicit statement of the argument. Clearly the rhetorical syllogism economizes on speech but it may also economize on truth, if the speaker implicitly appeals to prejudices that could not withstand public scrutiny. Aristotle, who placed great store by prudence and tact, was studiously open-minded about the use of the rhetorical syllogism. Given our earlier discussion of Kant, Aristotle would probably have classified transcendental arguments as rhetorical syllogisms. In this respect, the point of social science research is precisely to submit the hidden premises of the rhetorical syllogism to public scrutiny – even if that means overturning cherished assumptions, perhaps resulting in social unrest.

The red herring fallacies only start to make their way into Anglophone logic textbooks in the 19th century and perhaps the most important of these, the 'genetic fallacy' (*argumentum ad origines*), appears only in the 1930s (Cohen & Nagel 1934). The Latin naming of these fallacies was an anachronism, ultimately traceable to Richard Whately, an Oxford philosopher who eventually became the Anglican Archbishop of Dublin (Hamblin 1970, 168-76). Whately wrote in explicit opposition to Jeremy Bentham's *Book of Fallacies*, a Liberal manual for demystifying Tory arguments in Parliament. Bentham was keen to identify the hidden premises captured by the red herring fallacies in order to contest them. Very much in the spirit of metaphysical revisionism, he wanted to recast arguments about necessary and inviolate principles as matters of contingent, and hence reversible, facts. Whately influentially responded that 'existing institutions' should always be presumed in argument, and hence should be contested only on the terms they have already established. Whately neither anticipated nor probably would have welcomed the presumptive validity of propositions certified by natural scientific authorities today. Nevertheless, his dictum – which rendered the red herrings unequivocally fallacious – makes most obvious sense in this

context today, given the widespread acceptance of Kuhn's view that scientific inquiry is consolidated around paradigms that define the epistemic orthodoxy. Thus, a philosophically respectable attack on the Neo-Darwinian synthesis nowadays proceeds by challenging the theory's explicit knowledge claims, not the background social conditions that have made these the claims one needs to challenge. Only in this way does the attack 'bear the burden of proof'. (For a critique of this entire line of thinking, see Fuller 2000; Fuller & Collier 2004, 330-40.)

So in what sense is a descriptive metaphysics 'revisionary'? In its attempt to keep the future within the confines of the past, despite the potential available for doing otherwise. While this brings out the deep conservatism that underlies the descriptivist approach, at the same time, as intimated in the cases of Aristotle and Kant, an important motivation for the turn to description is the fear that something currently of value may be lost in the future if it is not explicitly preserved. His own political proclivities notwithstanding, Leo Strauss (1952) probably best understood this risk averse sensibility that informs the descriptive metaphysician. The next section considers the career of a philosophical sensibility – naturalism – that over the past century has shifted from the revisionary to the descriptive side of the metaphysical divide. In so doing, it too has become more risk averse, turning to science as the bulwark for stabilizing the social order. The influence of this shift on recent tendencies analytic social epistemology have been significant, as we shall see at the end of this paper.

3. Rendering the revisionary descriptive: The shifting implications of naturalism for social epistemology

Naturalism is a general philosophical sensibility that cedes the traditional problems of metaphysics to science. I call it a 'sensibility' rather than a doctrine because it has been historically open-minded about whether 'science' means only the natural sciences, as they are

now or in an ideal future, unified or not, and so forth. Naturalism began as revisionary metaphysics but is now normally seen as descriptive in intent. If we start with Spinoza, the first philosopher labelled a 'naturalist', naturalism's original opponent was supernaturalism, the idea that God transcends or otherwise stands apart from Nature (Israel 2001, 628-9). Naturalists were understood as calling for a new world order with subversive political implications, typically undermining the authority of priests and theologians who provided the needed epistemic mediation in the radically bifurcated reality of supernaturalism. Naturalism in this sense reached its peak in the second half of the 19th century, buoyed by such scientifically inclined philosophical doctrines as materialism, positivism, and evolutionism. It is worth underscoring the sense in which naturalism used to be revisionary: Once science becomes your metaphysical horizon, you are empowered to act in substantially different ways that could make the world a rather different place. At the very least, you can use your own senses and intellect for making sense of reality – including the reality of the ballot box – and not have to rely on the deliverances of religious leaders.

In 1959 Strawson still regarded naturalism as a species of revisionary metaphysics, partly reflecting a residual dualist tendency in his own thought that treats persons and things and categorically distinct types of objects. Indeed, remnants of naturalism's past revisionary fervour can be gleaned from the ongoing debates between creationists and evolutionists in the United States, where major philosophers of science have played a significant part. However, the import of these debates has significantly shifted over the last 150 years. While many – if not most – of the doctrines of life in contention today descend from the 19th century, their epistemic authority has come to be virtually reversed: Naturalists now find themselves shoring up the orthodoxy, arguing not that science can change the world for the better, but rather that science already underwrites the world we change at our peril.

But exactly when and why did naturalism take this turn toward the descriptive?

I would say around 1960, the publication date of Quine's magnum opus, *Word and Object*, which was partly written in response to Strawson (1959). Quine's oft-quoted view that science is the continuation of commonsense by other means is already on the other side of the turn, since it presumes no necessary conflict between what Wilfrid Sellars (1962) was by then calling the 'manifest' and the 'scientific' images of reality. To be sure, Sellars himself was notoriously ambivalent about the matter, preferring what American lawyers at the time would have called a 'separate but equal' approach to the two images, since each had the potential to destroy the legitimacy of the other if released into the other's domain. Moreover, the usually cited source for Quine's view, John Dewey, regarded commonsense not as a perennial set of specific beliefs, intuitions or (as per Quine) selectively reinforced behaviours, but a more general and educable competence capable of empowering people. Implicit, then, are two ways science might be continuous with commonsense: Either commonsense provides the basis for people becoming scientific or scientists provide the basis for justifying what people already do commonsensically. Perhaps unsurprisingly, Sellars found a seat on the fence.

The two types of naturalism are politically – but of course not logically – incompatible. Dewey clearly had revisionary intent with regard to the larger society, whereas Quine's revisionism was limited to previous philosophical views. Dewey wanted to purge the clerical vestige in epistemology's 'quest for certainty', that is, incontrovertible authority. Here he was partly involved in a rejection of his own theological route to philosophy, a journey Quine never had to take (Kuklick 2001, 190-6). Quine's starting point was that of a philosopher longing to be a scientist, the sort of person in whom he believed authority on epistemic matters ought to be invested (Borradori 1994, 38-9). Whereas Deweyan naturalism aimed to end the reflective person's dependency on a 'higher' epistemic

authority, the Quinean variant simply wished to replace religion with science as the relevant authority, with philosophy assisting as an 'underlabourer' in the handover (Fuller 2002a). (There is much food for Freudian thought here that we shall not explore. Specifically, Auguste Comte and John Locke, two philosophers ritualistically demonised by Quine's intellectual progeny, provide the precedents for Quine's own shift from the revisionary to the descriptive side of Strawson's metaphysical divide.) This shift probably reached its apogee with Hilary Putnam's papers on meaning and reference from the early 1970s (collected in Putnam 1975).

Like Quine, Putnam had revisionary designs on certain philosophical views. These centred on the theory of meaning that had come to dominate analytic philosophy once the logical positivists immigrated to Anglophone lands in World War II. It was basically Frege's theory of sense – itself originally a theory of collective representation – as seen through the lens of Locke's theory of ideas. In short, meaning was treated as a public version of a private mental event. Now why might someone have held such a view in the first place – that is, back in 17th century Europe? After Rorty (1979) it has become fashionable to point to misguided dualist assumptions that Locke adopted uncritically from Descartes and, if anything, compounded by giving them a pseudo-empirical gloss. Without denying that Locke was influenced by the debates surrounding Cartesianism, at most this explains Locke's manner of expression, signalling his attempt to address an audience current in technical philosophical discussions. Rorty's explanation does not account for why Locke might still want to have supported the sort of view Putnam, three centuries later, wished to oppose.

My own view is that Locke – and philosophers in his lineage as recent as Bertrand Russell and Rudolf Carnap – were attracted to a privatised account of meaning for the very reasons we continue to find attractive the idea of a secret ballot in democratic elections. The normative

issue at stake bears on two aspects of what it means to be a person: First, each person should be periodically given an equal opportunity to reject the past regime by declaring in favour of an alternative. Second, in recognition of each person's capacity to decide for herself, everyone agrees to absorb the consequences of the majority's decision – at least until the next election. (An ethicist should appreciate how the first aspect motivates Kantianism, the second utilitarianism.) These two aspects produce the peculiar combination of 'internal' sense certainty and 'external' object fallibility that post-Quineans like Putnam have found problematic in Lockean theories of meaning: How is it possible to mean what one says even when what one says is false? To a social epistemologist, the most straightforward answer is to treat each speech act as a *de facto* vote on which a given speaker may end up on the losing side. The philosophically interesting question then is when and how the relevant 'election' is held.

This view has the historical advantage of recalling that the concept of evidence underwent a profound transformation in Locke's day: Before the Protestant Reformation, 'evidence' had referred primarily to the testimony of learned authorities or their authorized witnesses (Hacking 1975). But in Locke's Protestantized world, people were expected to take personal responsibility for their knowledge claims and sometimes would pay for the consequences with their lives. In this context, periodic democratic elections aimed to collectivise these risks. The privacy of meaning enacted in the secret ballot served to protect individuals from personally bearing the potentially worst consequences of their errors. This, in turn, would allow individuals more opportunities to contribute to the collective will. Just as citizens are not disenfranchised for preferring losing candidates, neither should speakers lose their linguistic entitlement even if they often say things that turn out to be false. But what sort of regime can most effectively maintain those conditions?

By posing the problem of meaning in this fashion – in extended analogy with voting – I have shifted the issue from the descriptive to the revisionary side of the metaphysical divide. I am asking about which of any number of possible combinations of elements is likely to bring about a normatively desirable semantic order, as one might ask about how best to organize a constitutional convention. This formulation implies, among other things, that the current regime may be suboptimal, which therefore demands a return to the ultimate reasons why people wish, say, to speak sensibly with each other or to engage in largely non-violent social interaction. However, the characteristic feature of Quinean naturalism, and as developed by Putnam, is to start with communication as a phenomenon *bene fundatum*, as Leibniz would say – and then ask how that is possible: Reality is presumed to be, more or less, as it ought to be. Civility is always sufficient. Of course, Quine and Putnam do not deny that mistakes are made at both the individual and the collective level, but these are presumed to be marginal to an overall sound sociolinguistic practice – not symptoms of still deeper problems, such as the systematic suppression of alternative perspectives. In this respect, Quine and Putnam are in agreement with Strawson (1959, 11). All of them disavow the need to provide necessary and sufficient conditions for a word's meaning, on the grounds that such strictures would exclude much of what passes as ordinary usage. Instead they prefer a more Wittgenstein-inflected account focussed on paradigm cases and tolerable deviations. *Prima facie* this reveals a rather liberal sensibility toward language use – but only in the sense of a scientific theory that shields itself from refutation by resorting to ad hoc hypotheses. In both cases, a radical revision of practice is not a serious option.

Philosophical discussions of Putnam's views on semantics tend to focus on his version of the causal theory of reference and its viability as a case for scientific realism. However, Putnam's legacy to social epistemology lies more clearly in his claims for a 'division of linguistic labour'

through which meaning is made both in and for society. Taking Quine's starting point as his own, Putnam agrees that it is not necessary to postulate anything transpiring in people's heads – let alone a common set of ideas – to explain ordinary communication. The meanings of the words we use are ultimately determined by whatever the relevant scientific experts find out about the things to which our words refer. In most cases, expert opinion is compatible, if not identical, with what native speakers already know through their own acquaintance with a standard range of things that bear the same name. However, expert judgement is required in extraordinary cases where native usage is uncertain. Sometimes, such as during a scientific revolution, these cases may be so extraordinary that the experts conclude that society must revise its views about what it had been referring to.

What is most striking about this conception of the division of linguistic labour is the role assigned to science as the ultimate legal authority in society. I do not make the point too strongly. Although their conception of language is substantially different, both ordinary language and scientific language philosophers of the analytic tradition treat linguistic practice as shorthand – or at least substratum – for social life more generally. The obvious precedent for science enjoying this exalted role is that of the Roman Catholic Church as the keeper of natural law, especially before the formal recognition of territorial sovereignty and the codification of civil law in Europe. Like the Church before the Treaty of Westphalia in 1648, science is taken by Putnam to be the free-ranging guarantor of linguistic practice and ultimate arbiter of semantic disputes. It is only in the latter role, however, that science's presence is directly felt – much like the Pope's intervention in conflicts over, say, dynastic succession. Nevertheless, strictly speaking, native speakers are not personally responsible for the meaning of their utterances: Language speaks us, as Heidegger – and Putnam's guru du jour, Louis Althusser – declared. We may utter truths yet not know what it is about them that is true. The alleged attraction of this counterintuitive conclusion is

that it enabled most of our utterances to remain true – a desirable outcome for the descriptivist – while it made room for the obvious changes in our knowledge brought about by scientific inquiry. Science could thus be both progressive in its own right while remaining a stabilizing force in the larger society.

In Fuller (2000), I argued that this Janus-faced vision of science was characteristic of Cold War science policy and those who theorized about science in this context, notably Thomas Kuhn. However, the vision lingers in more recent social epistemologies, especially the work of Philip Kitcher, whose faith in science as ultimate guarantor of social order appears to be so strong that he has embraced styles of argument designed to ignore the potential for conflict between science and society. Thus, Kitcher (1993) provided a series of invisible hand arguments to explain how science's suboptimal features – including bias, ruthlessness, drudgery and elitism – nevertheless eventuated in epistemic progress. Likewise, Kitcher (2001) resorted to a Rawlsian thought experiment, 'well-ordered science', whereby science policy is made by citizens tutored to defer to the relevant experts under the appropriate circumstances. By engaging in these conflict avoidance strategies, Kitcher forecloses the revisionary philosophical imagination, perhaps because he does not believe that either science or society would benefit by a public display of their epistemic differences. Nevertheless, we are still left wondering how science managed to achieve such Church-like authority in the philosophical imagination in the first place. In the Church's own case, strategic alliances with secular rulers for long term material advantage – and not without violence – is a major part of the story. A similar story could be told about the succession of science. But typically this is not the story told. Symptomatic of the problem here is a verbal tic common to Putnam and Rorty: the use of 'we' in sentences like 'We used to believe Newton but now we believe Einstein when it comes to physics'. 'We' – so it would seem – are portrayed as respectful recipients of the peaceful changes that befall scientific inquiry.

According to what might be called a 'folk philosophical' sense of intellectual history, implied in Putnam but popularised by Rorty, counterintuitive scientific concepts gradually come to be assimilated into public discourse, ultimately becoming part of society's collective knowledge base: Yesterday's nonsense becomes tomorrow's common sense. For Rorty (1979, 315-33) this is just an extension of Kuhn's thesis about the incommensurability of successive paradigms in science. Unfortunately, real intellectual history is not quite so obliging. Even today it would be seriously misleading to say that the Copernican world-view is part of commonsense. Rather, we have learned to discount our intuitive views about physical reality – which still lead us to think that the sun moves around the earth – in favour of the Copernican view. Consequently, most educated people promptly assent to Copernicanism without claiming to possess any direct evidence for its truth. The last 500 years of the relations between most sciences – certainly physics – and society have had this character. Epistemic ground has been gradually ceded from commonsense to a certain kind of expertise. In this respect, the cases of relativity theory and quantum mechanics are only very extreme versions of this tendency: Nowadays educated people assent to these cutting edge physical theories not only without ever having experienced their distinctive consequences but also without ever having mastered their exact content. Admittedly the former occurs well beyond human perception, but presumably the latter is not beyond ordinary human intelligence! Science and technology studies scholars, following Latour (1987), have sweetened this bitter pill by dubbing cases in which common sense is ceded to expertise as 'delegation,' implying a greater sense of agency on the part of the 'delegators' than is probably warranted. Indeed, 'colonization' might be a better word. Once again, what is striking about this vision of intellectual history is its failure to register conflict between science and society, and hence its inattentiveness to the redistributions of power and prospects that come with every major shift in epistemic authority.

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