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NON-DESCRIPTIVISM ABOUT MODALITY

A Brief History and Revival

ABSTRACT: Despite the otherwise-dominant trends towards physicalism and naturalism in philosophy, it has become increasingly common for metaphysicians to accept the existence either of modal facts and properties, or of Lewisian possible worlds. This paper raises the historical question: why did these heavyweight realist views come into prominence? The answer is that they have arisen in response to the demand to find truthmakers for our modal statements. But this demand presupposes that modal statements are descriptive claims in need of truthmakers. This presupposition was, however, rejected by many earlier analytic philosophers, including the logical positivists, Wittgenstein, Ryle and Sellars, all of whom denied that (at least certain kinds of) modal statements were descriptive at all. Yet the non-descriptivist approach has largely fallen out of discussion and out of philosophical consciousness. In this paper I examine why non-descriptivist views first came into and then fell out of favor, and consider what the prospects are for reviving this more deflationary approach to modality.

INTRODUCTION

You may find yourself living with modal realism. You may find yourself with a lot of possible worlds. You may ask yourself, how did I get here?

It has become increasingly common for metaphysicians to accept the existence either of other possible worlds or of modal properties in this

world. The pressure to do so comes from the perceived need to find truthmakers for modal propositions; in fact, it is widely assumed that “the problem of modality is a problem about truthmakers for modal propositions” (Roy 2000, 56). The obvious truthmakers to posit are modal facts or properties. The Lewisian reductive alternative enables us to avoid positing *modal* facts or properties, but only at the cost of accepting a multitude of possible worlds causally and spatio-temporally isolated from our world.¹

But both of these views sit uncomfortably with the otherwise dominant trends in metaphysics towards naturalism and physicalism. For neither modal properties and facts nor Lewisian possible worlds are easy to reconcile with a naturalistic ontology. And prospects are even worse for providing any plausible epistemological story of how we could come to acquire knowledge of such non-empirical modal features of the actual world, or of (non-modal) features of causally isolated possible worlds.

The point of this paper, however, is not to criticize these views, but rather to raise a historical question: How did we get here? How did views like these come to be so dominant, despite their tension with the otherwise prevalent physicalist and naturalist trends in metaphysics?² If we think of the problem of modality as the problem of finding truthmakers for modal propositions, then it is, to say the least, a very tough nut to crack. But if we examine the history of treatments of modality over the past century, it becomes clear that this is not the only and so not an inevitable way of viewing the problem of modality.

In the early days of analytic philosophy, a more deflationary approach to modality held sway: one that denied that modal statements are descriptive at all. The approach was suggested by early conventionalists like Schlick³ (1918), and developed in a new way by Wittgenstein in the *Tractatus*, which in turn influenced the later modal conventionalism of the logical positivists. The approach reappeared in a more sophisticated version in the work of the later Wittgenstein, and then resurfaced in the work of Ryle (1950/1971) and Sellars (1958). But despite this august list of defenders, the view has largely been abandoned and forgotten.⁴

This paper is an exercise in philosophical archeology. I will first trace the roots of this alternative approach to modality, examining why it was

originally found attractive and why it later fell out of favor. I will go on to argue that its rejection was unwarranted. I will ultimately suggest that the currently dominant approaches to modality are the product of a historical wrong turn, and that by looking back to these earlier stages of history we might hope to find the basis for a better understanding of modality.

1. EARLY NON-DESCRIPTIVISM

Analytic philosophy generally traces its roots back to British empiricism, and more immediately to the empiricism of the logical positivists. The challenges of giving an acceptable account of modality were amply recognized by thinkers in both traditions. For *modal* features of the world do not seem to be empirically detectable. As Hume argued, we cannot be thought to know *necessary* matters of fact (or rather: to know that any matter of fact holds necessarily) on the basis of experience—for however well a statement may be confirmed through experience, that only shows that it does (so far) hold, not that it *must* hold (cf. Ayer 1936/1952, 72).

In the face of this, one might retreat to holding that the laws of the natural sciences are only statements of highly well-confirmed propositions—not of any that are *necessary*. But this seems less acceptable for the apparently necessary truths of mathematics, logic, and metaphysics. Thus Ayer summarizes the options for the empiricist as follows:

... if empiricism is correct no proposition which has a factual content can be necessary or certain. Accordingly the empiricist must deal with the truths of logic and mathematics in one of the two following ways: he must say either that they are not necessary truths, in which case he must account for the universal conviction that they are; or he must say that they have no factual content, and then he must explain how a proposition which is empty of all factual content can be true and useful and surprising... if we can show either that the truths in question are not necessary or that they are not ‘truths about the world’, we shall be taking away the support on which rationalism rests. We shall be making good the empiricist contention that

there are no ‘truths of reason’ which refer to matters of fact. (1936/1952, 72-3)

Mill took the first route, treating even the axioms of logic and mathematics as merely well-confirmed observational hypotheses—empirical generalizations, not necessary truths (cf. Baker 1988, 173).⁵ But Ayer rejects this first route, denying that the validity of the statements of logic and mathematics is determined in the same way as that of empirical generalizations. His reason for this is that we don’t take purported counterexamples to these statements to provide evidence, for example, that two plus two really is *not* four, or that the angles of a Euclidean triangle really *don’t* add up to 180 degrees. As Ayer puts the matter, “Whatever instance we care to take, we shall always find that the situations in which a logical or mathematical principle might appear to be confuted are accounted for in such a way as to leave the principle unassailed” (Ayer 1936/1952, 77). Thus, since principles of logic and mathematics cannot be confuted by experience, this should give us pause in maintaining that experience is the source of their justification.

The second option for the empiricist is to deny that the necessary truths of logic or mathematics are factual claims at all; in effect, to deny that they aim to describe features of the world and instead view them as non-descriptive statements. The basic statement of the positivist view of necessity, and often the only one passed down to us, is that “the truths of logic and mathematics are analytic propositions or tautologies” (Ayer 1936/1952, 77)—statements which thus say nothing about the world. This sort of non-descriptivism arose with Schlick’s (1918) thesis (developed by generalizing Hilbert’s approach to geometry) that the necessary statements of mathematics and logic are not *descriptive* statements saying something about the world precisely because they *say nothing* at all. On Schlick’s view, necessary truths are simply the result of implicit definitions of concepts. Since definitions are conventional, they then might also be said to be ‘conventions of symbolism’, which themselves say nothing about the world (Baker 1988, 199), even though they enable us to use these symbols to say things about the world.⁶

Two central problems arose for Schlick’s initial formulation of conventionalism (Baker 1988, 215). First, it seems to involve treating the truths of logic as based on arbitrary conventions, when they seem not to be arbitrary. Second, it faces a regress problem most famously raised

by Quine in “Truth by Convention” (1935/1976) (where it is put forward primarily as a problem for Carnap’s conventionalism about logical truth). As Quine argues, if we think of logical truths as including those expressed in basic axioms (taken as implicit definitions) *and any truths that follow from those*, we apparently need logic “for inferring logic from the conventions” (1935/1976, 104), and so cannot take conventionalism to provide a complete account of logical truth.

Although Schlick introduced the approach, the idea that the necessary propositions—at least of logic and mathematics—say nothing, and thus cannot be thought of as *descriptions* at all—was popularized by Wittgenstein’s work in the *Tractatus*, which even later positivists routinely acknowledged as the greatest influence on their view (Baker 1988, 208). Rather than thinking of logical and mathematical propositions as implicit definitions (or following from these), Wittgenstein held that they are one and all empty *tautologies*:

6.1 The propositions of logic are tautologies

6.11 The propositions of logic therefore say nothing. (They are the analytical propositions.) (1922/1933, 155; cf. Hacker 1996, 32)

Tautologies thus understood do not *describe* anything (not even relations among logical objects)—they combine meaningful signs in such a way that all content ‘cancels out’ (Baker 1988, 214). They say nothing either about the world or about language or logical ‘objects’ themselves.

The Tractarian formulation enables us to avoid both of the problems faced by Schlick’s view: First, it needn’t involve treating logical truths as arbitrary. Instead, these truths (the tautologies) are true given only their *logical structure* (rather than their status as implicit stipulations or definitions). Second, we avoid the regress problem: On Wittgenstein’s view, all logical truths are equally tautologies, as can be shown from truth-table notation, and so we avoid the need to presuppose logic in order to infer derivative logical truths from the definitional axioms (cf. Baker 1988, 215). So, while these critical remarks have been influential in keeping any views resembling conventionalism at bay, they do not apply to views like the Tractarian or later Wittgensteinian one.⁷

But although the propositions of logic do not *say* anything, according to the Wittgenstein of the *Tractatus*, their importance lies in what

they *show*—or, more precisely, in what is shown by the fact that the propositions of logic are tautologies:

6.12 The fact that the propositions of logic are tautologies *shows* the formal—logical—properties of language, of the world.

That its constituent parts connected together *in this way* give a tautology characterizes the logic of its constituent parts.

For example, if two propositions “p” and “q” form a tautology when they are combined as “p→q”, that *shows* (but does not say) that q follows from p. (6.1221). Moreover “Every tautology itself shows that it is a tautology” (6.127). Thus in the *Tractatus* we can see not only the idea that logical propositions are not descriptions, but also that they serve some other function—showing, rather than saying.

Much influenced by the (1922/1933) *Tractatus*, (see Hacker 1996, 46) the positivists adopted the idea that the necessary propositions of logic and mathematics are tautologies or analytic claims, marrying it with the following understanding of analyticity: “... a proposition is analytic when its validity depends solely on the definitions of the symbols it contains”, (Ayer 1936/1952, 78). The positivists’ view is often summarized as the view that necessary/analytic propositions are those whose truth depends on our linguistic conventions (which define the terms used), and labeled as a form of ‘modal conventionalism’.

But how should we understand the idea that the truth of necessary/analytic propositions ‘depends on our linguistic conventions’? If one approaches the problem of modality with what I will call the ‘truth-maker assumption’, that is, the assumption that the problem of modality is the problem of accounting for what it is that makes modal claims true, then it is natural to read the positivists as providing the answer that linguistic conventions serve as the truthmakers for modal statements. This also provides a straightforward way of understanding the idea that the truth of these propositions ‘depends on our linguistic conventions’, and indeed a way of understanding it that is consistent with empiricism. Some positivists wrote in ways that invite this (mis)interpretation, e.g. Carnap treats a sentence as L-true (necessarily/analytically true) ‘if and only if it is true in virtue of the semantical rules alone, independently of any extra-linguistic facts’ (1947, 174).

Understanding the view in this way, however, is catastrophic. This interpretation of conventionalism provoked a barrage of criticism that led to decades of neglect of similar approaches to modality, and even to the dominance of heavyweight realist views of modality as reactions against the apparent failings of conventionalism. Indeed modal conventionalism is still regularly invoked and summarily dismissed on the basis of pat objections that arise when we understand modal conventionalism on this model (e.g. Boghossian 1997, Sider 2003).⁸ As Ted Sider puts it “The old ‘linguistic’ or ‘conventionalist’ theory of necessity has few contemporary adherents, for the most part with good reason” (2003, 199). As a result even those who now defend versions of non-descriptivism tend to avoid association with, or even much discussion of, their conventionalist forebears.

A first objection (Boghossian 1997, 336, Sider 2003, 199-200) is that conventionalism makes “the truth of what is expressed [by an analytic claim] *contingent*, whereas most of the statements at stake in the present discussion [logical, mathematical and conceptual truths] are clearly necessary” (Boghossian 1997, 336). For if analytic statements were “actually about language use” (Sider 2003, 199)—if, e.g. “All bachelors are men” meant “It is a linguistic convention that ‘bachelor’ is to be applied only where ‘man’ is applied”—then it would clearly be contingent, since we might have adopted other linguistic conventions to govern these symbols. This not only seems wrong (it certainly *seems* necessary that all bachelors are men), but also would block the attempt to explain necessity in terms of analyticity, and analyticity in terms of linguistic conventions.

The second, related, criticism is that the very idea of truth by convention is untenable, since it (allegedly) requires that we can *make* certain statements (the analytic or basic modal ones) true ‘by pronouncement’, but (as Boghossian puts it) “how can we make sense of the idea that something is made true by our meaning something by a sentence?” (1997, 336). Sider develops the argument further as follows:

I cannot make it the case that it rains simply by pronouncing, nor can I make it the case that it does not rain simply by pronouncing. . . . Therefore, I cannot make it the case that either it rains or it doesn’t rain, simply by pronouncement. (2003, 201).

But while these are the most influential and frequently cited reasons for dismissing modal conventionalism, they completely miss the point of the original view. To take all those who are labeled as ‘conventionalists’ to be defending the view that the necessary truths of logic and mathematics are descriptive claims *made true by* our adopting certain linguistic conventions is not only uncharitable, but ignores the really interesting and promising features of their proposal—and of the Wittgensteinian view that inspired it: namely, that the propositions of mathematics and logic should not be thought of as *descriptive* claims in need of truthmakers at all.⁹

Ayer, for example, is much more careful than the critics of conventionalism would have us believe, in not suggesting that necessary truths are descriptions *made true by* the adoption of linguistic conventions; instead they are ‘entirely devoid of factual content’, and thus describe neither the (language-independent) world, nor our linguistic conventions. He suggests that analytic statements serve some other function than describing—they ‘*illustrate* the rules which govern our usage’ of the terms or logical particles (1936/1952, 80), ‘*record* our determination’ to speak in certain ways, ‘*call*] attention to the implications of a certain linguistic usage’, or ‘*indicate* the convention which governs our usage of the words’ (1936/1952, 79. Italics in each case are mine). Note in all this talk of what analytic statements do—they illustrate, call attention to, or indicate our rules, usages, or linguistic conventions. . . —there is no talk of them *describing* these things (or anything else). And this careful choice of words is not accidental—for Ayer well understood that the crucial insight of Wittgenstein’s view (and the crucial insight needed to make the view workable) was denying that necessary propositions are descriptive at all (cf. Ayer 1985, 60-67).

Not only does Ayer avoid the mistake of taking analytic statements to be *about* our linguistic conventions (they are, as he often—following Wittgenstein—insists, about nothing), he also shows awareness of the problems that would arise with that view, responding directly to the first objection as follows:

. . . just as the validity of an analytic proposition is independent of the nature of the external world, so is it independent of the nature of our minds. It is perfectly conceivable that we should have employed different linguistic conven-

tions from those which we actually do employ. But whatever these conventions might be, the tautologies in which we recorded them would always be necessary. (1936/1952, 84).

In short it seems unjust and erroneous to have rejected views like Ayer's and the early Wittgenstein's for the reasons customarily given for dismissing 'modal conventionalism'.¹⁰ Early non-descriptivism, it seems, was prematurely abandoned.

2. LATER NON-DESCRIPTIVISM AND THE NORMATIVE FUNCTION OF MODAL DISCOURSE

As I have drawn the story out so far, the crucial insight behind Wittgenstein's view in the *Tractatus*, which was also picked up in at least the better formulations of positivism's conventionalism, is that claims of necessity are not to be taken as *describing* the world (or language) at all. Despite the many changes in Wittgenstein's views over time, a crucial point that remains constant is the idea that necessary truths should not be understood as *descriptions*, but rather as tautologies which say nothing.¹¹ (But importantly, Wittgenstein's understanding of what a tautology is evolves, so that in the later work a tautology is considered to be any proposition that can be ascertained to be true exclusively by appeal to rules of grammar (Baker 1988, 39).)

In the *Tractatus* Wittgenstein is mainly concerned to emphasize the fact that the necessary truths of logic (which he then held to be the only necessary truths) lack descriptive content. He retains this view in his later work, insisting that the propositions of logic do not fulfill a descriptive function: The universality of a claim like ' $p \vee \sim p$ ' is not like that of 'all apples are sweet'; it's not describing something that holds of all propositions (1932-35/1979, 139-40). But in his later work he also broadens his focus to include analytic statements more generally, along with some claims of metaphysical necessity, and raises the crucial question: if these propositions do not serve to describe the world, what is their function? Thus, e.g., Wittgenstein asks: "Why, if they are tautologies, do we ever write them down? What is their use?" (1932-35/1979, 137). Clearly we don't inform by means of them (if, e.g., you ask me how many people will be present, and I tell you that 'if there

are fifteen, there will be fifteen', I have told you nothing, given you no information (Wittgenstein 1939/1976, 280)). But we still need a positive view of what the function or use of these forms of language *is*, if it is not descriptive.

The answer Wittgenstein suggests is that (reputed) necessary propositions fulfill a *normative* or *prescriptive* function; much the same as rules do. While this is the general insight, the precise relation to rules must be specified carefully, and may vary for different kinds of (reputedly) necessary claim. Arithmetical equations are understood as rules for transforming empirical propositions (about quantities) (which of course is not to say that they give us predictions about what the results will be if anyone calculates):

... the rules which govern the calculation are such that only such and such an outcome is correct; anyone who comes up with a different answer is bound to have made a mistake. (Ayer 1985, 63)

Propositions of logic are said to 'reflect' rules for reasoning in the sense that ' P ergo Q ' is a rule of inference if and only if ' $P \rightarrow Q$ ' is a tautology (Baker 1988, 135)—though the tautology itself states nothing (not even a rule of reasoning or 'grammatical rule').

As Hacker describes Wittgenstein's later view:

Analytic propositions such as 'Bachelors are unmarried'... are, despite the fact that we talk of them as being true, rules in the misleading guise of statements (as, indeed, we say that it is true that the chess king moves only one square at a time). 'Bachelors are unmarried' is the expression of a rule which licenses the inference from 'A is a bachelor' to 'A is unmarried'. (1996, 49)

What then of purported metaphysical necessities? The later Wittgenstein:

... rejected the common assumption that what are conceived of as metaphysical truths are descriptions of anything, that the 'necessary truths' of metaphysics are descriptions of objective necessities in nature—that the 'truths' of metaphysics are truths about objects in reality at all. Rather, what we

conceive of as true metaphysical propositions are norms of representation, rules for the use of expressions in the misleading guise of descriptions of objects and relations (Hacker 1996, 102).

Thus even the reputed necessary truths of metaphysics are said to ‘disguise’ or ‘hide’ grammatical rules:

... when we meet the word ‘can’ in a metaphysical proposition, [e.g. ‘A and B can’t have seen the same chair, for A was in London and B in Cambridge; they saw two chairs exactly alike’]... [w]e show that this proposition hides a grammatical rule. That is to say, we destroy the outward similarity between a metaphysical proposition and an experiential one, and we try to find the form of expression which fulfils a certain craving of the metaphysician which our ordinary language does not fulfill and which, as long as it isn’t fulfilled, produces the metaphysical puzzlement. (Wittgenstein 1958, 55)¹²

The idea that modal statements serve an implicitly normative (rather than descriptive) function surfaces again in the work of Ryle and Sellars, though they expand the issue further, discussing modal expressions as they appear in hypothetical statements (if P then Q; or, more perspicuously, If P were the case, so would Q be) and in statements of scientific laws. On Ryle’s view, hypotheticals of the form ‘If P then Q’ should not be thought of as asserting (truth-conditional) relations between statements, propositions, or facts. Instead, delivering a hypothetical statement is a way of “giving or taking instruction in [the] technique or operation” of wielding and following arguments. Saying ‘If P then Q’ is not making an assertion, but licensing one:

... the author of a hypothetical statement is neither using nor mentioning any premiss statements or conclusion statements. He is showing, empty-handed, how to use them. (Ryle 1950/1971, 248)

i.e. such an author is licensing the move from having P to inferring Q. Ryle develops a parallel understanding of statements of scientific

laws in *The Concept of Mind*, insisting again that these are not factual statements describing any features of the world, but instead fulfill a different function:

A law is used as, so to speak, an inference-ticket (a season ticket) which licenses its possessors to move from asserting factual statements to asserting other factual statements. It also licenses them to provide explanations of given facts and to bring about desired states of affairs by manipulating what is found existing or happening. (1949, 121)

Sellars (1958) develops a similar treatment of statements of scientific laws, which he treats as having the function of *justifying* or *endorsing* inferences from something’s being an A to its being a B (cf. Brandom 2008, Chapter 4). To say “‘Being A physically entails being B’... contextually implies [without asserting] that the speaker feels himself entitled to infer that something is B, given that it is A” (Sellars 1958, 281). To make first-hand use of modal expressions is to be involved in *explaining* a state of affairs or *justifying* an assertion. “The primary use of ‘p entails q’ is not to state that something is the case, but to explain why q, or to justify the assertion that q” (Sellars, 283). Like other modal non-descriptivists, Sellars also shows awareness of the potential pitfalls of modal conventionalism:

It is sometimes thought that modal statements do not describe states of affairs in the world, because they are really metalinguistic. This won’t do at all if it is meant that instead of describing states of affairs in the world, they describe linguistic habits. It is more plausible if it is meant that statements involving modal terms have the force of *prescriptive* statements about the use of certain expressions in the object language. (1958, 283)

This, again, is the key move that unites the later Wittgenstein’s treatment of logical, mathematical, and metaphysical necessities, Ryle’s handling of hypotheticals, and Sellars’ treatment of physical necessities.

Robert Brandom provides the most important contemporary version of this approach, developing precisely the Sellarsian idea that modal vocabulary is a ‘transposed’ language of norms (2008, 116). Following

Sellars and Kant, he argues that the ability to use ordinary empirical descriptive terms presupposes grasp of the kinds of properties and relations made explicit in our modal vocabulary (2008, 96-7), and that the primary role of alethic modal vocabulary is not to describe modal facts or properties, but rather to make explicit “semantic or conceptual connections and commitments that are already implicit in the use of ordinary (apparently) non-modal empirical vocabulary” (2008, 99).

That brings us roughly up to date in the brief history of modal non-descriptivism over the past century. The real mystery the story leaves behind is this: These are views by some of the major philosophers of the twentieth century about one of the central problems for analytic philosophy (and one of the most crucial problems for any philosophy with a vaguely empiricist, scientific, or naturalist bent)—so why are they not better known? Of course the views mentioned above differ in various important respects, and to properly evaluate the prospects for a non-descriptivist understanding of modal discourse we would have to do far more to develop the view than has been done above. Nonetheless, all of the views canvassed above have in common the crucial feature that they deny that modal discourse should be taken as descriptive at all—whether of other possible worlds, modal features of the actual world, or platonic essences. So why were views like these abandoned, to the extent that they are not even on the table in contemporary discussions of modality—where, as I mentioned at the outset, the question is usually posed as that of finding the truth-makers for our modal claims, simply presupposing that these claims are to be understood descriptively?

3. WHY WAS NON-DESCRIPTIVISM ABANDONED?

I must confess I find this mysterious myself, so what follows is at least partly speculative. As I have argued above, one reason seems to have been simple failure to understand the position. Wittgenstein’s earlier Tractarian view was typically (if wrongly) assimilated to the conventionalism of the logical positivists, which (as mentioned above) in turn was widely believed to have been deeply problematic. But as I have argued above, it is easy to see that it is unfair to reject all forms of modal non-descriptivism by association with the problematic forms of conventionalism that held necessary truths to be made true by our adopting

certain conventions. To the extent that non-descriptivist views were rejected for these reasons, the rejection clearly rested (or rests) on a simple failure to understand the position—a mistake bred in the tendency to cleave to the truthmaker assumption.

One reason that Wittgenstein’s later views have had little influence may be historical, owing to the scattered and late-breaking nature of his remarks on modality. (And even once they appeared, Wittgenstein’s later views were often dismissed by faulty association with conventionalism.¹³) Wittgenstein’s mature view is not made explicit except in scattered passages of his later works (which, however insightful they may be, can hardly be said to be developed into a full-blown theory of modal discourse ready to be weighed up against competitors). And many of the later works in which the relevant remarks appeared were not published until after (some long after) his death,¹⁴ by which point there had already been a great sea of change in philosophy from interest in ordinary language approaches to the dominance of a scientific Quinean approach (I will return to discuss this in Section 5).

Still another reason for the lack of influence of the later Wittgenstein’s approach may lie in his cryptic and cantankerous style, which alienated him from many analytic philosophers. Indeed there has been a huge backlash against Wittgenstein at least partly brought about by both his style and his embrace of conclusions many philosophers found repulsive, e.g. that modal claims could not be true, that metaphysicians were simply led astray in talking of modal facts or properties, and (worst of all) that metaphysics in particular, but also philosophy more generally, was largely misleading nonsense, in need only of therapy.

It is less clear why Ryle’s (1950/1971) and Sellars’ (1958) papers are so little known.¹⁵ But given their focus on counterfactuals and claims of scientific necessity/probability, their relevance to the problems of necessary truths in mathematics, logic, and metaphysics may not have been immediately evident. At any rate, though parts have long been suggested, it is fair to say that a full-blown theory of modal discourse along these lines has simply not been fully developed—at least until very recently (in Brandom’s work (2008)).

4. SKETCH OF A CONTEMPORARY NON-DESCRIPTIVIST VIEW

As I have traced the story thus far, the more substantive (and less misguided) reasons later versions of non-descriptivism were ignored come from the unavailability of a clear and fully developed theory, and from the association of Wittgenstein's approach with distasteful theses, such as claims that modal statements could not be true and that metaphysicians were simply led astray in talking of modal facts or properties. With that in mind, to better consider the prospects of a view along these lines, it may be useful to pause from the historical story to sketch how a contemporary non-descriptivist view might go, and to argue that such a view can be divorced from some of Wittgenstein's more contentious claims.

The key feature of the later Wittgenstein's view is holding that necessary propositions do not fulfill a descriptive function, but rather serve a prescriptive or normative function, closely related to that of rules. I have attempted to draw out a view along these lines elsewhere (forthcoming) about specifically *metaphysical* claims of necessity.

The first challenge is to say more precisely what the relation is between reputedly necessary claims and rules. Logical propositions such as 'p or \sim p' and analytic propositions such as 'Bachelors are unmarried men' are clearly not themselves rules or *statements of* rules of use for the constitutive expressions or logical particles—such statements of rules would have to be put in the metalanguage, e.g. as "if you deny 'p', accept ' \sim p'" or "Apply 'bachelor' where and only where you would apply 'unmarried man'". By contrast, characteristic logical and analytic statements are in the object language. Wittgenstein speaks of logical and analytic propositions as 'reflecting' grammatical rules, and of many metaphysical statements as 'disguised' rules or as 'hiding' rules—they are expressions that have a superficially descriptive form, but really serve the same function as statements of rules: namely, of conveying rules.

There are of course various ways one can go in developing a non-descriptivist view of modal discourse, and the details may need to go somewhat differently for different kinds of modal claims (physical versus metaphysical versus logical and mathematical).¹⁶ But what can we make of the idea that analytic propositions 'reflect' grammatical rules (rather than stating them or describing them), while metaphysical propo-

sitions 'disguise' rules? On the view I've been defending, *metaphysical* claims of necessity are ways of remaining in the *object* language while *conveying* constitutive rules for using the terms in question.¹⁷ As I've argued elsewhere (forthcoming), in basic claims of metaphysical necessity, 'necessarily' signals (but does not report) that the claim is an object-language expression of a constitutive rule of use for the terms employed and condemns uses that contradict it. Claims of possibility endorse the relevant uses as in accord with the constitutive rules of use for the terms employed.

To fully develop a view like this, we need to say why we should feel the need to convey rules in this (potentially misleading) form. As I argue elsewhere (forthcoming), conveying the constitutive rules for using our terms in modal indicatives in the object language is advantageous for three reasons. First, conveying rules while remaining in the object language is a crucial advantage for most speakers (who have no familiarity with meta-languages). Second, being formulated in the indicative (rather than imperative) mood enables these claims to be used straightforwardly in reasoning. Finally, the *modal* (as opposed to simple) indicative enables us to express permissions as well as requirements (a point first made by Ryle (1950/1971, 244)).

A crucial hurdle for nondescriptivists is accounting for the feeling that is widespread, at least among professional metaphysicians, that modal claims are true and tell us something about the modal facts and properties of the world. In his later work, Wittgenstein was happy to simply deny this—saying, e.g., we 'make the mistake of saying they are true' (1932-35/1979, 140),¹⁸ and suggesting that metaphysicians are simply misled into thinking that there are modal facts and properties. But as I have argued elsewhere, these moves are optional for the non-descriptivist. Hacker even interprets Wittgenstein as allowing a sense in which philosophical claims may be true:

... not that they 'correspond with reality' or describe how things, in fact, are; rather, they specify rules for the use of their constituent expressions, and their 'truth' consists in the fact that they *are* the rules (just as it is true that the chess king moves one square at a time)... The 'necessity' of the propositions of descriptive metaphysics merely reflects their role as norms of representation, that is, as

the rules partly constitutive of the meanings of the relevant constituent expressions, and also as constituting criteria for their application or non-application. (Hacker 1996, 178-9)

We can see more clearly how this might go in the context of a deflationary view of truth: even if we accept a non-descriptivist approach to modality, it is easy to see how claims of the form ‘Necessarily P’ may be true in a deflationary sense. For example, we may (with Blackburn (1993, 55)) take truth to require merely adhering to certain standards—perhaps the standards of use for ‘necessarily’: if ‘P’ really is an object-language expression of a constitutive rule for using the relevant terms, then ‘Necessarily P’ is true in the sense of adhering to the relevant standards, for then ‘necessarily’ does its signaling properly. Or on a prosentential approach to truth (Grover, Camp & Belnap 1975), to say that ‘Necessarily P’ is true is simply to assert Necessarily P (not to attribute to that sentence some property grounded in its correspondence to or being made-true by some features of the world). Here, similarly, there is no barrier to treating necessary statements as true, even if they are not taken as describing features of this or another possible world.

Moreover, if we adopt a minimalist approach to ontology, we can even allow a deflated sense in which there are modal facts and properties. For we can derive terms for modal facts and properties out of hypostatizations from these modal truths, e.g. moving from ‘Necessarily all bachelors are male’ to ‘It is a fact that it is necessary that all bachelors are male’—and these terms are apparently guaranteed to refer given only the (deflated) truth of the original statement. Nonetheless, although we may be nondescriptivists and still allow that there is a sense in which there are modal facts and properties (the only sense in which we should ever have expected there to be), these of course cannot be appealed to as *truthmakers* that ‘explain’ why the modal claims are true, since talk of them is based just in hypostatizations out of the modal truths themselves. As I have argued elsewhere (forthcoming), any such attempted explanation would be a mere dormitive virtue explanation. Thus the minimal form of realism about modal facts and properties remains clearly distinguished from heavyweight modal realisms.

Finally, adopting a non-descriptivist approach to modality does not require that we abandon metaphysics, but only that we reinterpret what

it is that we are (or ought to be) doing when we do metaphysics. On this view, the modal facts that metaphysics seeks to uncover are hypostatizations out of modal truths, which, in turn, are ways of explicitly conveying the constitutive rules of use for our terms in the object language. Speakers master these rules, but may lack explicit grasp of them and ability to convey them in this way—just as speakers must master grammatical rules but may not be able to state or teach them. The metaphysician thus has work to do just as much as the grammarian does, and her work may (in a similar sense) be informative and interesting. And since her conclusions are stated in the object-language and may involve hypostatizations, the conclusions of metaphysics may still be said to be *about* the world rather than *about* language (cf. my forthcoming).

But that is just to sketch a little further one way a nondescriptivist view of claims of *metaphysical* modality can be developed, in support of the idea that such a view can at least be made clear, plausible, and perhaps more palatable than Wittgenstein himself cared to make it. For it can be made consistent with the idea that modal claims can be true, that we can sensibly talk of modal facts and properties, and take metaphysics to have informative and interesting work to do. The full development and defense of such a view, and its generalization to other forms of modality (logical, mathematical, nomological) must be left for elsewhere (see my forthcoming for a start). For now, it is time to return to the historical story.

5. WHY IS NON-DESCRIPTIVISM STILL UNPOPULAR?

I have said a little about why non-descriptivism was abandoned, but why did the approach remain deeply buried for so long—why was it not revived? The two most important factors seem to be the rise of Quine and Kripke. Quine’s criticisms of analyticity, which were widely taken on board, made it seem unpromising to try to understand modality in terms of analyticity; and Kripke’s apparent discoveries of *a posteriori* necessities gave new life to the idea that modal facts should be thought of as discoverable features of the world—not in any way tied to linguistic rules.

Quine’s criticisms of the very notion of analyticity in “Two Dogmas of Empiricism” (1951) were directed primarily at Carnap, and (even

assuming they are successful) would apply directly only to those who (with the positivists) seek to classify necessary statements as analytic statements, where the latter are in turn understood as logical truths and those reducible to logical truths by substituting synonyms for synonyms. But if instead we work with a broader understanding of necessary truths as ways of conveying constitutive rules of use for our terms in the object language, we avoid at least those particular problems (particularly given that these constitutive rules may take a wide variety of forms and needn't always be rules enabling the substitution of synonyms).

Such a view does, however, still rely on making a distinction between expressions which are *meaning-constituting*, or convey the constitutive rules for using the terms, and those that simply employ terms in accord with those rules (cf. Boghossian 1997, 382-3). In short, what is needed is not a distinction between sentences that are *true no matter what* and those that must be *made true by facts* of the world, but rather a distinction in *force*, between *prescriptive* (disguised) rules and *descriptive* claims. It seems that Quine would have rejected this as well, since he had doubts that a behavioral criterion could be given to distinguish prescriptive acts of rule-constitution (unless they are made quite explicit in stipulated definitions) from cases of simply following or violating rules (1935/1976, 106). But would he have been justified in doing so?¹⁹ If his reason for rejecting this distinction is that it is inconsistent with his behaviorism, those not committed to behaviorism needn't follow him there.²⁰ Those who are willing to accept that there may be differences in force of various utterances, distinguishing utterances used prescriptively (as a way of conveying meaning-constituting rules) from those used descriptively thus have no reason to reject a non-descriptivist approach to modality on the basis of Quine's arguments against analyticity.²¹

The second reason given in 'Two Dogmas' for rejecting an analytic/synthetic distinction comes from adopting a holistic account of confirmation. But as I (2007, 37) and others (e.g. Glock 1996) have argued elsewhere, Quine's holism also gives us no reason to deny a distinction between utterances which have the prescriptive force of conveying (in the object language) rules of use for our terms, and those which have a descriptive force. We may still accept that, as science develops, any statement of a theory is revisable—even those that are implicitly pre-

scriptive ways of conveying rules in the object language. The point is only that some revisions involve not denying the descriptive truth of a claim, but rather choosing to revise the 'rules' of the language we use to make the claims (just as we may choose to revise the rules of NCAA basketball to make the games more efficient, less dangerous to players, etc.).

In any case, Quine's influence seems to be an important part of the historical story of why non-descriptivist approaches to modality remained off the table. And around the time of Quine's "Two Dogmas" came his rise to prominence, especially in American philosophy, and with it interest in his scientific approach, conceiving of philosophy as no different in kind than natural science. This involved obliterating the distinctions in uses of language, assimilating them all to a single, scientific use, and led to abandoning the ordinary language approach to philosophy generally—and with it the methodology of trying to dissolve problems like that of modal discourse by seeking to understand the role of that discourse.

Another important factor in accounting for why non-descriptivist views of modality remain off the table and tend to be met with suspicion is the rise of Kripke. Although Kripke's (1980) arguments appeared after non-descriptivist approaches to modality had already faded from philosophical consciousness, his 'discovery' of *a posteriori* necessary truths seemed to put the last nail in the coffin of the idea that necessary truths may be identified with truths that are analytic, and to give reason for thinking that we should accept genuine *de re* modal facts in the world, not tied to our ways of thinking or talking about things. Indeed his work was taken to suggest that modal features must be real, discoverable parts of the world, which seemed to rule out the idea that apparently necessary truths could be known merely by reflection on the rules governing our use of terms. But as I have argued elsewhere (2007, 62-63; following some ideas developed by Sidelle (1989) and Mackie (1974)), the discovery of *a posteriori* necessities does not undermine the idea that the most basic necessary truths are ways of conveying constitutive rules of use for our terms in the object language, while derivative (*a posteriori*) necessary truths are derivable by combining basic 'framework' modal truths (e.g. that whatever the chemical composition of this stuff is, water necessarily has that chemical composition) with straight-

forward empirical truths (e.g. that this stuff has chemical composition H₂O).

It now seems we have a reasonably comprehensive understanding of what happened to modal non-descriptivism: early conventionalist approaches were dismissed based on widely accepted criticisms, which were largely based on serious misinterpretations of the view. Later non-descriptivist approaches (e.g. by the later Wittgenstein, Ryle and Sellars) were fragmentary and little known, and often dismissed by association with further theses from which they are extricable. Later work by Quine and Kripke further undermined the idea that necessity could be understood in terms of analyticity, and Kripke's a posteriori necessities provoked a renaissance of the idea that modal features are discoverable features of the world. These, combined with the ascendancy of a truth-maker approach to metaphysics (particularly owing to David Armstrong, following C. B. Martin), have kept non-descriptivist approaches to modality largely off the table, and have contributed to the popularity of modalist and Lewisian possible worlds approaches to modality even among those who have qualms about what these properties or worlds could be, how they could fit into the natural world, and how we could come to know about them.

6. CAN WE GO HOME AGAIN?

I've tried above to outline the main historical story of why non-descriptivist views of modality arose and why they fell out of favor. But looking back at the story seems to give us grounds for thinking that non-descriptivist views were often prematurely, mistakenly, or unnecessarily abandoned. A non-descriptivist view has to be stated very carefully to be plausible and to avoid the problems of certain forms of conventionalism. Further challenges also face the non-descriptivist, including confronting the Frege/Geach problem (and showing how, although they are not descriptive claims, modal claims may be meaningful even in force-stripping contexts, and may be used in reasoning), showing how to account for *de re* modalities, and confronting accusations (e.g. by Rea (2002), Elder (2004)) that this view leads to objectual anti-realism.²²

But non-descriptivism also has crucial advantages over heavyweight realist and Lewisian views, including a more minimal ontology (that

treats modal facts and properties as, at most, hypostatizations out of modal truths—not as truthmakers that explain why our modal claims are true), and a plausible epistemology, which treats knowledge of basic modal truths as derivable in virtue of coming to explicit knowledge of the constitutive semantic rules for using our terms (knowledge we all have implicitly in our ability to use the terms properly).

At any rate, here I am not trying to suggest that a non-descriptivist view is completely without problems or challenges to confront—but then again, neither are its competitors. Indeed, the mainstream views of modality on the table, from Lewisian extensional possible-worlds realism to heavyweight realisms that posit modal properties, fit so ill with a naturalistic ontology, and leave modal epistemology at bottom so mysterious, that we really might have better hope of working the kinks out in a non-descriptivist view than of fitting the former views into our overall philosophical program. It is, at any rate, a road worth traversing again in hopes of finding something that may have been overlooked.

Notes

¹ Of course a variety of 'ersatz' approaches to possible worlds have also been developed, treating possible worlds as (or as replaceable by) abstract representations such as maximally consistent sets of sentences. I will leave those options to one side here. For detailed arguments against them see Lewis (1986, Chapter 3).

² Brandom (2008) begins his discussion of modality with a similar puzzle, asking how philosophical attitudes to modality shifted so that "what seemed most urgently in need of philosophical explanation and defense [modal notions] suddenly [became] transformed so as to be [treated as] unproblematically available to explain other puzzling phenomena" (2008, 93). He attributes the change to the Kant-Sellars thesis that use of straightforward empirical descriptive vocabulary already presupposes grasp of the kinds of properties and relations made explicit by modal vocabulary, undermining the Humean/Quinean idea that we can make full sense of descriptive discourse while having 'no grip on' modal vocabulary (2008, 98). Yet if this were the main cause of the historical change, one might expect non-descriptivist views of modality (like Brandom's own, founded on the Kant-Sellars thesis) to have been given more of a hearing.

³ Schlick, in turn, was developing ideas originating in Hilbert's *Foundations of Geometry* and attempting to generalize them to the cases of logic and mathematics. See Baker (1988, 187ff).

⁴ Though a few brave souls—including Blackburn (1993) and Brandom (2008)—have recently made efforts to revive it, as have I (forthcoming). Others (e.g. Hacker (1996), Baker (1988), and Wright (1980)) have made efforts at gaining a better understanding of the later Wittgenstein's position and its plausibility.

⁵ Psychologism of course is another option open to the empiricist, but that had been

subjected to devastating criticisms by Frege and Husserl.

⁶ Schlick didn't use the term 'conventionalism' himself, however.

⁷ Of course other forms of conventionalism may need to face (again) these lines of objection. For other replies to the regress problem, see Dummett (1991, 202), Boghossian (1997, 374) and my (2007, 32-37).

⁸ Boghossian (1997) attributes the 'metaphysical' form of conventionalism—which he characterizes as the idea that “a statement is analytic provided that, in some appropriate sense, it owes its truth value completely to its meaning, and not at all to ‘the facts’” (1997, 334)—to the positivists, and calls it a ‘discredited idea’ of ‘dubious explanatory value and possibly also of dubious coherence’ (1996, 364). He does, however, show greater sympathy for what he calls the ‘epistemological’ version of the idea of ‘truth by virtue of meaning’, characterized as the position that a statement is true by virtue of its meaning “provided that grasp of its meaning alone suffices for justified belief in its truth”. He attributes the latter view to Carnap and the middle Wittgenstein, and defends it against certain Quinean criticisms.

⁹ Baker (1988, 223) takes members of the Vienna Circle to have missed this point themselves. While some, e.g. Waismann, may have made this mistake, Ayer (in promoting the Circle's views in *Language, Truth and Logic*) apparently did not.

¹⁰ One other objection raised against conventionalism at the time was the problem of accounting for analytic truths like ‘nothing can be red and green all over’, since these aren't based in substituting synonyms for synonyms to arrive at logical truths (Baker, 230-231). This is a problem Wittgenstein addresses in his later view.

¹¹ Nonetheless, there are many crucial changes and differences, as detailed in Baker (1988, 116ff). First, Wittgenstein's later work is anti-metaphysical: he doesn't see his results as grounded in the essence of propositions, but rather in the way the term ‘proposition’ is used: $p \vee \sim p$ and $\sim(p \cdot \sim p)$ are rules, rules which tell us what a proposition is. If a logic is made up in which the law of the excluded middle does not hold, there is no reason for calling the substituted expressions propositions (Wittgenstein 1932-35/1979, 140). Second, he abandons the assumption that atomic statements are independent—they are organized instead into *Satzsysteme*. Third, he no longer makes a distinction between the tautologies of logic and analytic claims: any implication between two atomic propositions is now called a tautology (even, e.g. nothing can be red and green all over) because it cannot be false (Baker 1988, 136).

¹² Compare Ayer's similar treatment of the apparent metaphysical proposition that a material thing cannot be in two places at once (1936/1952, 58).

¹³ Indeed according to Hacker, one of the key factors in this was a review of Wittgenstein's *Remarks on the Foundations of Mathematics*, in which Dummett accuses him of an extreme and untenable form of conventionalism (1996, 255):

Wittgenstein goes in for a full-blooded conventionalism; for him the logical necessity of any statement is always the direct expression of a linguistic convention. That a given statement is necessary consists always in our having expressly decided to treat that very statement as unassailable (Dummett 1959, 329).

But, as Hacker (255-64) and Baker (1988, 263) bring out in some detail, this rests on a serious misunderstanding of Wittgenstein's position. Dummett takes Wittgenstein to adopt the extreme conventionalist position that we must separately decide to treat each statement of logic as unassailable since Wittgenstein denies that propositions in logic

follow from each other. But, as Baker argues, when Wittgenstein makes this denial, the point is that it is a category mistake to say that propositions of logic ‘follow from’ each other, as inferences in empirical reasoning might: “Radical conventionalism’ mistakes the observation that it is *nonsense* to say that an *a priori* proposition follows from something in the sense in which an empirical proposition follows from others for the claim that an *a priori* proposition is *independent* (i.e. does *not* follow) from all other propositions” (Baker 1988, 263). To think (as conventionalists did) that we can verify a logical proposition by showing that it follows from a more basic one is again to make the mistake of thinking that the question “What makes a proposition of logic true?” is an appropriate one—whereas on Wittgenstein's view this is a nonsensical question that arises from mistakenly treating *a priori* sentences on the model of empirical propositions.

¹⁴ *Remarks on the Foundations of Mathematics* was published in 1956; *Cambridge Lectures 1932-35* in 1979; *Lectures on the Foundations of Mathematics* in 1976.

¹⁵ As evidence for this, note that each of those papers has only about 17-18 citations in Google Scholar, whereas, by comparison, Quine's ‘Truth by Convention’ has 144.

¹⁶ According to Baker, Wittgenstein distinguished three kinds of necessary truths: rules of grammar (arithmetical equations and geometrical propositions—these are rules for transforming empirical propositions), propositions masking rules of grammar (many metaphysical propositions), and tautologies reflecting rules of grammar (propositions of logic and standard analytic truths). (Baker 1988, 258; cf. pp. 238-9).

¹⁷ The idea that the rules in question are *constitutive* rules for the use of the terms also seems to be implicit in Wittgenstein (given his analogies, e.g., to the rules of chess). As Baker notes, the rules for correct use of an expression *constitute* its meaning, they don't *follow from* it (1988, 148).

¹⁸ By contrast, the work of the *Tractatus* allowed that they are true (though they say nothing). Early conventionalists like Hilbert and Poincaré held that it's nonsensical to describe geometrical propositions as (strictly speaking) true or false (see Baker 1988, 199). But Wright (1980, 400 n. 1) says that Wittgenstein ‘throughout his life’ denied that necessary statements are properly regarded as true.

¹⁹ Hans-Johann Glock has argued convincingly and in some detail that Quine's attacks on the idea of ‘truth by virtue of meaning’ give us no reason to abandon a Wittgensteinian account of necessity (1996, 204-224).

²⁰ Richard Creath (2004, 49) argues that the bottom line of Quine's reasons for rejecting the analytic/synthetic distinction as formulated by the Vienna Circle was its failure to be based on a behaviorally observable difference—a point Quine himself acknowledges later, writing “Repudiation of the first dogma, analyticity, is insistence on empirical criteria for semantic concepts: for synonymy, meaning...” (1991, 272). So it should come as no surprise that his objections to accepting a distinction between (prescriptive) acts of rule-constitution and simply following/violating rules come down to the same bedrock.

²¹ See my (2007, 29-37) for further responses to Quine's attacks on analyticity.

²² I address each of the latter two worries elsewhere (respectively in: *forthcoming*; and 2007, Chapter 3).

References

Ayer, A. J. 1936/1952. *Language, Truth and Logic*. New York: Dover.

- . 1985. *Wittgenstein*. New York: Random House.
- Baker, Gordon. 1988. *Wittgenstein, Frege and the Vienna Circle*. Oxford: Blackwell.
- Blackburn, Simon. 1993. *Essays in Quasi-Realism*. New York: Oxford University Press.
- Boghossian, Paul. 1996. 'Analyticity Reconsidered'. *Nous* 30, no. 3: 360–391.
- . 1997. 'Analyticity'. In Bob Hale & Crispin Wright (eds.) 'A Companion to the Philosophy of Language', Oxford: Blackwell.
- Brandom, Robert. 2008. *Between Saying and Doing: Towards an Analytic Pragmatism*. Oxford: Oxford University Press.
- Carnap, Rudolf. 1947. *Meaning and Necessity: A Study in Semantics and Modal Logic*. Chicago: University of Chicago Press.
- Creath, Richard. 2004. 'Quine on the Intelligibility and Relevance of Analyticity'. In Roger F. Gibson (ed.) 'The Cambridge Companion to Quine', Cambridge: Cambridge University Press.
- Dummett, Michael. 1959. 'Wittgenstein's Philosophy of Mathematics'. *Philosophical Review* 68, no. 3: 324–348.
- . 1991. *The Logical Basis of Metaphysics*. Cambridge, Mass.: Harvard University Press.
- Elder, Crawford. 2004. *Real Natures and Familiar Objects*. Cambridge, Mass.: MIT Press.
- Glock, Hans-Johann. 1996. 'Necessity and Normativity'. In Hans Sluga & David G. Stern (eds.) 'The Cambridge Companion to Wittgenstein', Cambridge: Cambridge University Press.
- Grover, D., Camp, J., Jr. & Belnap, N. D., Jr. 1975. 'A Prosentential Theory of Truth'. *Philosophical Studies* 27: 73–124.
- Hacker, P. M. S. 1996. *Wittgenstein's Place in Twentieth-Century Analytic Philosophy*. Oxford: Blackwell.
- Hilbert, David. 1899/1999. *Foundations of Geometry*. Peru, Illinois: Open Court. Translated by Leo Unger.
- Kripke, Saul. 1980. *Naming and Necessity*. Oxford: Blackwell.
- Lewis, David K. 1986. *On the Plurality of Worlds*. Oxford: Blackwell.
- Mackie, J. L. 1974. 'De what Re is de Re Modality?' *Journal of Philosophy* 71, no. 16: 551–561.
- Quine, W. V. O. 1935/1976. 'Truth by Convention'. In 'The Ways of Paradox and Other Essays', Cambridge, Massachusetts: Harvard University Press, revised and enlarged ed.
- . 1953/2001. 'Two Dogmas of Empiricism'. In 'From a Logical Point of View', Cambridge, Massachusetts: Harvard University Press.
- Rea, Michael C. 2002. *World without Design: The Ontological Consequences of Naturalism*. Oxford: Clarendon Press.
- Roy, Tony. 2000. 'Things and De Re Modality'. *Nous* 34, no. 1: 56–84.
- Ryle, Gilbert. 1949. *The Concept of Mind*. London: Hutchinson.
- . 1950/1971. 'If', 'So', and 'Because'. In 'Collected Papers', vol. 2. Bristol: Thoemmes.
- Schlick, Moritz. 1918. *Allgemeine Erkenntnislehre*. Berlin: Springer.
- Sellars, Wilfrid. 1958. 'Counterfactuals, Dispositions and the Causal Modalities'. In Herbert Feigl, Michael Scriven & Grover Maxwell (eds.) 'Minnesota Studies in Philosophy of Science Volume 2: Concepts, Theories and the Mind-Body Problem', 225–308. Minneapolis: University of Minnesota Press.
- Shalkowski, Scott. 1994. 'The Ontological Ground of the Alethic Modality'. *Philosophical Review* 103, no. 4: 669–688.

- Sidelle, Alan. 1989. *Necessity, Essence and Individuation: A Defense of Conventionalism*. Ithaca: Cornell University Press.
- Sider, Theodore. 2003. 'Reductive Theories of Modality'. In Michael J. Loux & Dean W. Zimmerman (eds.) 'The Oxford Handbook of Metaphysics', 180–208. Oxford: Oxford University Press.
- Thomasson, Amie L. 2007. *Ordinary Objects*. New York: Oxford University Press.
- . forthcoming. 'Modal Expressivism and the Methods of Metaphysics'. *Philosophical Topics*.
- Wittgenstein, Ludwig. 1922/1933. *Tractatus Logico-Philosophicus*. London: Routledge. Translated by C. K. Ogden.
- . 1932-35/1979. *Wittgenstein's Lectures: Cambridge, 1932-35*, ed. Alice Ambrose. Totowa, New Jersey: Rowman and Littlefield.
- . 1939/1976. *Wittgenstein's Lectures on the Foundations of Mathematics: Cambridge, 1939*, ed. Cora Diamond. Ithaca, New York: Cornell University Press.
- . 1958. *The Blue and Brown Books*. Oxford: Blackwell.
- Wright, Crispin. 1980. *Wittgenstein on the Foundations of Mathematics*. London: Duckworth.