



UNIVERSITY OF LEEDS

This is a repository copy of *How Skeptical Is Quine's "Modal Skepticism"?*.

White Rose Research Online URL for this paper:

<http://eprints.whiterose.ac.uk/122483/>

Version: Accepted Version

Article:

Divers, J orcid.org/0000-0002-1286-6587 (2017) How Skeptical Is Quine's "Modal Skepticism"? *The Monist*, 100 (2). pp. 194-210. ISSN 0026-9662

<https://doi.org/10.1093/monist/onx004>

© The Author, 2017. Published by Oxford University Press. All rights reserved. This is a pre-copy edited, author-produced PDF of an article accepted for publication in *The Monist* following peer review. The version of record, John Divers; How Skeptical Is Quine's "Modal Skepticism"? *The Monist*, Volume 100, Issue 2, 1 April 2017, Pages 194–210, is available online at: <https://doi.org/10.1093/monist/onx004>. Uploaded in accordance with the publisher's self-archiving policy.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

How Skeptical is Quine's "Modal Skepticism"?

John Divers

Abstract

Following a logistical explication of metaphysics Quine can be cast as an ideological antirealist about modality. However, it is not clear that Quine deserves to be called a modal skeptic since, I argue, he does not hold some of the extreme views about modality that are often associated with him. Moreover, while Quine's convictions about truth make many forms of antirealism unacceptable to him, he might be construed as a non-skeptical modal quasi-realist (a la Blackburn). I suggest further that the application of this paradigm to metaphysical necessity might proceed from the association of that concept with those explored in Quine's "Natural Kinds".

§I: The Logistical Explication of Modal Metaphysics

There is an ingenuous and sanguine conception of metaphysics that has regained the status of orthodoxy in our time even though it looks back, beyond Kant, to Aristotle and his precursors. In the old and new orthodoxy of classical, unreconstructed metaphysics, we aim to characterize systematically how things fundamentally are (independently of our conception of them): or, giving even free(r) reign to metaphor, to carve reality at the joints. Skepticism about this classical metaphysical project is a prominent element of the empiricist tradition. In the most extreme examples of empiricist skepticism, the positivists (logical or otherwise) aim to bury such metaphysics. But moderate empiricist skepticism regards the burial as premature, while also refusing to praise classical metaphysics in its unreconstructed form. It is on this moderate, and revisionary, part of the spectrum of empiricist skepticism about classical metaphysics that we find Quine, as I understand him. To borrow a term from his mentor Carnap (1947, 8), Quine's aim is to explicate "metaphysics" rather than to eliminate it. As sense-making animals and charitable interpreters of our ancestors – we understand classical metaphysics, and its practitioners, best by treating it as a *proto-scientific* project. Explication requires that we establish continuity between that which is pre-scientific (old and inferior) and that which is scientific (new and superior). The crucial dimension of continuity is not that of doctrine, nor that of method but, rather, that of aim. And the continuing aim that enables the explication of the classical metaphysical project, by affording a reconstruction entirely within science, is (broadly) this: to offer the optimal general and systematic characterization of all that there is and how it is. As such an explicator of classical metaphysics, Quine finds himself able to share with the classical metaphysician a common language in which one can meaningfully speak of, and properly dispute, for example: the existence of natural numbers, the nature of attributes and – to bring us to our present topic – the presence of modal features in reality.

The Quinean method of explicating classical metaphysics is logistical: we proceed by transforming questions in the material mode (those about numbers, attributes, modal features of reality etc.) into questions in the formal mode (those about symbols). When the logistical method is applied to explicate that part of metaphysics that is ontology, wherein Quine is anticipated by Frege (1884), questions about the existence of given objects such as numbers are, of course, not to be taken as equivalent to questions about the existence of the relevant symbols (numerals). The logistical approach is methodological rather than reductive: it guides us towards the appropriate symbols and the kinds of question about them that we have to answer in order to establish knowledge of what there is, and of how things are, beyond the symbols. A logistical explication of ontology has two elements. The first element is the identification of (what I shall call) the telling discourse. This tells us where to look to settle questions of ontology. The second element is the proposal of a particular syntactic criterion that is to be applied to the telling discourse. This tells us how to find there that which is ontologically significant.

Quine's earlier and lesser-known paper on the explication of ontology, originally published in 1939, has a title that makes explicit his endorsement of this method – that is: “A Logistical Approach to the Ontology Problem” (1976a)¹. The application of the method comes to maturity in its more famous successor, originally published in 1948, “On What There Is” (1953a). Quine takes the ontologically telling discourse to be the optimal formulation of best total science. Optimality is primarily a matter of simplicity in various respects. and the deployment of a canonical notation whose terms are primitive (not further definable). Beyond this, I will not explore further the scholarly question of exactly

¹ Where a reference is given without an attached name (as here with “(1976a)”) it corresponds to the item in the bibliography given for Quine (here, “Quine (1976a)”).

what Quine takes to make for the optimal formulation of best total science. I shall simply label this discourse, the one that Quine supposes to be ontologically telling, as “Best Theory”. To complete the logistical explication of the ontological question, and departing from the method of his logistical precursor Frege, Quine proposes to apply to Best Theory the syntactical criterion of discerning the predicates that characterize the bound variables of (existential) quantification. To be, following logistical explication, is to be the value of a bound variable: and for F’s to be is for “ $\exists xFx$ ” to be a conjunct of Best Theory (which, qua Best Theory, we take to be true).

This logistical approach to questions of ontology is, I believe, intended by Quine to be extended (*mutatis mutandis*) to the explication of those further questions of classical metaphysics that lie beyond the realm of the ontological. Those are questions of how things are rather than questions of what things there are and Quine (1951) characterizes this complement of ontology as ideology. The items of vocabulary that exhaust ontological interest are the variables, the quantifiers that bind them and the variables that characterize them. To prosecute ideological questions we look to the further items of the vocabulary of Best Theory and, in particular, to its connectives and operators. For Quine, then, as I understand him, the crucial question of modal metaphysics is the ideological question of whether there are primitive modal aspects of reality. And that question is rendered respectable and tractable under explication, by transformation into the question whether any modal operators or connectives figure in Best Theory. This question may be simplified and made more tractable by stipulation. While there may be, in other contexts, good and interesting questions about how we demarcate vocabulary as modal, and which vocabulary thereby counts as modal, these questions are not presently germane. All parties to the dispute on which we focus stipulate to the question being about the credentials for inclusion in the formulation of Best Theory of the sentential necessity operator (the box) of standard quantified modal logic (QML). It is further stipulated that the necessity operator will be a feature of Best Theory if and only if its presence there is

supported by the further inclusion within Best Theory of axioms for (some version of) QML. By making the question tractable in this way, we put aside the question whether commitment to modal features of reality might be established by the presence in Best Theory of other kinds of modal vocabulary. And that is to be acknowledged as a very important matter. However, for present purposes, and reflecting the dialectical context in which Quine conducted his campaign, Quine's engagement with the metaphysics of modality is taken to be exhausted by the question whether quantified modal logic (QML) merits a place in Best Theory.

Quine's answer to that question is not in doubt: it is that QML does not merit a place in Best Theory. Consequently, as I understand Quine, when we join in the argot of classical metaphysics, the right things to say about modality are rather straightforwardly "anti-realistic" in the ideological sphere: reality has no primitively modal aspects; modality is not metaphysically fundamental; modality is not real; modal distinctions do not carve nature at the joints, etc. But such broadly Humean pronouncements do not obviously sustain by themselves the characterization of the ideological modal antirealists who make them as modal skeptics. No-one, as far as I know, characterizes the ideological modal antirealist Lewis (1986), for example, as a modal skeptic. So, I shall take it, if Quine deserves to be characterized as a modal "skeptic" it must be because his complaints against QML and its modal operators are deeper or more radical than those of others who are merely antirealistic and not, further, skeptics. Of course, ultimately the label ("skeptic") is not what is important. But by claiming this basis for its use we can address via the question whether Quine was really a modal skeptic the substantive matter of the nature and depth of his complaints against QML and its modal operators. I will try to show that characterization of Quine as a modal skeptic is based on misunderstanding of the ultimate nature of his complaint against QML. I will then try to illustrate how there is live potential in Quine's modal philosophy – potential that has been ignored by those who have dismissed Quine's modal philosophy on the grounds that – qua modal skepticism – it cannot have anything to offer.

PART II: Quine's Modal "Skepticism": Two Canards

I conjecture that there are two (related) theses that are commonly associated with Quine and in which the distinctive, radical and skeptical character of his philosophy of modality have largely been supposed to consist. The first thesis is that the characteristic construction of QML, “ $\exists x \Box Fx$ ”, and cognate locutions, are unintelligible.² The second is that QML is in certain ways semantically defective – ways in which it was subsequently shown not to be defective by developments in possible-worlds semantics.³ I do not believe that Quine endorsed either of these theses. Indeed, I believe that there is plenty of evidence to suggest that Quine held views on these matters that involve significant qualification or rejection of the theses in question.

II.1 Unintelligibility⁴

² Thus, for example, we have this recent passage written by a highly influential contemporary philosopher of modality. “Quine’s skepticism has not stood the test of time. By any normal scientific standard, it is intelligible to say that there are things that could have dissolved in water. To condemn such statements as unintelligible by some special philosophical standard is bad science and bad philosophy. Books on modality have no [...]obligation to spend their readers’ time on defences of the intelligibility of modal discourse[...].” (Williamson 2013, xi)

³ Thus, for example, we have this recent commentary. “After all, it was the desire to reject the skepticism of their professor that drove Saul Kripke and David Lewis, Quine’s students, each to formulate a semantics of de re modal expressions and a theory of possible worlds” Borghini (2016, 57).

⁴ Some of the ground of this section is covered at greater length in Divers (2017). For earlier commentary in the same spirit, with different emphases, see also Burgess (2008).

The first canard about Quine's modal skepticism is that he claimed that the characteristic construction of QML, " $\exists x \Box Fx$ ", was unintelligible tout court. Quine did not claim that: rather, his much further qualified position was, in summary, as follows.⁵ What is not obviously intelligible is the characteristic construction when we bring to its understanding the conceptions of quantification and modality "as ordinarily understood". By quantification "as ordinarily understood", Quine meant quantification that is of first-order and taken to range over the familiar objects of science: sets, physical objects (and various "congeries" of these, such as atoms tables and mountains). By modality "as ordinarily understood", Quine meant that the relevant necessity would be (explained in terms of some variant of) analyticity: for that was how Quine's intended dialectical opponents approached matters. The combination of modality so understood with quantification so understood really does, I think, threaten absolute unintelligibility. That is because the construction, " $\exists x \Box Fx$ ", appears to introduce the value of x initially only as x qua thing, independently of any non-trivial mode of presentation, and then says (in effect) of this thing that it is analytically F . Yet analyticity is a matter of meaning, so is the idea that x is F as a matter of meaning alone? But a matter of the meaning of what? Surely not the meaning of the object that is the value of x , for the intended values do not, in general, have meanings. Surely not the meaning of the predicate " F "? " F " has a meaning but how can its meaning interact with something that is not (or does not have) a meaning to produce truth in virtue of meaning alone. No. Intelligibility requires that something has to give, and there are only two basic strategies: either our understanding of the quantification, or our understanding of the modality must be reconfigured.

The first strategy for establishing the intelligibility of, " $\exists x \Box Fx$ ", is to stick with the

⁵ I present here a narrative derived from the classic sources "Reference and Modality" (1953b) and "Three Grades of Modal Involvement" (1976b). For more detailed references see Divers (2017).

understanding of modality in terms of analyticity while departing from our ordinary conception of quantification as ranging over the “extensional” entities with which we are familiar. According to (1953b, 28-31), this Fregean strategy, suggested or adopted in different forms by Church, Carnap and the Lewis of old, is to construe modal contexts as introducing quantification over (and/or reference to) sense-like (and non-extensional) entities. The early (1943) complaint against this strategy was, predictably enough, that it relied on dubious ontology: the intended values of quantificational variables lack tolerably clear criteria of identity. Crucially, however, the later Quine does not rest his case on this point. The mature complaint (1953b, 28-31) is that the Fregean strategy is demonstrably ineffective: it fails even if, for the sake of argument, we allow that the notion of analyticity is in perfectly good standing and that one may appeal to that notion in order to supply adequate criteria of identity for whatever extraordinary entities are postulated. The heart of the ineffectiveness proof is a lemma to this effect: that the language in which we quantify over the sense-like entities would have to be such that it never affords distinct ways of specifying a variable value one of which produces an analytically necessary truth and the other an analytically contingent truth. Quine then demonstrates that a language can be so only if we take all (or none) of its true sentences to be analytically necessary, thus rendering modal distinctions vacuous and pointless.

The second strategy – and now the only live strategy – for establishing the intelligibility of, “ $\exists x \Box Fx$ ”, is to stick with our ordinary conception of quantification as ranging over the “extensional” entities with which we are familiar while departing from the understanding of modality in terms of analyticity. Such a modality would be as it is ingenuously presented at the primal de re modal scene “ $\exists x \Box Fx$ ”: it would be a matter of (the variable value) x having in itself, or only qua x , an “attribute” F , necessarily and with the values of x as ordinarily understood. So physical objects, sets (and congeries of these) would also be such that: (i) some but not all x would satisfy F ; (ii) among those, some y would satisfy $\Box F$ and others z not so and (iii) all of that would be perfectly in order without regard to

any consideration about the mode of presentation of the values of x , y , z [(1953b, §III); 1976b, §III]. It would have been useful for Quine to have had to hand a label for modality, so “extraordinarily” understood. And since Quine had already made it clear (1976b, §I) that he was interested in a logic of absolute modality rather than one of restricted or local modality (causal, physical etc.) it, I think we can see that the future supplied that label. Thus, I shall say, that Quine is thinking – at this stage in the dialectic – that the only chance that QML has of being intelligible and of expressing non-trivial modal distinctions is if it is taken as the logic of a metaphysical modality. One can even imagine Quine having been tempted by the term but having disciplined himself to forego it, lest it seem like a cheap pejorative thrown in for rhetorical effect. In any event, for immediate purposes, no more should be read into the present use of the adjective, “metaphysical”, than that it is a label for an absolute modality that satisfies the conjunction of (i)-(iii) above.

What, then, is Quine’s assessment of the standing of necessity and the quantified logic of modality, now that their joint viability is revealed as dependent squarely on the understanding of the modality as metaphysical? It cannot be emphasized enough that Quine’s objection to QML at this stage in the dialectic is of a quite different nature to any complaints or concerns that have figured so far. We are no longer at an impasse of unintelligibility as we were when confronted with the primal *de re* modal scene and bound to understand both modality and quantification as we “ordinarily” would. There, recall, the prospect was of a condition that could be (not just logically but) analytically true of a thing in itself, independently of any mode of presentation. Nor are we in a position to demonstrate the ineffectiveness of the appeal to the surviving strategy of appeal to metaphysical necessity, as we were in the case of the Fregean attempt to combine an analytic understanding of necessity with an extraordinary account of the domain of quantification. The nature of Quine’s objection to QML at this point is different and, ultimately, simple. The objection is that the quantified logic of metaphysical modality brings such costs that optimal scientific Theory can only

be Best without it: the only intelligible version of QML has no place in Best Theory.

The exploration of an objection of this nature will naturally proceed through a sequence of questions. What did Quine take the commitments of sustaining QML to be? Was Quine right about these being commitments of sustaining QML? Why did Quine think of these commitments, negatively, as costs? Was Quine right to think that the sum of the costs makes them prohibitive? And in each case, of course, there will be a question of dialectical perspective. Is there room to allow an answer to the question from one who is pre-disposed to QML that differs from that likely to be given by one who is not so disposed? Present limitations of space prohibit a thorough exploration of this nature. So I shall be selective in dealing with only some aspects of the matter.

Quine (1953b, 1976b) enumerates three commitments that flow from sustaining QML under the constraints that apply at this juncture. The first commitment is to a particular matter of modal doctrine – that is, to a particular version of the principle of the necessity of identity: “ $\exists x \Box Fx$ ”: The second commitment is logical: it is to a version of first-order, non-modal logic, in which the practice, methods and applications become variously more complicated and restricted in order that it might support a modal extension. The third commitment is a metaphysical commitment to a doctrine that Quine identifies as Aristotelian Essentialism. In the remainder of this paper, it is only to the alleged commitment to, and costs of, Aristotelian Essentialism that direct and significant attention will be paid. My strategy will be simply claim the label “Aristotelian Essentialism” for the doctrine that there are fundamental and appropriately discriminating truths of metaphysical necessity as it has been characterized above. The truths in question will be fundamental because they are expressed in the canonical notation of Best Theory. The truths in question will be appropriately discriminating in ways already accounted for: they will not entail that all of an individual’s attributes are attached to it of necessity nor will they be conceived so

that the truths of metaphysical necessity are co-extensive with those of analytic necessity.⁶

Famously, or infamously, Quine does very little to justify his view that commitment to the metaphysics of Aristotelian Essentialism. In the immediate dialectical context of (1953b), in particular, Quine sees no need to do so, since he has in mind there broadly logical empiricist interlocutors (Church, Carnap etc.) who are bound to agree immediately that such a commitment is unwelcome. So some construction is required of what Quine would say next when challenged to provide reasons for counting commitment to Aristotelian Essentialism as a cost.

§II.2 Here's What's Wrong With Good, Old-Fashioned Aristotelian Essentialism

Here I construct a broad dilemma on Quine's behalf. Either we treat the commitment to Aristotelian essentialism as a product of an unexplicated metaphysics or as a product of an explicated metaphysics. If the commitment is one that is generated from the practice of unreconstructed, unexplicated metaphysics then, as such, it has no intellectually respectable justification. The commitment to Aristotelian Essentialism would be epistemologically indefensible. If the commitment is one that is generated from the practice of explicated metaphysics, then that is the right way to make it epistemologically defensible:

⁶ In claiming the term "Aristotelian Essentialism", for this purpose, Quine joined in an orthodoxy that long prevailed by presuming the interchangeability of the characterizations of "□" as *essentiality* and as *metaphysically necessity*. This will strike the student of recent essentialism, e.g. of Fine (1994), and perhaps also the students of Aristotle, as a gauche conflation – there being more to essentiality than metaphysical necessity. However, it is enough for our purposes that at least some of what Aristotelians take to be properly essential is also a matter of metaphysical necessity.

but only if one is further prepared to defend the place of essentialist locutions in Best Theory. Yet, that is a commitment to defend the place of essentialist locutions in the optimal formulation of total science, and that – in its most obvious form – would be a commitment to defend the scientific viability, and desirability, of the reformulation of doctrines of relativity and quantum mechanics in the language of Aristotelian (potentialist) theories of matter and motion (made systematic by the presence of the devices of QML).⁷

I am confident that this, in broad outline, is the core of Quine's argument from the unacceptability of Aristotelian Essentialism to the unacceptability of QML. Four salient strategies then emerge for resisting the rejection of Aristotelian Essentialist metaphysics. The first strategy involves defending (the epistemological authority of) the project of unexplicated metaphysics. The second strategy involves a defending the place of a QML-regimented version of (broadly) Aristotelian science in Best Theory. The third strategy involves defending an approach to metaphysics that is explicatory but non-logistical. The remaining strategies involve defending a logistical explication of metaphysics that departs from Quine's version either: (the fourth) in its conception of the appropriate syntactic criteria or (the fifth) in the discourse it identifies as (metaphysically) telling. This very last strategic prospect, in particular, is likely to appeal to many. For it appears to allow the construction of a case, under the aegis of explicated metaphysics, for ideological modal realism. Such a case would be constructed by establishing for appropriate modal locutions (those that articulate Aristotelian Essentialism and are regimented in QML) a role in a discourse that is, resolutely, scientific but broader than Best Theory. There is no

⁷ That there is a connection in Quine's thinking, between the acceptability of QML and the acceptability of Aristotelian science, is a point that has been made by various commentators: see, e.g., Hylton (2007, 354). Here, I attempt to allocate to that element of Quine's thinking a precise role in a comprehensive case against the acceptability of QML.

case to answer against the intelligibility of such a discourse. For as has been emphasized, Quine has not argued that the distinction between attributes had of necessity and attributes had contingently (absolutely so and independently of description) is one that is unintelligible, unserviceable, outré or otherwise beyond the pale of reason. I shall return in §III, to the matter of a Quinean appraisal of the role of essentialist locutions in such a broader scientific discourse.

II.2 Possible-Worlds Semantics

The second canard about Quine's "modal skepticism" has him claiming that QML was semantically or meta-logically defective, and subsequently being refuted by the development of possible-worlds semantic for QML by Kripke (and others).⁸

While Quine's classical critique of QML emerged at a time, 1953, prior to the appearance of an interpretation of QML, he never claimed any of the following: (a) that a meta-logically adequate interpretation of QML could not be provided; (b) that de re modal locutions were unintelligible pending such an interpretation; (c) that (for that reason or any other) the presence or absence of such an interpretation was crucial to the acceptability of QML; (d) that the commitment he

⁸ Here, I add two observations. Firstly, had Kripke thought this appraisal worthy, one might expect that he would not have been slow to (realize and) advertise the Quine-refuting power of his achievements. That did not happen. Secondly, another tall tale has it that a refutation of Quine's objections to QML was achieved by Smullyan (1948) or by a combination of Smullyan and Kripke. For commentary on the role of Smullyan (1948) in Quine's case against QML see, again, Burgess (2008) and Divers (2017). Briefly, Quine thought Smullyan's contribution was part and parcel of the defence of QML by appeal to a metaphysical modality.

discerned to Aristotelian essentialism turned on any logical or metalogical feature of QML nor, therefore (e) that the commitment he discerned to Aristotelian essentialism was hostage to the fortunes of whatever versions of QML would best fit a future metalogical interpretation. Quine explicitly acknowledged in 1972 (the original publication date of the remarks in (1981a, 173-4) Kripke's results in proving adequate (relativized) validity-conditions for QML formulas and the ensuing completeness proofs for various systems of QML. These are results delivered by a thoroughly general and metaphysically neutral theory of models for QML – results that involve no appeal to a special case of an intended model or an intended interpretation. What Quine acknowledges here is often called the “pure” Kripke semantics for QML, as per Plantinga (1974). But Quine's concerns with what are, if you will, the “semantic” aspects of QML were focused entirely on the intended interpretation of its sentences: about what kinds of statements were apt to be held true (and telling) by one who would insist on a logic of metaphysical modality. But those concerns have already been accounted for under the different heading of commitment to the philosophical doctrine of Aristotelian essentialism. All that changed in this matter post-Kripke, was, as Quine emphasized, that there emerged a meta-linguistic and non-homophonic way of articulating essentialist commitments. That was the way of making certain claims of transworld identity – claims to the effect that: one and the same individual, x , exists at two distinct (metaphysically) possible worlds, w and v , while having some attributes at both worlds, w and v , but having other attributes at w but not at v . And Quine thought those locutions no more plausible candidates to be part of Best Theory than the Aristotelian Essentialist locutions themselves ((1981a, 174)). I conclude this section by making two related observations.

Firstly, I contend that Kripkean modal philosophy (including his version of possible-worlds semantics) is recognizable as actually verifying Quine's account of the commitments that are entailed by an intelligible interpretation of QML. In Kripke (1963) the completable versions of (normal) QML's have the relevant

thesis of necessity of identity thesis as a theorem. Furthermore, the account of the logic and meaning of singular terms in Kripke (1963), and elaborated informally in Kripke (1980), is one that departs from the Russell-Quine project of introducing singular terms via definite descriptions: accordingly, it has the features that Quine characterizes as complications of the non-modal fragment of QML. Pause for thought is occasioned, perhaps surprisingly, when we come to consider Kripke's stance on the predicted commitment to the metaphysical doctrine of Aristotelian essentialism. For while there is, of course, happy deployment of essentialist locutions and endorsement of essentialist claims throughout Kripke (1980), I know of no place at which Kripke engages with the theses that are characteristic of the metaphysical doctrine of ideological modal realism: whether such essentialist locutions, and modal distinctions, mark "fundamental" features of reality. But it is commitment to the fundamentality of the essentialist and the modal, in Best Theory and in reality, that Quine predicts. So we must settle for noting the relatively weak result that Kripkean modal philosophy does not conflict with this prediction.

Secondly, it is prudent to isolate Quine's animadversions against *possibilia* (1953a) from what he counted as unwelcome commitments of embracing QML. There is a long story to be told here, but it might be curtailed as follows. Firstly, the versions of QML that Quine considered had no actuality operators: accordingly the formulas are not capable of expressing (directly) that there are things that exist but which do not actually exist. Secondly, even if a version of QML has that expressive power it is not obvious why acceptance of the logic should come with an automatic commitment to assert such sentences (under their intended interpretation). So it is reasonable to conclude that any alleged commitment to the existence of (what are really and truly called) "*possibilia*" can be derived from the adoption of QML only in conjunction with a great deal of

ideology that goes beyond a commitment to basic Aristotelian Essentialism.⁹

PART III: W(h)ither Quinean “Modal Skepticism”?

Quine’s modal skepticism as it has emerged thus far, is in its salient feature, rather orthodox. In the classical metaphysical argot, the salient feature is endorsement of the controversial – but hardly iconoclastic – Humean thesis that modality is not a feature of (fundamental) reality. One thing that distinguishes Quine’s position apart from others who also assert the Humean thesis is the methodological basis on which he asserts it: this includes the logistical explication of metaphysical questions and the identification of Best Theory as the telling discourse. While Quine’s methodology has, certainly, made its mark on the prosecution of metaphysics by the later Humeans ((Lewis (1986), Sider (2011)) it is not embraced wholeheartedly by them. However, I will suggest now that there is significantly more than this methodological variation to distinguish Quine from his fellow metaphysical Humeans. In order to get at the more important and far-reaching difference, we need to be guided by two precepts.

The first precept is to abandon expectation that Quine will be found saying anything that is more skeptical about modality than is encapsulated in the Humean thesis. My understanding is that the characterization of Quine as modal skeptic is (at least often) the consequence of what I would regard as mistakes that were called out in Part II. Those mistakes are to misunderstand Quine as having claimed that the modal notions were steeped in intractable paradox, or unintelligible tout court, or that QML was unsusceptible to meta-logical treatment.

⁹ In light of this pair of observations, one might position Williamson (2013) as presenting a modal philosophy that is, in many respects, Kripkean but goes further in embracing the fundamentality of the modal and a commitment to (what deserve in some respects the name of) “possibilia”.

Someone who held one of those views might naturally and justifiably be raised (or demoted) to the status of skeptic about modality: but Quine did not hold either of those views. Consequently, I think it is much more helpful, both in avoiding the continuation of misunderstanding and in lighting the way ahead, to abandon the characterization of Quine as a modal skeptic and to rebrand him (less extravagantly) as a modal antirealist. One part of a modal antirealist package, as I envisage it, is metaphysical: it is the Humean denial of the presence of modal features in reality. The other part of a modal antirealist package is a narrative in the philosophy of language (and thought): a story about the workings and function of modal language that complements the (negative) metaphysical thesis.

The second precept is that we should not presume that there is much more to be had in Quine's corpus by way of an explicit contribution to the narrative about modal language that is to be integrated into the modal antirealist package. Accordingly, we should be prepared to extract materials from that corpus with a view to constructing such narrative: a narrative that is more cautiously and better described as "Quinean" than as "Quine's". I shall make suggestions about both the form and content of such a Quinean modal antirealist narrative. The matter of form is one of deriving from Quine's philosophy of language the acceptability or otherwise of certain kinds of antirealist narrative, or paradigm. The matter of content is one of filling out that form, or paradigm, with the kind of material that is appropriate for the given the explanandum: that is, is the language of metaphysical modality.

§III.1 Anti-Quinean Paradigms of Antirealism

In this section I shall argue that the Quinean antirealist is bound to refuse a wide range of well-known anti-realist paradigms and that she will naturally find amenable another: namely quasi-realism. In the first instance, I shall argue: (a) that Quine cannot be properly classified as a reductive anti-realist, nor a non-cognitivist, nor a fictionalist, nor an error-theorist about modality, because (b)

these orthodox anti-realist paradigms share presumptions about meaning and (especially) truth which Quine is determined to refuse.¹⁰

Let us begin with a two-fold proposition that all parties contract to accept – that is: (a) various token sentences are admitted as intimations of absolute and metaphysical modality (“It is necessary that electrons are negatively charged”; “Water necessarily contains Hydrogen”, “Human beings are essentially mammalian”, “It is a contingent matter that the universe is law-governed”, etc. and (b) many such tokens are *held* true, especially in the discourse of scientific communities. At one end of the spectrum of philosophical reactions to this supposed state of affairs, we find those realists who take the modal idioms in question to anticipate modal features of fundamental reality. In logistical or formal mode, the modal locutions in question anticipate some such modal vocabulary, figuring primitively, in truths in (whatever is) the telling discourse. The antirealists deny that there are any such features of reality and undertake to supply a narrative, consistent with that metaphysical view, about the holding-true of such essentialist locutions.

The first antirealist paradigm to be considered is that of analytic reductionism. Lewis (1986) champions the analytic reduction of the modal to the non-modal and he does so, partly, in support of what he regards as a distinct project of metaphysical reduction of the modal to the non-modal.¹¹ But analytic reduction, requires a commitment to the two dogmas of empiricism that Quine (1953c) rejects: that is implementation of the analytic-synthetic distinction and reduction that proceeds sentence-by-sentence. Here I will place no weight at all on the

¹⁰ If I am right about the paradigms, then this will constrain the form that a Quinean “skeptical” stance about many subject-matters can take – thus, for example: linguistic meaning, propositional attitudes and their contents.

¹¹ For this account of the duality of Lewis’s reductionism see Divers & Fletcher (2018).

latter dogma and keep various narratives in the game by presuming that they are not defeated by apparent commitment to that way of proceeding. So what puts analytic reduction out of the Quinean picture is commitment to the “analytic” part: that involving an unexplicated conception of meaning. What makes unacceptable all other unacceptable antirealist paradigms is commitment to an unexplicated conception of truth. To maintain focus on what is generalizable, I simply mention and put aside the consideration that Lewisian reduction prefigures ontological commitment to a plenitudinous plurality of worlds. While this can hardly be expected to be a feature that is attractive to the Quinean, the matter is not straightforward and it is (in any case) presently incidental. (Divers 2007)

The second antirealist paradigm is that of metaphysical reductionism, articulated via substantive conceptions of grounding, correspondence (of sentences with reality) or truth-making (see, e.g. Sider (2011)). This paradigm prompts immediate rejection by Quine on the grounds that it is an explicit attempt to explain the truth of sentences by substantial elaboration of the notion of correspondence. For Quine, there is no scientific merit in such correspondence theories of truth in general. We shall see shortly some of the reasons for his thinking so, the locus classicus of these being Quine (1960). For Quine (e.g. 1970), the right kind of theory of truth is disquotational and clausal a la Tarski. And once we accept that, while talk of reality’s making sentences true may sometimes be excused as unobjectionable realism it is always “unhelpful realism” (1981b, 179). It is this explicit and defining feature of metaphysical reductionism that is presently crucial, for it is generalizable.¹² As in the case of analytic reduction as prosecuted by Lewis there are in this case further, but presently incidental features of the known versions of the paradigm that are (also) anathema to Quine. In this case, contemporary efforts in the sphere of “metaphysical semantics” direction involve commitments to hyperintensional “fine-grained” and “metaphysically explanatory” devices (operators, relations

12

etc.). [See Fine forthcoming]

Several non-reductionist anti-realist paradigms share with metaphysical reductionism the (objectionable) commitment to the explanation of the truth of sentences by substantial elaboration of the notion of correspondence. Here I would cite (various versions of): non-cognitivism (expressivism), error theory and fictionalism.¹³ In any case, the point covers an anti-realist narrative of any form – call it what you will – that incorporates the following correspondence commitment. If any modal sentence is true it has to be analysable in principle – by traditional semantic analysis and/or metaphysical semantics – in such a way that it is mapped onto a fundamental state of reality (as the reductionist conceives it and as described in the telling narrative). In face of this correspondence conditional, the antirealist move is to deny the consequent: the relevant modal sentences are not so analysable, and so they are not true. Quine can have no more truck with this method when deployed in the cause of non-reductive anti-realisms than when deployed in the reductionist case. But the non-reductive anti-realist paradigms bring into consideration a feature that is non-incidental and, indeed, absolutely crucial to the understanding of Quine’s rejection of the correspondence conceit.

The antirealist paradigms cited (non-cognitivism, error theory and fictionalism) are faced with an urgent demand to explain the truth-indicating data that are a feature of every discourse. The declarative sentences that get it right, whatever “it” is, are called “true” and held true. Recall, in particular, that all parties have contracted to accept that there are token sentences intimating metaphysical modality and that some of these are held-true. The demand to explain the truth-

¹³ Another such paradigm that might be cited is agnosticism. But inclusion of that case engenders the distracting complications in exposition that are required to register all variants on the difference between not holding-true and holding not-true.

indicating data is met in the form of appeal, in one way or another, to some feature (sometimes “norm”) that is *subsidiary* to truth (cf Wright 1992, @). For the discourse to be stable and workable, there has to be something to the idea that (on a given occasion) it there are some sentences that it is right to assent to and others that it is not right to assent to. For the integrity, utility and persistence of the practice requires that we can’t just have a free-for-all in which anything can be allowed to go in judgments of what’s prime, or right, or in the spirit of the legislation, or what cannot be water. Thus we have the idea that while not hitting on the truth, what assenters do succeed in doing when they get it right is to hit on truth-in-the-fiction, or quasi-truth, or assertibility or some species of these that is appropriate to the particular discourse at issue.¹⁴ To Quine, such dualism about assent is deeply objectionable since it threatens to undermine the eligibility of the notion of truth to feature in an empirical semantics. The dominant Quinean thought in this territory will be that the empirical relevance and respectability of the concept of truth depends on its being bound to (observable) acts of assent, where these are also described as holdings-true. Truth is that which sentences are held to have when they are assented to. If any antirealist paradigm is going to be predicated on a crucial distinction between what sentences are being held to have when they are assented to and Genuine Truth, it must be equipped with a response to the imminent allegation that it is buying into a transcendent metaphysical notion of truth that resists explication in terms of the most natural empirical considerations available.¹⁵ My claim here is not that this observation

¹⁴ Thus see, for example, we find norms other than truth coming to the fore in the antirealist narratives of: Mackie (1977) on morals (1977); Dennett (1981) on the intentional; Field (1989) on (pure) mathematics; the Wittgenstein of Kripke (1983) on meaning and van Fraassen (1980) on the microphysical.

¹⁵ Davidson (1982) and Lewis (1983, 2004) are prominent philosophers who have followed Quine in motivating appeal to the concept of truth through the project of interpretation and rejecting the correspondence conceit accordingly. It is striking that these philosophers also give short shrift to the sorts of non-

defeats all such anti-realist paradigms: it would be excessive to claim that there could never be such an adequate response and (so) that the first Quinean strike ought to prompt unconditional surrender. My claim, rather, is that this is the salient factor in explaining why a Quinean will feel perfectly justified in proceeding by putting such antirealist paradigms on the back-burner and seeking other options that do not tamper with the fundamental connection that appears crucial to the explication of the pre-scientific notion of truth – viz.: when language users assent to sentences, truth is what they take them, rightly or wrongly, to have.

A Quinean modal antirealist narrative must complement the Humean denial of the existence of modal features of reality. What has now emerged as the salient desideratum is that such a narrative should further abjure the conceit that truth is a matter of explicable correspondence to reality. There is one paradigm of antirealism that fits this bill and is in many other respects Quine-friendly: that is a certain version of the quasi-realism introduced and commended by Blackburn (1984 Ch.6; 1993).¹⁶ I postpone elaboration of this claim until I am in a position to

reductive antirealist paradigms that I have claimed to be dependent on the correspondence conceit.

¹⁶ A word might be entered here about other paradigms of “antirealism” that proceed from a minimalist conception of truth, salient cases of which are exemplified by the positions developed by Wright (1992). This matter deserves much further serious investigation. But the basic feature of those positions, as I understand them, is that their claim of truth (minimally construed) for sentences of the discourse leaves no room for the denial of their being modal (moral, mathematical) features of the world. All that one can say is that our best practices in these spheres deprives the relevant judgments of objectivity where this does not sustain the right to say that there are no such features of the world. So any form of “antirealism” that has this character will not suit one, such as

integrate discussion of this form of antirealism with the considerations about content to which I now turn.

§III.2 Metaphysical Necessity at the Nexus of Similarity

One piece in Quine's corpus that promises a great deal in the way of constructing an antirealist narrative for essentialist locutions is the paper "Natural Kinds" (1969a). In that paper Quine does not deal directly with essentialist locutions. But what he does is to give an account of the role in scientific practice of a range of locutions that are closely associated with essentialist talk and he does so in a way that complements the Humean denial of their describing features of reality. The locutions in question are teleologically unified under the umbrella of the impeccable scientific goal of discerning the simplest, most reliable and projectable generalizations, of the least restricted scope, that will allow us to succeed in predicting experience. This is the explication of what it is to attempt to discover the real natures of things. The locutions in question are, firstly, those intimating natural kinds and subsequently, tracing connections from there others of law, causality, disposition and counterfactuality. The locutions in question are conceptually unified by their being variously related to one core notion: that of similarity (similarities). I will say more soon about the narrative on offer here: the specific story about how the locutions in question relate to the pursuit of crucial similarities. But the form of the present suggestion may be presented in advance. The thought is that if essentialist locutions can be connected appropriately to some or all of those other locutions that Quine has placed in the sphere of explication by similarity, then the kind of antirealist narrative that he offers to cover those might be extended to cover essentialist locutions also. In advance of the development of that narrative, it is also possible to discern a cluster of connections that have the potential to prove effective in that regard. Thus – for

Quine as I understand him, who does wish to maintain the Humean denial of the presence of modal features in the world.

example: (i) if x is a member of kind K , x is necessarily (a) K ; (ii) if P holds true under every counterfactual supposition whatsoever, then it is necessary that P and (iii) less specifically, various principles that identify as necessary features of things those that they have according to of the laws of nature. A final observation that is worth making in advance of the development of the surrounding narrative is this. The Quinean antirealism about modality that is in prospect is one that is set to be just as skeptical about modality as it is about the cognate notions of kind, law, causality etc. So if the prospect materializes, the right thing to say is that just as Quine's Humean antirealism about kind, law, causality etc. was not skeptical, neither was his Humean antirealism about necessity. Whatever "skeptical paradox" is afoot in any of these notions there is a "skeptical solution" available. As we have anticipated, such a solution is not available to the Quinean if it involves the dualism about assent that comes with traditional non-cognitivism (and other antirealist paradigms). But, as we shall now see, perhaps it need not.

§III.3 The Quinean as Modal Quasi-realist

Combining the recent suggestions about the form and the content of a Quinean antirealist narrative about metaphysical necessity, the following proposal emerges: such a narrative might be constructed as part of a quasi-realist account of the family of non-telling scientific locutions that sustain scientific practice. The locutions of natural kind, causality, law, disposition, counterfactuality deserve to be called "scientific" because they are central to scientific practice. In particular, for Quine (1969a) they are part of the scientific mission of searching for, and exploiting, ultimate objective similarities. However, these locutions are also non-telling because they are not elements of Best Theory. It is crucial to appreciate that locutions might be as deeply entrenched in science, or indispensable to science, in the former aspect without having any claim on a place in science in the latter aspect. That these locutions are classified as non-telling is what is required, within the explicatory conception of metaphysics, to facilitate the Humean denial that there are such features in reality. The quasi-realist narrative

will articulate the role played by these non-telling locutions in sustaining scientific practice.

The general form of the quasi-realist narrative, or paradigm, as I would appropriate it from Blackburn (1984, Ch.6: 1993), has the following profile. Firstly, it is anti-realistic because it claims the right, against an explicatory background, to endorse a metaphysical position according to which reality is devoid of certain things or features. Secondly, it is expressivist in spirit because it embraces the idea that some locutions are born of the need to cope with what there really is rather than to copy what there really is. Thirdly, it is minimalist about truth and allows it to spread all across our language to the parts of it in which we are exercising our attempts to cope alongside our attempts to copy. Thus the conceit of a substantial correspondence theory of truth is abjured. Fourthly, it embraces the cognitive primacy of natural science. Fifthly, it is non-skeptical and non-error-theoretic. It proceeds from the presumption that the locutions of metaphysical modality do not betray a failure or a mistake on our part. With this paradigm to hand, we then now consider how it might be applied to the language of natural kind, causality, law, disposition, counterfactuality and – extending the conceptual network – to the language of essence or metaphysical necessity. Here are some gestures in that direction, and some attendant caveats.

The role of non-telling scientific locutions, it has been mooted, is that of sustaining the scientific mission of searching for and exploiting ultimate objective similarities. But not by providing us with what we need to state such similarities. For that is what is achieved in Best Theory by the telling locutions of science. Yet even if – and it is a non-trivial “if” – the statement of Best Theory is the ultimate goal of scientific theory, the language of Best Theory is too austere and remote from the ways in which the world strikes us, too far removed from the manifest image, to serve our needs to communicate: that is, our needs both to communicate to each other things about the world and to communicate to each other things about our attempts to discover those as we do in the practice of

science. But once freed from the correspondence conceit, and the unreconstructed metaphysical intuitions that sustain it, we have no need to demand too much of the truths that we utter in successful scientific communication. When we say, for example, that it is a law that all F's are G's, or that F-ness is counterfactually dependent on G-ness, and claim that we speak truly, we do not give a hostage to any project that requires that these sayings should be analysable in terms of, or are true in virtue of, the existence of ultimate objective similarities. Equally, when we say that lemons are essentially citrus fruits but not essentially yellow, we may speak truly by saying something that relates expressively to ultimate similarities other than by having the same semantic or metaphysical semantic content as a statement of any such similarities. Here is the beginning of a suggestion as to how that might be so.

The use of essentialist locutions is especially congenial when scientists are engaged in the practice of refining and broadening the similarities that we discern – progressing from phenomenological similarity to deeper underlying similarities that are similarities in respect of theoretical concepts in biology, chemistry and physics. Thus, we come to say that lemons are essentially citrus fruits but not essentially yellow as our confidence increases in our progression towards the discovery of the real natures of things. But confidence is not something that one naturally expresses by stating that one has it, and so the thought emerges that deployment of essentialist locutions is the expressive emblem of that confidence. Moreover, as we learn from the moral expressivist tradition, it is doubtful that our useful expressions are only epiphenomenal manifestations of attitude. Especially when we have emphasized the needs of scientific communication, it would be natural to attempt to develop an appreciation of that dimension of essentialist commitments in which we encourage others to do something. And so we arrive at the proto-thought that proclaiming the necessity of lemons being citrus fruits is to be understood in terms of its being an expression of confidence in our being in the right direction of travel in the search for real natures – and a recommendation of that research programme to others.

For those who would pursue along such lines a non-skeptical Quinean anti-realist narrative about metaphysical necessity, the following caveats ought to loom large. Firstly, we already have evidence that some ways of explicating metaphysical necessity via appeal to similarity have been rejected by Quine: thus his (1981c) critique of a (non-standard) analysis of necessity de re in terms of counterparts. Secondly, the elaboration of modal quasi-realism offered by Blackburn (1986) suggests that there may indeed be something special – and especially bad – about modal commitments. This relates to the conditions under which we acquire modal beliefs rather than those (as described above) under which we manifest them and the prospect of a deep incompatibility between modalizing and naturalism. Thirdly, the preliminary explorations of Quine (1969a) do not suggest that all locutions of dispositionality, counterfactuality etc. can be vindicated by establishing appropriate relations to the quest for ultimate objective similarities. So it would be prudent to hope for such vindication of only some, rather than all, essentialist locutions that philosophers would promote.

§IV Prologue

I am more sanguine about the consideration of Quine as a modal quasi-realist than I am about getting at metaphysical necessity through considerations about ultimate objective similarity. But I am most sanguine of all about our learning more about modality by continuing to study Quine in a constructive spirit than we do by putting aside his work as outdated and barren modal skepticism and looking elsewhere.

BIBLIOGRAPHY

Blackburn, S. (1984) *Spreading the Word*, Oxford: Clarendon Press.

- - - (1986) 'Morals and Modals', in G. MacDonald and C. Wright (eds.) *Fact, Science and Morality: Essays on A. J. Ayer's Language, Truth and Logic*, Oxford: Blackwell, pp. 119-42.

- - - (1993) *Essays in Quasi- Realism*, Oxford, Oxford University Press (1993, pp. 73-4).

- - - (1993a), 'Addendum to "Morals and Modals"', in S. Blackburn, *Essays in Quasi- Realism*, Oxford, Oxford University Press (1993, pp. 73-4).

Borghini, A. (2016) *A Critical Introduction to the Metaphysics of Modality*. London: Bloomsbury.

Burgess, J. (2008) 'Quinus ab omni naevo vindicatus' in *his Mathematics, Models and Modality* (Cambridge: Cambridge University Press): 203-35.

Carnap, R. 1947. *Meaning and Necessity*. Chicago: Chicago University Press.

Davidson, D. (1982) *Inquiries Into Truth and Interpretation*. Oxford University Press: Oxford.

Dennett, D. (1981), 'Three Kinds of Intentional Psychology', in R. Healey (ed.), *Reduction, Time and Reality*. Cambridge: Cambridge University Press.

Divers, J. (2007a) 'Quinean Skepticism About De Re Modality After David Lewis', *European Journal of Philosophy* 15.1, pp.40-62.

Divers, J. (2017). 'De Re Modality in the Late 20th Century: The Prescient Quine', in Sinclair, M. (ed) *The Actual and the Possible: Modality and Metaphysics in Modern Philosophy* (Oxford, Oxford University Press).

Divers, J. & Fletcher, J. (2018) "(Once Again) Lewis on the Analysis of Modality" in *Synthese* (forthcoming)

Field, H. (1989) *Realism, Mathematics and Modality*, Oxford: Blackwell.

Fine, K. (1994), 'Essence and Modality', *Philosophical Perspectives*, 8: 1-16.

- - - (forthcoming) 'Truthmaker Semantics' in *The Blackwell Philosophy of Language Handbook*. Blackwell: Oxford

Frege, G. 1884 *The Groundwork of Arithmetic*

Hylton (2007) *Quine*. Routledge: Abingdon.

Kripke, S.A. (1963) 'Semantical Considerations on Modal Logic', *Acta Philosophica Fennica*, 16: 83-94. Reprinted in L.Linsky (ed.) *Reference and Modality*, Oxford: Oxford University Press (1971: 63-87).

Kripke, S. (1980) *Naming and Necessity*. Blackwell:Oxford.

Kripke (1982) *Wittgenstein on Rules and Private Language*. Harvard University Press: Cambridge.

Lewis, D. (1974) 'Radical Interpretation'. *Synthese* 23 331-44.

- - - (1986) *On The Plurality of Worlds*. Oxford: Blackwell.

- - - (2001) Forget About 'The Correspondence Theory'. *Analysis* 61, 275-80.

Mackie, J. L. (1977), *Ethics: Inventing Right and Wrong*. London: Penguin.

Plantinga, A. (1974) *The Nature of Necessity*, Oxford: Clarendon

Quine, W.V.O. (1943) 'Notes on Existence and Necessity', *Journal of Philosophy*, 40: 113–27.

--- (1951) 'Ontology and Ideology', in *Philosophical Studies* 2, 11-15.

--- (1953) *From a Logical Point of View*. Harvard University Press: Cambridge, MA.

--- (1953c) 'Reference and Modality', in Quine (1953), 139–59.

--- (1953a) 'On What There Is', in Quine (1953), 1–19.

--- (1953d) 'Two Dogmas of Empiricism', in Quine (1953), 20-46.

--- (1960) *Word and Object*, Cambridge. MIT Press: MA.

--- (1969) *Ontological Relativity and Other Essays*. Columbia University Press: New York

--- (1969a) 'Natural Kinds', in Quine (1969), 114-38

--- (1970) *Philosophy of Logic*.

--- (1976) *The Ways of Paradox and Other Essays*, Revised edition. Cambridge, MA: Harvard University Press) (1976),

--- (1976a) 'A Logistical Approach to the Ontological Problem', in Quine (1976), 189-202.

--- (1976b) 'Three Grades of Modal Involvement', in (Quine 1976), 158-76.

--- (1981) *Theories and Things*. Harvard University Press: Cambridge MA.

--- (1981a) 'Response to Kripke' in Quine 1981, 173-4.

--- (1981a) 'Response to Cresswell' in Quine 1981, 179-80.

--- (1981c) 'Worlds Away' in Quine 1981, 124-8

Sider, T. (2011) *Writing The Book of The World*. Oxford University Press; Oxford.

Smullyan, A. F. (1948) 'Modality and Description', in *The Journal of Symbolic Logic*, 13: 113–27.

Van Fraassen, B. (1980) *The Scientific Image*. Oxford: Clarendon.

Williamson, T. (2013) *Modal Logic as Metaphysics*. Oxford: Oxford University Press.

Wright, C. (1992), *Truth and Objectivity*. Harvard University Press: Cambridge MA: