
Solvitur Ambulando. Meaning-constitutive Principles and the Inscrutability of Inference

WALTER B. PEDRIALI[†]

It is difficult to begin at the beginning. And not try
to go further back.

On Certainty, §471¹

The distinctive thesis of logical inferentialism is that the meaning of the logical constants is solely determined (as well as wholly exhausted) by their inferential role.²

In turn, their inferential role is taken to be specified by what I shall call Meaning-Constituting Clauses (MCC), the clauses, that is, that operationally specify the inferences that have to count as valid if the relevant expressions are to be assigned their intended meaning.³

The thesis is in the first instance a *meaning-theoretic* claim concerning the way in which the logical constants have the meaning they have. But it is also, inevitably, a thesis concerning how best to represent our logical beliefs (how best to model our beliefs regarding the connectives).⁴

Moreover, given inferentialism's strongly epistemic flavour (the meaning of the connectives is given by stating precise constraints that have to hold for movements to and from sentences containing them to be justified), it is natural to read the main inferentialist thesis as incorporating a claim about the epistemology of meaning and indeed of inference.⁵

[†]University of Stirling, FK9 4LA, Scotland, UK. Email: w.b.pedriali@stir.ac.uk.

¹I'd settled on this epigraph before noticing that it also inaugurates Horwich (2010a). I depart from his quietist reading of it, however.

²For doubts about the parenthetical claim see Dummett (1991, p. 205). In this paper, I limit myself to a discussion of logical inferentialism. Whether, and in what way, inferentialism can be generalised to all expressions in the language is a complex issue which I shall not address here. See Brandom (2009, p. 123) for discussion.

³I follow (and slightly) adapt standard terminology (and ideas) to be found in *e.g.*, Peacocke (1986, pp. 3, 12; ch. 4), Peacocke (1992, p. 19), Boghossian (2008a, p. 218), Horwich (1998, ch. 6) and (2005a, p. 142), Boghossian (2000, p. 249) and (2008d, p. 259), Eklund (2007, pp. 561–62), Peacocke (2008, p. 114).

⁴See for instance the discussion in Read (2004, p. 175).

⁵As Peacocke (2008, p. 26) correctly notes, inferentialism “aims to explain content in terms of what can *rationally* lead us to make a judgement with that content” (my emphasis).

Accordingly, I think it is fair to attribute to logical inferentialists, especially to the (substantial) extent that they see themselves as giving a *proof-theoretical* (and *use-based*) semantics,⁶ (at least) the following three claims regarding MCC.

Firstly, and in contrast to the standard reading of the Tarskian clauses for the connectives, MCC are said to be *non-representational*.⁷ On the inferentialist story, that is, the notions of truth and reference do not have explanatory priority in the determination of the semantic properties of the target expressions. What matters, rather, is the inferential role of the expressions involved, as specified in the MCC.

Secondly, MCC are *self-justifying*, in the sense that they are said not to admit (or require) further grounds for us to be justified in holding them to be valid.⁸ Note that the claim that MCC are self-justifying does double duty: it (supposedly) blocks any justificatory regress, whilst also securing the autonomy of logic—no extra-logical grounding is required to guarantee the epistemic good standing of the privileged MCC.⁹

Lastly, their meaning-constitutive character entails that there is an *Understanding-Assent Link* (UAL) from grasp of their content to the possession of a disposition to assent to them (or unconditionally to infer according to the specifications contained therein).¹⁰ Note that UAL are not an optional component in the inferentialist account, for they play an essential role in explaining both the sense in which MCC are self-justifying and the sense in which MCC are properly said to be meaning-constituting. In short, UAL are supposed to be mapping the royal road from the meaning-constitutive character of MCC to their self-justifying status.¹¹

On the inferentialist view, then, the meaning of the logical constants grounds not just our knowledge of basic logical laws but it also provides the structural basis on which our linguistic competence rests. We are competent with the connectives, we understand them properly, only if we are disposed to infer according to the MCC specifications.

In addition, MCC also furnish us with *the* explication of how we are *moved* to infer under specific constraints, and indeed of how we can do so in a fully

⁶See *e.g.*, the discussion in Read (1988, ch. 9), the survey article Sundholm (1989) and the classic post-Gentzen formulations in *e.g.*, Dummett (1973), Dummett (1991), Prawitz (1978), Prawitz (2006).

⁷See *e.g.*, Brandom (2000, ch. 1), Read (2010, p. 558). One can read the non-representationalist label in two ways: *i*) logical expressions do not make a representational claim about ways the world is (or must be); *ii*) logical expressions mean what they do, not in virtue of determining a particular truth-function but rather in virtue of determining specific reasoning modes. I take the latter to be the sharper (and more appropriate) reading.

⁸See *e.g.*, Read (2000, p. 124) and Read (2010, p. 558).

⁹See *e.g.*, Read (2000, pp. 123,131), Read (2010, p. 558).

¹⁰The UAL terminology comes from Williamson (2007, p. 74). Its ancestor is probably Peacocke (1992, p. 19).

¹¹The claim that meaning is constituted by an inclination to accept certain paradigmatic instances of a particular schema is not exclusive to inferentialists. For instance, Horwich (2010b, p. 6) argues that the meaning of the truth predicate is constituted by our inclination to accept instances of the Equivalence Schema ($\langle p \rangle$ is true $\leftrightarrow p$). What is distinctive to inferentialism is precisely that the claim about inclinations is inextricably linked to the claim about justification (by contrast, Horwich does not accept the latter claim).

rational manner (that is, even in the absence of anything that could count as *evidence* in favour of the legitimacy of our most basic inferential steps).

Accordingly, MCC are said to provide a neat account of the cognitive architecture of our inferential practices by means of a bridge principle from competence *qua* semantic understanding to performance under normative constraints in actual reasoning, a principle (the appropriate UAL) that is indeed constitutive of the meaning of the logical constants.

My purpose in this note is to rehearse and try to address challenges (both familiar and unfamiliar) to the last two claims. I will however conclude that inferentialism cannot succeed in giving a proper (and exhaustive) account of the architecture of inference because the three claims above are jointly inconsistent with the meaning-theoretic aims of inferentialism.

1 Epistemic Conceptions of Meaning and Understanding

To the extent that it takes seriously its leading claim that the meaning of the connectives is determined by the conditions for their *justified* use, inferentialism can be seen as endorsing an epistemic conception of meaning.¹²

In addition, inferentialism is also committed to a particularly strong version of the epistemic conception of linguistic understanding (EPU) with respect to meaning.¹³ On this view, to understand an expression is to know its meaning.¹⁴ More precisely: we understand an expression only if we know its meaning.¹⁵

Now, there is a class of sentences for which EPU forces a stronger commitment. Analytic sentences, we are told, are such that on grasping their meaning we *eo ipso* grasp their truth value (truth in the case of analytic truths, falsity in the case of counter-analytic falsehoods).¹⁶

From there, it's only a short step to the meaning-constitutive proposal canvassed by the inferentialist. In the case of the MCC for the logical constants, that is, understanding plays an even greater role. It's not just that understanding their meaning goes hand in hand with assenting to their truth (or rather, their validity). The claim now is that you also acquire, *purely in virtue of that understanding*, an unconditional disposition to infer according to the specifications therein contained.¹⁷

¹²See Skorupski (1997a) for discussion of that conception.

¹³Here I adapt terminology from Pettit (2002, p. 521).

¹⁴The classic statement of EPU is in Dummett (1996, p. 3). See also his (1991, ch. 4) and Platts (1979, ch. II). See Longworth (2008, 2010) for further discussion.

¹⁵Pettit (2002, p. 521) formulates the EPU thesis too strongly (as a bi-conditional). There are reasons to resist the right-to-left direction. See *e.g.*, Peacocke (1976, p. 170), Fricker (2003, p. 332) and Williamson (2000, p. 110, fn. 4). Pettit himself attacks the left-to-right direction. See Gross (2005) and Pettit (2005) for further discussion. Prawitz (1978, p. 30) explicitly endorses EPU. Boghossian (2008c, p. 226) draws some useful EPU-related distinctions.

¹⁶This is of course the modern, post-Kripke conception of analyticity. See *e.g.*, Boghossian (2008a, p. 198), Boghossian (1997, p. 334), Boghossian (2008c). See Williamson (2007, ch. 4) for criticism.

¹⁷A reader of Williamson (2003) and Horwich (2005a) might be tempted to conclude that the principal (and perhaps the only) target of their attack is Boghossian. But as *e.g.*, the discussion in Prawitz (1978, p. 27, 30) shows, the competence/performance bridge from understanding to dispositions is a key commitment of inferentialist theories of meaning (at least of the Dummett/Prawitz variety).

This is one (perhaps *the*) sense in which MCC are self-justifying. When challenged on the good standing of a particular inferential move, reasoners need do no more than cite the appropriate MCC. If they are to mean, say, the conditional by ‘if... then...’, then they have to be disposed to infer according to the relevant MCC—say, conditional proof, or *Modus Ponens* (MPP). Conversely, they infer according to MPP because they attach the canonical meaning to ‘if... then...’.¹⁸

So far so good. Or rather: it is clear that there are several trouble spots in and around EPU. But at least we can now see where inferentialism is coming from. On this proposal, we have a promising way of addressing the traditional difficulties in locating the source(s) of our *a priori* and analytic knowledge by locating them in linguistic understanding.¹⁹

The *ur*-thought here is that we have a good grasp, or so it seems, of the notion of understanding the meaning of the expressions of the language we have mastered. By grounding basic logical knowledge (BLK) in semantic competence with a privileged class of expressions (the connectives), we can conveniently bypass the familiar (and formidable) problems associated with other candidate explanations of that knowledge, namely, appeal (more or less desperate) to rational insight or the justificatory regress that awaits us as soon as we attempt to justify BLK by means of *further* inferential knowledge (*i.e.*, knowledge that itself involves inference).²⁰

Before we proceed, let me note in passing that the proper way to read the inferentialist project is as one of (Carnapian) *rational reconstruction* of our inferential practices. The inferentialist, that is, is giving an account of what we get up to when we reason according to, say, MPP, such that we can be *described* as reasoners acting under rational constraints at all times, regardless of whether or not it is appropriate to credit us as accessing, again at all times, the conceptual resources deployed in the theoretical reconstruction of our reasoning moves.

The crucial point here is that the sort of conceptual sophistication posited on the inferentialist model is not one possession of which is *necessary* for competence. It *is* however a necessary condition on the availability of *reflectively*

¹⁸That Boghossian intends to secure justification for our BLK by means of understanding-based analyticity is clear from *e.g.*, Boghossian (2012, pp. 224–5).

¹⁹While inferentialism entails some form of EPU, the converse does not hold. Peacocke’s (2008, p. 158) rationalism, for instance, is certainly committed to the view that “semantic understanding is the source of the thinker’s appreciation of the logical validity of the logical axioms (and the primitive rules)”. At the same time, Peacocke rejects proof-theoretic accounts of that understanding, and proposes it be grounded instead on the standard notions of truth and reference as employed in familiar truth-conditional approaches.

²⁰The shape of the dilemma is efficiently rehearsed in the openings of *e.g.*, Boghossian (2008d), Hale (2002) and Wright (2002, 2004a). See also Peacocke (2008, p. 158) for an interesting suggestion. Let me note here that Boghossian’s (2008a) defence of the epistemic conception of analyticity has the merit of making manifest the underlying commitments incurred by inferentialism, in particular its reliance on semantic understanding as the crucial engine of its distinctive meaning-theoretic claims. Boghossian (2008a, p. 210) pays due tribute to Coffa (1991) for elegantly tracing the emergence of the ancestors of this view back to the logical positivists. Horwich (2005a, 135, fn. 3) speaks of views of this sort (from Hilbert to Peacocke and Wright and Hale) as *semantogenetic* accounts of basic epistemic norms.

appreciable warrant for our reasoning modes that it be accessible to (and indeed *actually* possessed by) the reflective subject.²¹

While this move ensures that the objection to inferentialism in *e.g.*, Williamson (2007, p. 97) (roughly: that the ordinary notion of semantic understanding with respect to an expression is not uniquely realised) is quickly despatched, the fact remains that the difficulties for the inferentialist arise *already* at the level of the rational reconstruction project, as we shall see in §6. So much so that it would already be an achievement if *those* difficulties could be neutralised. It would then be a task for another day to address externalist worries about the proper accounting of the employment by children and non-human animals (or even ordinary thinkers) of basic modes of reasoning that, on too strong a reading of the internalist/inferentialist model, might seem not to be plausibly attributed (or accessible) to subjects lacking the required meta-conceptual sophistication.

Now, the theorist formulating the appropriate MCC must resort to conceptual sophistication for (at least) one reason. The inferentialist cannot boldly go conventionalist and allow that any old MCC will determine a meaning for the target connective. On the contrary, she must insist that MCC aim to capture a privileged class of connectives that respect certain well-specified proof-theoretical properties, a class, moreover, grounded in our best reasoning practices.²²

This move is required so as to address the notorious challenge posed by Prior's (1961) *tonk* connective that threatens the explanatory priority claim made by inferentialists. Given that claim, it might be thought that any pair of introduction/elimination rules would determine a meaning and that any thinker who understood those rules should find them compelling. And yet the reaction to the *tonk* rules is one of repulsion,²³ for observing those rules would precipitate the understander into complete reasoning paralysis.

The upshot is that the inferentialist thesis needs to be appropriately restricted so as to screen off any connective whose meaning is (allegedly) determined by rules of inference that no sane reasoner would (or *could*) employ.²⁴

²¹See Wright (2002, p. 59), Boghossian (2008d, p. 259) and Boghossian (2008b, p. 270). There is a similar distinction mooted in Peacocke (1992, p. 29) between *attribution* and *possession* conditions for concepts. We can attribute concept-involving beliefs to agents lacking full possession of a given concept. Such agents would entertain concept-involving attitudes that are *deference-dependent*—their conceptual/linguistic competence necessarily involves willingness to defer to the experts in the community. As we shall see, the distinction won't help parrying the main Horwich-Williamson objection against UAL. Moreover, in my view appeals to deference are for the most part idle. We are simply replacing the inscrutability of reference (or in this case: the inscrutability of *inference*) with *the inscrutability of deference* (the hard problems arise *even when we try to account for an expert's concept-possession*). There are other distinctions in the literature that can be invoked to provide a rational reconstruction reading of inferentialism. For instance, Higginbotham's (1998a, p. 150) distinction between concept possession and conceptual competence (we can possess a concept in the absence of an adequate conception of it: see also a parallel distinction at the linguistic level in Higginbotham (1998b, p. 430)), and the cognate distinction between implicit and explicit conceptions of a concept defended in Peacocke (1998).

²²Dummett (1991, ch. 9, 10) is essential reading here.

²³Indeed, to (mis-)paraphrase Peacocke (1992, 6), *tonk* rules are *primitively repelling*.

²⁴Note that the inferentialist must be careful to formulate the formal properties that block overgeneration (*e.g.*, conservativeness, harmony, invertibility and so on) in terms that keep proof-theoretic notions as explanatorily prior to truth-theoretic ones.

Ideally, the restrictions will be formulated by identifying *proof-theoretical* properties wholly internal to the MCC involved in a manner that would show, *via essential appeal to their epistemic goodness*, that the MCC satisfying those properties are *precisely* those that are grounded in our reasoning practice.²⁵

If the inferentialist were to succeed in this dual task, we would then have, at last, a *purely* proof-theoretic explanation of *why* the connectives that we *do* employ in our practice are in fact *rationally* grounded.

The meaning-constituting thesis, then, would be shown to apply only to those connectives that are so basic to our thinking as to be, as it were, *architecturally* beyond challenge, as well as constitutively inalienable. And again all of this would be captured in purely proof-theoretic terms.

It would then follow that, properly speaking, meaning-constituting clauses are, rather, to be construed as *practice-constituting* clauses. Only those MCC that determine a meaning for those connectives that alone can determine a genuinely rational reasoning practice are to be accepted as truly *meaning-constitutive*.²⁶

2 MCC, Normativity and Rationality

We have seen how, on a broadly inferentialist story, semantic (and/or conceptual) competence provides the grounding for our BLK. Semantic competence does more than that, though. For it also grounds the (standardly made) claim that logic is a normative discipline.²⁷ Logic, that is, is supposed to be the science of reasoning: or rather, the science of *good* reasoning.²⁸

From that perspective, what the MCC for the connectives do is lay down the standards of inference that mark out correct from incorrect reasoning. To reason correctly is to follow the MCC specifications. Mistaken reasoning is reasoning contrary to those specifications.

²⁵See *e.g.*, Read (2000, 2010) for discussion of the precise profile of those properties and Read (1988, 187) for some philosophical motivation. Boghossian (2008d, p. 262) (and elsewhere) attempts to screen off overgeneration problems via an appeal to the representational properties of the concepts involved (only concepts capable of being used for representational purposes can be genuinely meaning-constituting). That seems to me to be a mistaken strategy for an inferentialist to take. For what is left now of the non-representationalist claim?

²⁶It is a vexed issue whether *e.g.*, *tonk*-rules (and inconsistent rules in general) constitute a meaning (Boghossian denies they do) or whether they do fix a meaning to which, however, no practice could correspond (whether they point to co-ordinates in logical space that do not exist at all, as *Tractatus* §3.032 would put it). Wright (2002, pp. 62–65) discusses the more subtle case of a Frege-derived Basic Law V-like *course-of-values* operator. Other problematic examples include the naïve truth-predicate and the naïve comprehension principles in set theory. A strategy that has gained much attention lately is going for an inconsistentist theory of meaning. See *e.g.*, Eklund (2002), Patterson (2007b,a), Azzouni (2006, 2007), Scharp (2007), Armour-Grab (2007).

²⁷Indeed, perhaps *the* normative discipline *par excellence*. For a recent discussion of the claim that logic is normative see Field (2009) and Milne (2009).

²⁸See *e.g.*, the textbook definitions in Shoenfield (1967, 1), Lemmon (1965, pp. 4–5), Toulakis (2003, p. 1), Hedman (2004, p. xii) and Restall (2005, p. 1). See also *e.g.* Shoesmith and Smiley (1978, p. x), van Benthem (1995, p. 271) and Dummett (1981b, 15). Others, *e.g.*, Harman (1999, pp. 28, 46), disagree.

MCC, then, also convey principles of normative governance for our reasoning, principles that encase norms of correct inference and they do this purely on the basis of their semantic properties.²⁹

Now, it has become standard to define rationality as responsiveness to reasons.³⁰ But rules are reasons of a certain kind—that’s why they have normative import for us.³¹ And rules-as-reasons generate standards-setting *oughts* in suitably responsive beings.

In particular, the MCC for the logical constants set the most basic norms of reasoning and to be rational is to respond appropriately to their content. That is, MCC provide standing reasons to warrantably infer according to a specific pattern. Recognition of those reasons provide a motivating reason to infer accordingly. MCC are thus also *mandate-conferring* and they are so to the extent that the validity of the specified mode of reasoning directly and immediately flows from the meaning stipulations.

On apprehending the rule (on realising what it asks of *us*), we apprehend its validity and hence we apprehend the mandate that the rule confers on *reasons-recognition*. If you recognise that there are grounds for asserting the premises, you must also recognise, given a recognition of the reasons *additionally* provided by the rule, that those very same grounds are grounds for asserting the conclusion.

I emphasised ‘additionally’, for here lies in wait a vicious regress, made famous by Carroll (1895).

3 The Carroll Regress

In a way, the regress problem (CR) highlighted by Carroll in that note is perfectly general. It affects (just about) any judgement we might make, not just judgements concerning validity. The difficulty, that is, is that any judgement—or any thought, as Frege (1906, p. 174) observed—³² always projects from the particular to the general, from the case at hand to a wider more encompassing generality. If the question of justification is raised with respect to the legitimacy of the projection, the regress looms.

²⁹The claim that meaning is normative is normally traced back to Kripke (1982) (but see also Wright (1980, p. 19). The challenge against that claim started with Bilgrami (1992, pp. 110–113) and continues in *e.g.*, Glüer and Pagin (1999), Wikforss (2001), Glüer (2001), Boghossian (2008b,e), Horwich (2005b, ch. 5, 6), Hattiangadi (2006, 2008), Glüer and Wikforss (2009). For a recent defence of the normativity thesis see Whiting (2007). See also the discussion between Ginsborg (2012) and Haddock (2012). I lack the space to defend the normativity thesis on behalf of the inferentialist here. Very roughly, my view is that we can resist the anti-normative attack by appealing to a distinction between semantic norms of *expectation* and norms of *fulfilment*. The former, but not the latter, impose purely semantic obligations with respect to conditions of use. Here I’m taking a cue from remarks in Husserl’s *Sixth Investigation* (2001, ch. 1, §10), Heyting (1983, pp. 58–9), Wittgenstein (1930, §33) and (1953, §445). Soames (1991, pp. 215ff.) discusses an idea by James Higginbotham along similar lines. Smith (1994, pp. 85–7) speaks of expectations with respect to moral norms. For the purposes of this paper, I shall take it for granted that the sceptics’ attack can be resisted.

³⁰See *e.g.*, Scanlon (1998, ch. 1), Raz (1999, p. 11), Owens (2000, p. 3), Skorupski (1997b, 2010) and Parfit (2011, ch. 1).

³¹Raz (1999, p. 67).

³²As Dummett (1981a) established, Frege’s *Kernsätze* are a response to Lotze’s *Logik*.

More specifically, the form the regress takes for an account of inference is the following. We start with the question of what justifies a movement in thought. Externalists (and Tarskians) will answer: the *fact* that the inference is valid. That answer is not available to the inferentialist, though. The meaning-determining rules are rules for *use*: it is their *actual* role in inference that determines meaning, and they earn their keep in virtue of their being self-justifying. The inferentialist, then, can only give an internalist answer: what justifies the movement mandated by the MCC, from the thinker's perspective, is the thinker's *awareness* that the inference is valid (*i.e.*, that it is an instance of a valid pattern of reasoning, that the MCC one has implicitly consulted is a *good* one, and not a bad companion).³³

Accordingly, the recognition of the reasons that justify one in drawing the inference must include the recognition that the rule is valid *and* that the instance at hand is an instance of the premises. On standard views the rule, however, does not provide a reason to believe in its validity.

And now the CR can get started. For before we can move to the conclusion of an inference, we must also recognise an *additional* reason, one that incorporates the judgement concerning the rule's validity and of what follows from that recognition: namely, that *if* the two premise-reasons are recognised, and if one accepts/recognises the validity of the rule, one may *then*, and only then, infer to the conclusion via an application of that rule.³⁴

To sum up, the epistemic architecture of validly drawn inference as responsiveness-to-reasons requires the recognition of three things.³⁵ We must recognise that the rule of inference we may cite to justify the move is valid; that the instance under consideration (the premises) is indeed an instance of the general pattern stated in the law (in the case of MPP, the minor and major premise) *and* that we have a *further* standing mandate such that *whenever* we accept the validity of the law while also recognising the instance in front of us as a genuine instance of the premise-pattern, we are then entitled to move to the conclusion.³⁶

³³Note that this requirement is in fact non-negotiable for the inferentialist: for the MCC to genuinely determine a meaning, they must be self-justifying, they must provide all the material required for their justification and that of their employment. Under inferentialism, there is no separating the question of what justifies a logical law from that of what justifies a move sanctioned by that law.

³⁴Russell (1903, §45) spells out the regress in more or less this form and credits its origin to Bradley's *Logic* (1883). Elsewhere, §38, Russell discusses the Carroll Regress explicitly (or implicitly, as in *Principia* §*2.38). The Regress plays also a crucial part in Quine's (1966b, p. 104), (1966a, p. 115) attacks on conventionalism about logic.

³⁵Recall that we are engaged in a process of rational reconstruction. We are asking what makes properly conducted inference a rational process. Correct reasoning may of course occur in the absence of (explicit or implicit) reasons-recognition properly so-called.

³⁶I suppose those who find Carroll's Tortoise "a familiar subject of ridicule" (Hawthorne, 2004, 39) will resist the idea that *all* these requirements must be in place for an inference to be legitimately drawn. I submit they have failed to take the full measure of the regress. Far from being a ridiculous request, the Tortoise's demand is perfectly proper. We must recognise the rule as valid for it to count as a *reason* to infer to the conclusion. But the MPP rule is silent regarding both the *need* to accept the rule itself and the fact that the rule is itself a reason. Hence the regress.

The problem, clearly, is that the third step is both necessary and regress-inducing, since it is itself, as just noted, a *further* law of reasoning that we must *also* accept.³⁷ Citing that law will however trigger the regress to a further conditional, and so on. The pattern pointed out by Carroll's tortoise, then, is one that generates ever-increasing inferential complexity as a pre-condition for carrying out the simplest inferential task.³⁸

Note that the problem for the inferentialist derives from the fact that the MCC-rules were meant to be self-justifying, that is, meant to provide *all the material* required for constructing a piece of practical reasoning terminating in an intention (or an expectation) to infer (whether or not fulfilled).

What the Regress shows, however, is that it is impossible finitely to state MCC that satisfy these requirements. The upshot is that there is no finite axiomatisation available for our *reflectively controlled* inferential practices. If rationality is responsiveness to reasons, it seems as if, given inferentialism, it can only be responsiveness to *infinitely many* reasons *all at once*.

4 Regress-Stopping Moves

What can the inferentialist say in response? Let me first note that given the inferentialist perspective, the most common response to the CR—that the Regress teaches us the distinction between axioms and rules—would be no help at all.³⁹ Why? Because that distinction leaves the main point of the CR unanswered.

As the Tortoise mockingly tells Achilles, everything logic tells us must be worth writing down (or in our current terminology: every reason that we must recognise for our inferences to be validly drawn must be stated as a premise).⁴⁰ Only what can be written down in a formally unexceptionable manner can *force* us to reason according to the canons of logic. But what the Regress teaches us is precisely that we cannot fully articulate all that is required for inference on pain of infinite regress. The rules spelt out in the MCC are thus motivationally

³⁷I think the problem actually already starts from the demand that the validity of the rule be recognised. The rule itself will typically only give instructions as to what one might do, given the existence of grounds for asserting the premises. It merely spells out the consequences of those premises.

³⁸The neatest rehearsals of the regress problem for the inferentialist is in Wright (2002, §12). The suggestion at fn. 17 is highly promising. We could perhaps block the regress by positing an axiom schema *of the same form as* MPP, generating infinitely many instances of ever-more complex conditionals. This would give us an axiomatisation for our inference-drawing practice but at the cost of making it, as Wright (2001, 74) has noted, an inferential *supertask*.

³⁹Priest (1979, p. 291) draws the distinction in terms of the rules/beliefs contrast: the latter provide content, the former structure to the architecture of inference. This is surely right but it still leaves unanswered the question of what justifies a particular move. Priest (2002, p. 45), like Dummett (1973, p. 454), goes externalist: validity facts justify without being part of the overt premise-structure of an argument. But this confuses internal and external reasons, propositional and doxastic justification and also leaves obscure why recognition of premise-reasons should suffice to justify the move to the conclusion. To be fully rational, the reasoner must recognise the premises as *structured reasons*, instances of a valid pattern of inference. The puzzle remains, and the distinctions standardly invoked merely re-name the problem.

⁴⁰Curiously enough, Frege anticipated the CR (in *Begriffsschrift* §13, as Sullivan (2004, p. 685) has noted) while also insisting on a requirement that actually triggers it, namely, that “what is essential to an inference must be counted as part of logic” (Frege, 1980, p. 79).

inert, they do not provide sufficient reason to infer. As soon as we *reflect* on what the rules are *really* asking of us, we realise we would need one further rule to make the examined rule effective.

So, the standard response to CR is a non-starter. Equally unpromising is the proposal sketched by Wittgenstein at *Tractatus* §5.132, one whereby we are invited to avoid the detour via generality altogether. In inference, the proposal goes, we do not appeal to general laws to sanction a particular move. The justification for a particular move from premises to conclusion is evinced from the relation holding between the particular premises and the conclusion. The relation is wholly internal to the propositions on either side of the turnstile. There is no relation external to the particular inference, joining it up to a general schema. Any appeal to rules of inference would thus be superfluous.⁴¹

Now, a first problem with the suggestion is that the idea is clear in outline, but opaque in application.⁴² Nothing is said, beyond metaphorical appeal to visual vocabulary,⁴³ to make good the proposal, to give *some* indication of how facts about validity, whether local or global, could be apprehended in a way that does not involve inference (or grasp of propositional content).

More seriously for our concerns, the rational insight proposal (whether or not implemented with a Tractarian flavour) is also profoundly inimical to inferentialism, because, exactly as Wittgenstein intended, it would simply make MCC wholly redundant. Grasp of validity would no longer be given a semantogenetic explanation. On this proposal, we do not infer as we do because of our general mastery of the meaning of the connectives but rather because we can *see*, in a *particular* case, that a set of premises does entail a given conclusion.

Nor could MCC be claimed to be self-justifying under this suggestion. Our apprehension of BLK would rather be explained via an appeal to some faculty of rational insight, perhaps construed as a logic faculty, possibly along lines similar to the Chomskian appeal to a language faculty.⁴⁴ But once again, that would make MCC redundant (the logic faculty would pick out patterns of inference *directly*).

⁴¹There are interesting (but far from exact) parallels here with the ethical particularism of *e.g.*, Dancy (2004). Perhaps the label *logical particularism* would be appropriate for a view of this kind.

⁴²Wittgenstein argued that once properly regimented (*i.e.*, via a translation into a language containing the Sheffer stroke as its only connective) the premises-conclusion relation would be immediately apparent. As far as I can tell, applied to the case of MPP, the inference would look like this: $((\varphi | (\psi | \psi)) | \varphi) | ((\varphi | (\psi | \psi)) | \varphi) \vdash (\psi | \psi) | (\psi | \psi)$. Hardly the most pellucid way to represent a rationally compelling mode of inference!

⁴³See Wittgenstein (1998, 100) and *Tractatus* §5.13 and §6.122. See also Russell (1903, §45). Proops (2002) has a useful discussion of this issue.

⁴⁴Hanna (2006) develops a book-length approach to this issue, an approach he calls “logical cognitivism”, that posits the existence of a logic faculty whereby we grasp, more or less directly, facts about validity. The problem of course is that the sort of normativity we require for logic ought to be *invariant with respect to contingent dispositions*. See also Hale (2002, p. 298). In discussion at the conference on the *a priori* at the Northern Institute of Philosophy in Aberdeen in June 2012, Boghossian disclosed that he has somewhat relented his long-standing opposition to the notion of rational insight.

5 Understanding, Again

Rational insights, or other forms of quasi-perceptual stories, then, are no friends of inferentialism. Accordingly, to escape the CR the inferentialist seems to have no other option but to go for an account whereby we do have “spontaneous normative responses” in particular cases,⁴⁵ but where those responses can be traced *in their entirety* back to *purely semantic* properties.

In other words, under pressure from the CR, the inferentialist is naturally drawn to her third claim, the one concerning UAL.⁴⁶ Given UAL, understanding the meaning of the connectives generates an *immediate* compulsion (more cautiously: a standing disposition) to infer to the conclusion of the appropriate inferential steps. The result is that the semantically-engendered disposition neatly side-steps the regress. We are justified in moving to the conclusion by the mere grasp of the meaning of the connectives. Why? Because to understand the MCC is to *know* that the rule therein encased is valid (that’s EPU again). A regress-inducing detour via a general schema is no longer needed. One infers with justification *purely on the authority of the language*.

Are we then home and dry? Not quite. Here is the next problem for the inferentialist.

To escape the CR and preserve the self-justifying claim with respect to the MCC, the inferentialist has had to insist that understanding and acknowledgment of validity are co-occurrent phenomena. And now the trouble is that it seems as if we can make perfect sense of cases where full understanding of the MCC goes in hand in hand with refusal to infer in accordance with it, and indeed with the denial that the MCC is valid.

6 The Deviant Logician Objection

What causes trouble for the inferentialist, that is, is that perfectly competent logicians who reject the validity of a given logical law (or its corresponding rule of inference) can (perhaps) be convicted of many things but not of lack of *understanding*. Call this the Deviant Logician Objection (DLO).

The hardest (and most oft-quoted) case of all is that of McGee (1985).⁴⁷ It seems clear that no-one could seriously doubt McGee’s competence with the

⁴⁵As Skorupski (1997a, p. 31) usefully puts it in connection with the rule-following paradox.

⁴⁶Could the inferentialist instead go for some version of the entitlement account as detailed in *e.g.*, Wright (2004b)? I do not think so. Entitlement could not support the self-justifying claim in the desired manner—the warrant that entitlement could provide requires buttressing by wider considerations, mostly of the pragmatic variety.

⁴⁷It is sometimes said that McGee was challenging a thesis about the semantics of natural language (how best to model the ‘if...then’ connective) or that he was merely challenging the transmission of assertibility conditions under known entailment. This is not the case at all. McGee (1985, pp. 462, 463, 468, 469) is specifically targeting the claim that MPP is a valid law of inference. That’s what makes the case so awkward for the inferentialist. The DLO has become familiar in the literature after Williamson (2003), but as far as I can tell it was actually first raised as a problem for inferentialism and conceptual role semantics by Horwich (1998, ch. 6) and Horwich (2005a). The exchanges between Williamson (2003, 2011) and Boghossian (2008b, 2011, 2012) brought the issue into sharper focus but also raised a lot of dust (in particular the discussion about conjunction seems like an unwanted accretion of epicycles). As Boghossian has recently conceded, again in discussion at the NIP conference in June 2012, the hardest case is indeed McGee’s and that’s the only one I’ll be discussing here.

conditional. Nor could we invoke deference mechanisms either, or appeal to incomplete understanding—McGee *is* an expert to whom the community had better defer in matters of competence with the conditional. And yet he does not accept that MPP, wholly unrestricted, is a valid law of reasoning.⁴⁸

More generally, the problem for inferentialism is two-fold. Firstly, we have the joint claims that use fixes the meaning of a connective and that competence is manifested by assent to the MCC. This entails that anyone who challenges aspects of use (denying, say, that the conditional satisfies the law of exportation; or denying that MPP applies to conditionals containing embedded conditionals) is talking about some *other* connective (there is no common object of the understanding shared by the participants to the dispute).

The only way for the inferentialist to account for logical disagreement would then be to insist that classical and deviant logicians are trying to elucidate one concept and one concept only (*the* conditional).⁴⁹

This move would however force externalism on inferentialism, and the distinctive meaning-theoretic thesis of inferentialism would not survive (something other than the proof-theoretic specifications in the MCC determine *which* connective we are talking about).⁵⁰

Secondly, it is a crucial plank of the Prawitz/Dummett view that there *are* canonical ways of specifying the meaning-determining rules. In particular, to individuate the meaning of a connective there must be precisely specified modes of reasoning that both define its semantic content, and unconditional assent to which classifies speakers as competent.

But as Putnam (1978, p. 99) noted long ago,⁵¹ not every change of use entails a change of meaning. And this is due (largely but not exclusively) to the fact that there are no canonical specifications for understanding. It follows that variations (even radical) in patterns of use may leave (ordinary) competence attributions unimpaired.⁵²

In the case of logical terms, the problem is particularly acute, for it seems an

⁴⁸Hale (2002, pp. 290–1, fn. 18) suggests that the MPP-UAL should be formulated for suitably simple inferences of the kind that McGee could *not* object to. Sure. But the UAL claim concerns *validity*, truth-preservation in *all* cases. The disagreement is precisely as to whether we *should* restrict MPP. And it seems rational to *raise* that question, a question that is however strictly *unthinkable* on a fundamentalist reading of inferentialism.

⁴⁹Read's (1988, p. 155) response to the meaning-variance argument is that we can provisionally fix the reference of a logical constant by means of beliefs about its inferential properties. Once the reference-fixing job has been done, we can then proceed to criticise any of the beliefs involved in that job. The suggestion is intriguing but ultimately it seems to me that it underestimates the force of the argument. If the inferentialist concedes that we can *alter* any of our beliefs regarding a connective without affecting the identity of that connective, then she has already renegaded on the key inferentialist claim concerning meaning-determination.

⁵⁰I assume here that content is individuated in terms of (settled) meaning stipulations. Martí (1998, 166) makes a similar point in her discussion of Higginbotham (1998a). In Quine's (1970, p. 81) terminology, the point is that if we insist that there is an 'essence' to a concept (the conditional, in this case) which we may possess imperfectly, we are thereby abandoning the inferentialist thesis that there can be *no more* to concept individuation than settled dispositions to infer.

⁵¹The argument(s) in full are in Putnam (1975). See also Williamson (2007, ch. 4).

⁵²I think Williamson's cases do strain credibility somewhat. But the basic point is solid. We do not cease to understand a connective as we raise doubts, whether or not sound, as to validity.

essential part of the history of logic that we *do* in fact test meaning-stipulations to ensure they deliver the desired results. And pressure towards logical revision (or deviancy), and doubts as to validity (whether prolonged or casually entertained, as one experiments with recreational logics) should not be seen as weakening *in any way* one's understanding of the target connective.

Matters, however, are even worse than that for the inferentialist. For leaving logical deviancy aside, it seems a key *requirement* of rationality that it be possible to *entertain* doubts about the validity of a logical law and it seems absurd to claim that *as we entertain those doubts* our *understanding* lapses.⁵³

When we doubt, when we *wonder* whether a logical law holds, it seems imperative that we be able to assess the validity *precisely of the law under scrutiny!* When (or if) we recant, and recognise that the doubt was not rationally held, that very recognition must arise *with respect to the connective in question* and no other.⁵⁴

But if any doubt raised about validity equates to meaning-change (as the inferentialist committed to UAL has to say), it seems impossible to even *test* a law for validity.⁵⁵

On the inferentialist story, any time we call a law into question, *merely* into question, our understanding lapses. And it's not just that, as Quine would have it, we are talking about something else.⁵⁶ Rather, if inferentialism is right, in cases of this kind, we do not even know *what* we are talking about any more. On this account, we slip in and out of understanding as doubts about validity are raised and quelled, surely an undesirable result.⁵⁷

The trouble for the inferentialist here is that to respond to the CR (and to hold on to the self-justifying claim) she had to eliminate *any* gap between understanding and disposition to infer (between grasp of meaning and judgement regarding validity). But by doing so, she has now to face the contrary need

⁵³To generalise a point made in *e.g.*, Korsgaard (1996, p. 93), it is a distinctive requirement of rationality that we possess (and exercise) a capacity to *distance* ourselves from our beliefs, no matter how basic *they* may be. And yet, the inferentialist commitment to UAL robs us precisely of that capacity. In other words, *temporary* rational doubt that leaves the object of understanding unchanged *must* be possible. But this is precisely what UAL denies could *ever* happen.

⁵⁴Incidentally, let me note that we should distinguish between the rationality of doubting a logical law and the rationality of raising the question whether that law could be doubted.

⁵⁵Indeed, it seems impossible even to make sense of the very idea of something (some *one* thing) being *beyond* rational doubt.

⁵⁶As is familiar, the so-called meaning-variance argument originates with Quine (1970, ch. 6).

⁵⁷In his presentation at the NIP conference referred above, Boghossian retrenched his position, doubtlessly because of this objection. He now thinks that understanding generates an *attraction* towards the mode of inference sanctioned by the MCC. It is not clear whether he thinks of the inclination as *entailed* or as *constitutive* of the understanding, or even as causally triggered by MCC-understanding. I think the regrouping does not gain much useful ground to the inferentialist however. For one thing, the *source* of that attraction, if genuine, can just as well be traced back to *custom*, communitarian reinforcement and reward, rather than to semantic understanding properly so-called. Moreover, deviant logicians can well be quite relaxed about their contrarian inferential inclinations and contemplate with disapproving wonderment the classicist abandon with MPP. Finally, the whole point of positing inferential disposition is that they be, to adapt terminology from Eflin (2003, p. 53), *non-transitory*.

to leave *enough* of a gap to allow for the practice of rationally *raising* doubts concerning validity, a practice that characterises the history of logic.⁵⁸

The DLO therefore stands undefeated, or so I submit.⁵⁹

7 Constitutivity, Again

“Giving grounds [...] comes to an end—but the end is not certain propositions’ striking us immediately as true, *i.e.*, it is not a kind of *seeing* on our part; it is our *acting*, which lies at the bottom of the language-game.”⁶⁰

I think we should conclude that the proper response to the DLO is to abandon the UAL claim. This however would immediately raise the CR threat again while also requiring a different defence of the self-justifying claim. What could the inferentialist do at this point, then?

Our problem was that the MCC-norms that supposedly guide our reasoning must not be idle. Even when they are not reflectively accessed, they must still, at all times, remain reflectively *accessible* (or else it is not clear in what sense they have normative import for *us*).⁶¹ And yet the CR and the UAL puzzles bring out an apparent limitative result in the epistemology of BLK. We need more reasons in the architecture of inference that can be explicitly expressed in a proper characterisation of inference.⁶²

The difficulty seems due to the baffling character of rules. They play an essential part in an account of rationality and yet they seem to escape explicit inclusion in that account.

⁵⁸Clearly, it seems more reasonable to say that grasp of a given MCC gives you mastery of *what it would be like* to infer according to its specifications. But with that move, the self-justifying claim goes out of the window. For the same reason, it would be no good to say that here one is confusing two issues (what determines the meaning of the logical constants, and which logical constants there *actually* are) that are best kept separate. What matters, one might think, is that *whatever connectives we adopt as logical* their meaning is determined by the rules for their use. The point is: the correct MCC must contain *within themselves* everything that can ensure that our choice of logic is justified.

⁵⁹We should note a rather embarrassing point too. If inferentialism is right, we could not even make sense of the lively debate within inferentialism itself regarding the precise character of the proof-theoretic properties that MCC have to satisfy. Any change in those properties will generate a new connective. Perhaps one response here could be to endorse a *cluster* theory of the connectives (by analogy with Searle’s cluster theory of proper names). Kripke might have something to say about that too, though.

⁶⁰Wittgenstein (1969, §204).

⁶¹As *e.g.*, Owens (2000, p. 13) notes, responsiveness to reasons does not demand *concurrent* reflection on whatever reasons are salient at a context. Reasons must nevertheless be both accessible in principle and play a motivational role even when not brought directly to consciousness or else logic precipitates into what anthropologists would call unmarked behaviour. See Railton (2006).

⁶²There is another temptation at this point, and it is to connect this issue to the discussion of the Wittgensteinian conception of nonsense in the *Tractatus* that divides American from British readings of that work (see *e.g.*, Diamond (1991, ch. 2, 3), Witherspoon (2000), Hacker (2000), Conant (2002), Hacker (2003) and Diamond (2005)). We might that is propose that some reasons can only be *shown* and not *said*, that some BLK is ineffable. The proposal pursued in the text can be seen as a variant of this idea.

While grappling with the difficulty, Sellars (1950, p. 155) had proposed that rules are not to be stated. They are, rather, to be *lived*. How could we flesh out that sketchy but intriguing remark? Here's one way.

We could think of MCC not as providing *reasons* to be accessed and responded to (and indeed *used* in inference) by reasoners.

Rather, what the rules stated in the MCC do is describe *reasoners*. In turn, reasoners *exemplify* MCC. By acting in accordance with the MCC, they *embody* those stipulations.⁶³

MCC, then, do not *tell* us how to think. They show us, rather, *what it is* to think.⁶⁴ They tell what it is to be a reasoner. A reasoner is someone who moves between thoughts in that manner.⁶⁵

MCC then are to be explained as being both *practice-constituting* and *agency-constituting*.⁶⁶

Rational thinkers respond to reasons-in-context (the grounds for asserting the premises) and move *directly* to asserting the conclusion not because of a recognition of the validity of the MCC taken as a *separate* reason but rather because to be rational is to respond to premises-grounds by exemplifying the reasoning behaviour described in the MCC, a behaviour that is triggered by those premises in appropriately sensitive thinkers.⁶⁷

Note that on this proposal the structural understanding that underpins our grasp of MCC is not understanding of the structure of meanings but rather of the structure of *reasoning*.⁶⁸ It is indeed an understanding of a *dynamic* structure (an *unfolding* piece of reasoning) rather than a static one (a network of standing reasons).⁶⁹

Are we out of the woods by making this switch in the epistemic status of

⁶³We could put it this way: we infer *in the shadow* of the concept operationally expressed by the MCC.

⁶⁴This is the sense in which they are *sui generis* propositions.

⁶⁵The remarks by Gentzen that sparked off inferentialism were famously hedged: the introduction rules are definitions only in a manner of speaking (*sozusagen*). On the proposal under scrutiny, Gentzen's *so to speak* becomes *by so speaking*. By *saying* what they say, and by being exemplified by reasoners, the MCC define not just the meaning of the connectives but also what it is to think and reason.

⁶⁶The account would differ from the pragmatic one given in Enoch and Schechter (2008). The constitutivity claim is meant to be immune from pragmatic encroachment.

⁶⁷One might object that this is just a fanciful re-working of the classic response to the CR mentioned above. We replace the rule/axiom distinction with the rather woolly transformation of rules of inference into *Lebensformen* patterns (in the same sense that a knitting pattern provides a way for a knitter to be, that is!). I hope the text does enough to dispel the plausibility of the objection.

⁶⁸We could put the point in slightly Gricean terms: by drawing an MCC-inference, we represent ourselves as knowing that the inference is legitimately drawn.

⁶⁹Sellars (1963a, p. 169) famously said that by treating perceptual episodes as states of knowing we place those episodes in the logical space of reasons. The idea behind the proposal canvassed in the text is that by grasping MCC we are placing *ourselves* in the space of reasons. To adapt terminology from Sellars (1963b), MCC are the *entry-points* to the space of rationality, the invisible lines along which the world and the space of rationality make contact *through* our agency. To further motivate the proposal, one could also invoke Humboldt's insistence that we conceive of language not as the product of an activity (*ergon*) but as the activity itself (*energeia*). See Lafont (1999, ch. 2) for a quick introduction to Humboldt's conception of language, a conception, I should add, that I think inferentialists should enthusiastically embrace.

MCC? After all, for all that has been said so far, it is still obscure how the move from the premises to the conclusion is justified *by* the MCC (and the requirement that it be so justified seems essential to inferentialism).

Furthermore, if all MCC do is describe *reasoners* (or reasoning modes), rather than providing *reasons*, whence their motivational impact?⁷⁰ Why should we be compelled to infer in that way and no other?

And what of the DLO? If we disagree as to whether the conditional must satisfy exportation or must instead be restricted in some other way, or if we disagree about how to save logic from the semantic paradoxes, what can possibly arbitrate between opposing parties if all that one is doing is choosing *one* way to reason among others, one way to be an agent among other possible ones? What is distinctive about the *right* MCC, that is?

And finally, if we take up and exemplify a given MCC *without reasons*, properly speaking, in what sense are we acting rationally?⁷¹

I think these objections do carry force, but unfortunately I do not have the space to fully address all of them here. I'll just say that it seems to me that one promising route here would be to show that only some MCC are constitutive of rationality.⁷² Only some ways for an agent to be are correct.

Bad companions would thus be screened off by considerations regarding what *could* constitute a rational practice.⁷³ Since to be an agent is inescapable,⁷⁴ and since some basic modes of reasoning (including MPP) are essential to being an agent,⁷⁵ the correct MCC will be those that are jointly genuinely constitutive of agency.⁷⁶

⁷⁰One could perhaps say that *by describing perfectly rational reasoners* MCC provide reasons to exemplify the reasoning behaviour they sanction. Perhaps.

⁷¹As BonJour (2005, p. 121) points out, if an agent has no insight into validity, then she has no reason (and hence no entitlement) at all to hold the conclusion to be true.

⁷²One difficulty is to do so without succumbing to the crude and pragmatic idea, to quote from Williamson (2003, p. 290), that we need those rules because we could not do without logic.

⁷³Obviously, this has strongly holistic overtones and radical Quinian talk of “adjustments elsewhere” might be invoked to show that perhaps even *tonk* could count as practice-constituting if some other rule of inference neutralised the *tonk*-induced slide into triviality. At that point, the best one could do is invoke considerations of theoretical elegance, and we would have completely lost the autonomy of logic.

⁷⁴The claim is controversial. See Ferrero (2009) and Enoch (2011) for two opposing views. Note that what needs sustaining, to make the proposal have bite, is the claim that by endorsing it we are going beyond entitlement strategies such as Wright's (2004b, p. 161). It's not that we can do *no better* than taking certain things for granted (the hinge-like MCC). It is that *what it is to be a reasoner* is to take certain principles (the *right* MCC) for granted.

⁷⁵Is a *tonk*-reasoner an agent? It is often claimed (*e.g.*, Horwich (2005a, p. 153)) that no-one could reason according to *tonk*-rules (but see Wright (2002, pp. 62–3)). And yet it seems that a *tonker* (to coin a neologism), in her brief and perilous existence, could still count as an agent. I am not really sure there is a clear answer to this question. It seems as if we can ask whether there is such a thing as moving from one thought to absolutely *any* thought whatsoever. Would *that* count as *reasoning*, or indeed as *movement*? Frege (1998, xvi) famously spoke of a “hitherto unknown form of madness” and it seems as if tonkers would get very near the precipice of intellection properly so called.

⁷⁶Plainly, we have substituted talk of meaning-constitutivity with talk of agency-constitutivity and therefore the problems and the responses are largely analogous. For all that, I think that the move to talk of agency opens up ways to address the DLO that would at least preserve intact ordinary notions of understanding and competence.

There are however deep problems still left unresolved. As agents, we may well be said to be exemplifying MCC. But if we insist that correct MCC are *inescapable*—that there is no other way of being an agent—we seem to lose one important aspect of being rational, namely, the very idea of responsiveness to reasons that is supposed to be constitutive of rationality. If agency (and rationality) are inescapable, *what* are we responding to, as we dutifully exemplify the MCC? Or otherwise put: what *reason* do we have to embark on the project of being an agent?⁷⁷

8 Conclusion: The Inscrutability of Inference

“The end is not an ungrounded presupposition: it is an ungrounded way of acting.”⁷⁸

At this point, I am only tentatively confident that my proposal can satisfactorily answer all of these questions. What seems clear to me, however, is that *even if* the agency-constitutive reading of the MCC is successful, inferentialism would not survive unscathed.

In particular, I think that, as already indicated, one lesson from this discussion is that inferentialism must give up the UAL component. An account of the logical constants that makes the very idea of logical revision incoherent is surely on the wrong footing. In other words, inferentialism must make room for a conception of understanding that allows for the phenomenon of understanding-without-compulsion.

But once this is granted, inferentialism has again got to face the threat from the CR.

To escape from that, an agency-constitutive account of MCC along the lines sketched in the preceding section seems to me to be the most promising avenue (and indeed perhaps the only one available).

There are still further concessions to be made, though. For I think that inferentialism can parry the CR only at the cost of giving up the self-justifying claim.⁷⁹ Inferentialism, that is, must acknowledge that MCC cannot carry the

⁷⁷This is roughly the objection against constitutive accounts of agency contained in Enoch (2011, §2). I think this is a much stronger objection than others one might moot. For instance, a fairly common one is that constitutive accounts over-intellectualise agency. But again, this objection loses track of the rational reconstruction flavour of the project we are trying to sustain. Constitutivity theorists such as Korsgaard impose the requirement that for an act to count as rational it must *incorporate* a reason. An idea worth exploring here is to deny that the choice to be an agent (the choice to endorse one rather than another MCC) is an *act* at all. But again, in what sense would the MCC themselves be rationally *grounded*? And in what sense is the taking up of agency (as a *no-alternative* undertaking) any different from the purely brutish dispositions that internalism and inferentialism were supposed to exorcise? At the same time, one might feel that these questions sound like category mistakes, and that the account itself is fundamentally mistaken. Surely, the objection goes, the regress of reasons must come to an end. Moreover, we cannot ask for a reason to be forced to accept the dictates of Reason, can we? That’s surely something that doesn’t belong to the space of reasons. Surely this is one point at which logic *must* give out. But isn’t saying that reasons must come to an end simply to accept that logic is not autonomous in the desired way?

⁷⁸Wittgenstein (1969, §110).

⁷⁹One may wonder in what sense my proposal is supposed to be a *help* to the inferentialist,

justificatory burden all by themselves. Reading them as agency-constitutive principles may explain what goes on in inference (to be reasoners, we must place ourselves in the space of reasons by exemplifying the chosen MCC).

However, that reading does little, or so it seems to me, to justify inference *on a purely logical basis* (the choice of which MCC to endorse is done on the strength of agency-constitutivity considerations that do not seem to cohere with traditional conceptions of logic).⁸⁰

Nailing down the proof-theoretical properties that distinguish well-behaved connectives from the bad companions is thus to be seen as an enterprise of more modest scope.

If successful, it will provide us with criteria for the well-behavedness of connectives—already a considerable achievement in itself. It will however be unable to provide criteria that uniquely identify the connectives determined by our best practice. Or if the criteria should succeed in doing so, they will nevertheless fail to sustain the motivational claim. Even well-behaved MCC will not (and can not) be *unconditionally* compelling for an agent.

I think the broader conclusion we should draw, at least at this stage, is therefore that inference, as a process we engage in as we reason our way in the realm of thought, remains a deeply inscrutable activity, at least inscrutable to and in the light of reason.

Sainsbury (2002, 16) concluded a discussion of the role of logic in our thinking by conceding that the cognitive processes underpinning our inferential practices are theoretically opaque to us.

I think the conclusion must be stronger. It is not just a question of the *cognitive* architecture of inference; the difficulty arises *already* at the level of the *epistemic* architecture of inference. What is unclear, that is, is how we should carve up epistemic space and our movements across it.

There are those who think that Zeno's paradoxes still await a fully exhaustive answer. It seems to me that the situation with the Carroll Regress is worse than that. We are still in denial regarding the force of the problems it poses to a full elucidation of what is involved in an act of inferring.

In that respect, if we go back to Carroll (1895) we may ask ourselves, why Achilles and the Tortoise? Why did Carroll choose this particular pair of characters in a dialogue about the motivational force of logic?

Here's a suggestion. In the original Zeno paradox, the standard lesson was supposed to be that either motion is an illusion or that our account in terms of discrete transitions between discretely ordered points was wrong.

I think we can put matters in the same way with regard to epistemic space. Either reasoning (in the sense of: rational transitions between thoughts) is an illusion or an account in terms of discrete thought-transitions between discretely ordered propositions is wrong.⁸¹

if two out of its three main claims are to be renounced. The point is that the meaning-determination claim is non-negotiable. My proposal is intended to avoid the CR (or rather: go round it). It is however powerless to salvage the other two claims. Nothing can, I think.

⁸⁰And one might be tempted to add: so much the worse for those conceptions. For now, I remain neutral on this issue.

⁸¹According to Black's (1951, p. 101) conclusion with regard to Zeno's paradox of motion, even the modern mathematical "solution" given in terms of continuity is misguided. For

We could also put the matter in terms of another Zenonian paradox, that of the arrow that couldn't get started in its trajectory. Similarly, the Carroll Regress seems to show that *if inference worked the way logicians think it does* then no reasoning could ever get started (the reasons-recognition process would go on forever).⁸²

Accordingly, we seem forced towards some sort of inferential nihilism: contrary to appearances (or to our wishful thinking) we do not infer rationally at all.⁸³

If the difficulties I have rehearsed are as intractable as I've made them out to be, the conclusion must be even stronger: there *could not be* rational inference properly speaking. It is architecturally impossible to infer under rational constraints.

If we attempt rationally to reconstruct our reasoning practices the best we can do is gesture at an account that would allow us to self-describe ourselves as rational reasoners (indeed: to *be* rational reasoners), *were it possible to implement that account*. But it isn't, and so we ain't.⁸⁴

As things stand, I conclude that we can do little better than follow Achilles' inglorious stone-kicking example and claim that the problem is sorted by reasoning—*Solvitur ratiocinando*.

Inference, like motion, can only be exemplified. Rules can only be lived, as Sellars had said, not made explicit components of the logical space of reasons.

That there are correct rules of reasoning is *shown* by agents placing themselves in that space. The rules, however, can neither be *fully* stated, nor used as reasons in inference.⁸⁵

BIBLIOGRAPHY

- Armour-Grab, B. (2007). Consistent inconsistency theories. *Inquiry*, 50(6):639–654.
 Azzouni, J. (2006). *Tracking Reason. Proof, Consequence, and Truth*. Oxford University Press, Oxford.

Black, there is an important distinction between the finite number of tasks Achilles actually performs and the mathematical descriptions that we (or Zeno) can give of those tasks. There are no supertasks, in actual or in epistemic space that anyone can perform. Black's proposal however would leave the rational reconstruction project in tatters, for in that project we purport to give not just a description but a *characterisation* of how ideal agents would operate in an ideal epistemic space.

⁸²If Dummett (1981a, p. 297) is right and epistemic distance is indeed more puzzling than spatial distance, I think the regress should teach us that if reasoning steps are ordered the way the logician maintains they are, then not only is there no thinking, but there is no agency either. The point is that, to quote again the Tortoise, if what logic communicates must be propositional, then the most basic commands of logic are incommunicable, for they *cannot* be propositional on pain of regress.

⁸³Nihilism would in effect admit *at the theoretical level* nothing more (or nothing *better*) than the "untroubled engagement in ungrounded meaning" characteristic of the ordinary perspective, as Sullivan (2002, p. 44) elegantly put it in another context.

⁸⁴Blackburn (1995) takes the CR seriously and concludes that the Tortoise is Humean. Movements of the will (or of the mind) cannot be explicated solely by appeal to reason.

⁸⁵This paper draws on a presentation given at the Arché AHRC-funded Foundations of Logical Consequence workshop on the Epistemology of Logic, October 29–30, 2011, St Andrews. Thanks are due to the audience on that occasion, particularly to Timothy Williamson, Stephen Read, Graham Priest, Stewart Shapiro and Torfinn Huvenes. Additional thanks are due to the expert (and wonderfully patient) editors of this volume. Work on this paper was completed during my tenure as a Leverhulme Postdoctoral Research Fellow.

- Azzouni, J. (2007). The inconsistency of natural languages: How we live with it. *Inquiry*, 50(6):590–605.
- Bilgrami, A. (1992). *Belief and Meaning*. Blackwell, Oxford.
- Black, M. (1951). Achilles and the tortoise. *Analysis*, 11(5):91–101.
- Blackburn, S. (1995). Practical tortoise raising. *Mind*, 104(416):695–711.
- Boghossian, P. (1997). Analyticity. In Hale, B. and Wright, C., editors, *A Companion to the Philosophy of Language*, pages 331–368. Blackwell, Oxford.
- Boghossian, P. (2000). Knowledge of logic. In Boghossian, P. and Peacocke, C., editors, *New Essays on the A Priori*, pages 229–254. Clarendon Press, Oxford.
- Boghossian, P. (2008a). Analyticity reconsidered. In *Content and Justification*, pages 195–224. Clarendon Press, Oxford.
- Boghossian, P. (2008b). Blind reasoning. In *Content and Justification*, pages 267–287. Clarendon Press, Oxford.
- Boghossian, P. (2008c). Epistemic analyticity: A defense. In *Content and Justification*, pages 225–233. Clarendon Press, Oxford.
- Boghossian, P. (2008d). How are objective epistemic reasons possible? In *Content and Justification*, pages 235–266. Clarendon Press, Oxford.
- Boghossian, P. (2008e). Is meaning normative? In *Content and Justification*, pages 95–107. Clarendon Press, Oxford.
- Boghossian, P. (2011). Williamson on the *A Priori* and the analytic. *Philosophy and Phenomenological Research*, 82(2):488–497.
- Boghossian, P. (2012). Inferentialism and the epistemology of logic: Reflections on Casalegno and Williamson. *Dialectica*, 66(2):221–236.
- BonJour, L. (2005). Last rejoinder. In Steup, M. and Sosa, E., editors, *Contemporary Debates in Epistemology*, pages 120–121. Blackwell, Oxford.
- Brandom, R. B. (2000). *Articulating Reasons*. Harvard University Press, Cambridge, MA.
- Brandom, R. B. (2009). *Reason in Philosophy*. The Belknap Press of Harvard University Press, Cambridge, MA.
- Carroll, L. (1895). What the tortoise said to Achilles. *Mind*, 4(14):278–280.
- Coffa, A. (1991). *The Semantic Tradition from Kant to Carnap*. Cambridge University Press, Cambridge.
- Conant, J. (2002). The method of the *Tractatus*. In Reck, E. H., editor, *From Frege to Wittgenstein*, pages 374–462. Oxford University Press, Oxford.
- Dancy, J. (2004). *Ethics Without Principle*. Clarendon Press, Oxford.
- Diamond, C. (1991). *The Realistic Spirit*. Blackwell, Oxford.
- Diamond, C. (2005). Logical syntax in Wittgenstein's *Tractatus*. *The Philosophical Quarterly*, 55(218):78–89.
- Dummett, M. A. E. (1973). *Frege: Philosophy of Language*. Duckworth, London, second edition.
- Dummett, M. A. E. (1981a). Frege's 'Kernsätze zur Logik'. In *Frege and Other Philosophers*, pages 65–78. Clarendon Press, Oxford.
- Dummett, M. A. E. (1981b). *The Interpretation of Frege's Philosophy*. Duckworth, London.
- Dummett, M. A. E. (1991). *The Logical Basis of Metaphysics*. Duckworth, London.
- Dummett, M. A. E. (1996). What is a theory of meaning? (I). In *The Seas of Language*, pages 1–33. Clarendon Press, Oxford.
- Eflin, J. (2003). Epistemic presuppositions and their consequences. In Brady, M. and Pritchard, D., editors, *Moral and Epistemic Virtues*, pages 47–66. Blackwell, Oxford.
- Eklund, M. (2002). Inconsistent languages. *Philosophy and Phenomenological Research*, 64(2):251–275.
- Eklund, M. (2007). Meaning-constitutivity. *Inquiry*, 50(6):559–574.
- Enoch, D. (2011). Shmagency revisited. In Brady, M., editor, *New Waves in Metaethics*, pages 208–233. Palgrave Macmillan, Basingstoke.
- Enoch, D. and Schechter, J. (2008). How are basic belief-forming methods justified? *Philosophy and Phenomenological Research*, 76(3):547–57.
- Ferrero, L. (2009). Constitutivism and the inescapability of agency. In Shafer-Landau, R., editor, *Oxford Studies in Metaethics*, volume 4, pages 303–333. Oxford University Press, Oxford.
- Field, H. (2009). What is the normative role of logic? *Proceedings of the Aristotelian Society, Supplementary*, 83:251–268.
- Frege, G. (1893/1998). *Grundgesetze der Arithmetik*. Georg Olms Verlag, Jena/Hildesheim.

- Frege, G. (1906). 17 key sentences on logic. In *Posthumous Writings*, pages 174–175. Blackwell, Oxford.
- Frege, G. (1980). *Philosophical and Mathematical Correspondence*. Blackwell, Oxford.
- Fricker, E. (2003). Understanding and knowledge of what is said. In Barber, A., editor, *Epistemology of Language*, pages 325–366. Oxford University Press, Oxford.
- Ginsborg, H. (2012). The normativity of meaning. *Proceedings of the Aristotelian Society*, 86:127–146. Supplementary Volume.
- Glüer, K. (2001). Dreams and nightmares: Conventions, norms, and meaning in Davidson’s philosophy of language. In Kotako, P., Pagin, P., and Segal, G., editors, *Interpreting Davidson*, pages 53–74. CSLI Publications, Stanford.
- Glüer, K. and Pagin, P. (1999). Rules of meaning and practical reasoning. *Synthese*, 117:207–227.
- Glüer, K. and Wikforss, Å. (2009). Against content normativity. *Mind*, 118(468):31–70.
- Gross, S. (2005). Linguistic understanding and belief. *Mind*, 114(453):61–66.
- Hacker, P. (2000). Was he trying to whistle it? In Crary, A. and Read, R., editors, *The New Wittgenstein*, pages 353–388. Routledge, London.
- Hacker, P. (2003). Wittgenstein, Carnap and the New American Wittgensteinians. *Philosophical Quarterly*, 53(210):1–23.
- Haddock, A. (2012). Meaning, justification, and ‘primitive normativity’. *Proceedings of the Aristotelian Society*, 86:147–174. Supplementary Volume.
- Hale, B. (2002). Basic logical knowledge. In O’Hear, A., editor, *Logic, Thought and Language*, pages 279–304. Cambridge University Press, Cambridge.
- Hanna, R. (2006). *Rationality and Logic*. The MIT Press, Cambridge, MA.
- Harman, G. (1999). *Reasoning, Meaning and Mind*. Clarendon Press, Oxford.
- Hattiangadi, A. (2006). Is meaning normative? *Mind & Language*, 21(2):220–240.
- Hattiangadi, A. (2008). Some more thoughts on semantic oughts: a reply to Daniel Whiting. *Analysis*, 69(1):54–63.
- Hawthorne, J. (2004). *Knowledge and Lotteries*. Clarendon Press, Oxford.
- Hedman, S. (2004). *A First Course in Logic*. Oxford University Press, Oxford.
- Heyting, A. (1964/1983). The intuitionist foundations of mathematics. In Benacerraf, P. and Putnam, H., editors, *Philosophy of Mathematics*, pages 52–61. Cambridge University Press, Cambridge, 2nd edition.
- Higginbotham, J. (1998a). Conceptual competence. *Philosophical Issues*, 9:149–162.
- Higginbotham, J. (1998b). On knowing one’s own language. In Wright, C., Smith, B., and MacDonald, C., editors, *Knowing Our Own Minds*, pages 429–441. Clarendon Press, Oxford.
- Horwich, P. (1998). *Meaning*. Clarendon Press, Oxford.
- Horwich, P. (2005a). Meaning constitution and epistemic rationality. In *Reflections on Meaning*, pages 134–173. Clarendon Press, Oxford.
- Horwich, P. (2005b). *Reflections on Meaning*. Clarendon Press, Oxford.
- Horwich, P. (2010a). Ungrounded reason. In *Truth-Meaning-Reality*, pages 197–223. Clarendon Press, Oxford.
- Horwich, P. (2010b). What is truth. In *Truth-Meaning-Reality*, pages 1–11. Clarendon Press, Oxford.
- Husserl, E. (1900–01/2001). *Logical Investigations*, volume 1. Routledge & Kegan Paul, London/New York.
- Korsgaard, C. (1996). *The Sources of Normativity*. Cambridge University Press, Cambridge.
- Kripke, S. (1982). *Wittgenstein on Rules and Private Language*. Blackwell, Oxford.
- Lafont, C. (1999). *The Linguistic Turn in Hermeneutic Philosophy*. The MIT Press, Cambridge, MA.
- Lemmon, E. J. (1965). *Beginning Logic*. Nelson, London.
- Longworth, G. (2008). Linguistic understanding and knowledge. *Noûs*, 42(1):50–79.
- Longworth, G. (2010). A plea for understanding. In Sawyer, S., editor, *New Waves in Philosophy of Language*, pages 138–163. Palgrave Macmillan, Basingstoke.
- Martí, G. (1998). The significance of the distinction between concept mastery and concept possession. *Philosophical Issues*, 9:163–167.
- McGee, V. (1985). A counterexample to modus ponens. *Journal of Philosophy*, 82(9):462–471.
- Milne, P. (2009). What is the normative role of logic? *Proceedings Aristotelian Society*, 83:269–298. Supplementary Volume.
- Owens, D. (2000). *Reason without Freedom. The problem of Epistemic Normativity*. Routledge, London/New York.

- Parfit, D. (2011). *On What Matters*, volume 1. Oxford University Press, Oxford.
- Patterson, D. (2007a). Inconsistency theories: The significance of semantic ascent. *Inquiry*, 50(6):575–589.
- Patterson, D. (2007b). Understanding the liar. In Beall, J., editor, *Revenge of the Liar*, pages 197–224. Oxford University Press, Oxford.
- Peacocke, C. (1976). Truth definitions and actual languages. In *Truth and Meaning*, pages 162–188. Clarendon Press, Oxford.
- Peacocke, C. (1986). *Thoughts: An Essay on Content*. Blackwell, Oxford.
- Peacocke, C. (1992). *A Study of Concepts*. The MIT Press, Cambridge, MA.
- Peacocke, C. (1998). Implicit conceptions, understanding and rationality. *Philosophical Issues*, 9:43–88.
- Peacocke, C. (2008). *Truly Understood*. Oxford University Press, Oxford.
- Pettit, D. (2002). Why knowledge is unnecessary for understanding language. *Mind*, 111(443):519–549.
- Pettit, D. (2005). Belief and understanding: A rejoinder to gross. *Mind*, 114(453):67–74.
- Platts, M. (1979). *Ways of Meaning*. The MIT Press, Cambridge, MA.
- Prawitz, D. (1978). Proofs and the meanings and completeness of the logical constants. In Hintikka, J., editor, *Essays on Mathematical and Philosophical Logic*, pages 25–40. Reidel, Dordrecht.
- Prawitz, D. (2006). Meaning approached via proofs. *Synthese*, 148:507–524.
- Priest, G. (1979). The logic of paradox. *Journal of Philosophical Logic*, 8:219–241.
- Priest, G. (2002). *Beyond the Limits of Thought*. Oxford University Press, Oxford, second edition.
- Prior, A. N. (1961). The runabout inference ticket. *Analysis*, 21:38–39.
- Proops, I. (2002). The *Tractatus* on inference and entailment. In Reck, E. H., editor, *From Frege to Wittgenstein*, pages 283–307. Oxford University Press, Oxford.
- Putnam, H. (1975). What is mathematical truth? In *Mathematics, Matter and Method. Philosophical Papers*, volume 1. Cambridge University Press, Cambridge.
- Putnam, H. (1978). *Meaning and the Moral Sciences*. Routledge & Kegan Paul, Boston/London/Henley.
- Quine, W. V. O. (1966a). Carnap and logical truth. In *The Ways of Paradox and Other Essays*, pages 107–132. Harvard University Press, Cambridge, MA.
- Quine, W. V. O. (1966b). Truth by convention. In *The Ways of Paradox and Other Essays*, pages 77–106. Harvard University Press, Cambridge, MA. Revised and enlarged edn.
- Quine, W. V. O. (1970). *Philosophy of Logic*. Prentice Hall, Englewood Cliffs/New York, 1st edition.
- Railton, P. (2006). Normative guidance. In Shafer-Landau, R., editor, *Oxford Studies in Metaethics*, volume 1, pages 3–33. Clarendon Press, Oxford.
- Raz, J. (1999). *Engaging Reason. On the Theory of Value and Action*. Oxford University Press, Oxford.
- Read, S. (1988). *Relevant Logic: A Philosophical Examination of Inference*. Basil Blackwell, Oxford.
- Read, S. (2000). Harmony and autonomy in classical logic. *Journal of Philosophical Logic*, 29:123–154.
- Read, S. (2004). In defence of the dog: Response to Restall. In Rahman, S., Symon, J., Gabbay, D. M., and van Bendegem, J. P., editors, *Logic, Epistemology, and the Unity of Science*, pages 175–180. Kluwer Academic Publishers, Dordrecht.
- Read, S. (2010). General-elimination harmony and the meaning of the logical constants. *Journal of Philosophical Logic*, 39(5):557–576.
- Restall, G. (2005). *Logic. An Introduction*. Routledge, London.
- Russell, B. A. W. (1903). *The Principles of Mathematics*. Allen and Unwin, London. 2nd edition 1937.
- Sainsbury, R. (2002). What logic should we think with? In O’Hear, A., editor, *Logic, Thought and Language*, pages 1–17. Cambridge University Press, Cambridge.
- Scanlon, T. (1998). *What We Owe to Each Other*. The Belknap Press of Harvard University Press, Cambridge, MA.
- Schärp, K. (2007). Replacing truth. *Inquiry*, 50(6):606–621.
- Sellars, W. (1950). Language, rules and behavior. In Sicha, J., editor, *Pure Pragmatics and Possible Worlds. The Early Essays of Wilfrid Sellars*, pages 129–155. Ridgeview, Atascadero, CA.
- Sellars, W. (1963a). Empiricism and the philosophy of mind. In *Science, Perception and Reality*, pages 127–196. Ridgeview, Atascadero, CA.

- Sellars, W. (1963b). Some reflections on language games. In *Science, Perception and Reality*, pages 321–358. Ridgeview, Atascadero, CA.
- Shoenfield, J. R. (1967). *Mathematical Logic*. Association for Symbolic Logic, Natick, MA.
- Shoesmith, D. and Smiley, T. (1978). *Multiple-conclusion Logic*. Cambridge University Press, Cambridge.
- Skorupski, J. (1997a). Meaning, use, verification. In Hale, B. and Wright, C., editors, *A Companion to the Philosophy of Language*, pages 26–48. Blackwell, Oxford.
- Skorupski, J. (1997b). Reasons and reason. In *Ethical Explorations*, pages 26–48. Oxford University Press, Oxford.
- Skorupski, J. (2010). *The Domain of Reasons*. Oxford University Press, Oxford.
- Smith, M. (1994). *The Moral Problem*. Blackwell, Oxford.
- Soames, S. (1991). Truth, meaning, and understanding. In *Philosophical Essays*, volume 1, pages 208–224. Princeton University Press, Princeton/Oxford.
- Sullivan, P. M. (2002). On trying to be resolute: A response to kremer on the *Tractatus*. *European Journal of Philosophy*, 10(1):43–78.
- Sullivan, P. M. (2004). Frege's logic. In Gabbay, D. and Woods, J., editors, *Handbook of the History and Philosophy of Logic*, pages 671–762. Elsevier, Amsterdam.
- Sundholm, G. (1989). Proof theory and meaning. In Gabbay, D. and Guenther, F., editors, *Handbook of Philosophical Logic*, volume 5, pages 165–198. Kluwer Academic Publishers, Dordrecht, 2nd edition.
- Tourlakis, G. (2003). *Lectures in Logic and Set Theory*. Cambridge University Press, Cambridge.
- van Benthem, J. (1995). *Language in Action*. The MIT Press, Cambridge, MA.
- Whiting, D. (2007). The normativity of meaning defended. *Analysis*, 67(2):133–140.
- Wikforss, Å. M. (2001). Semantic normativity. *Philosophical Studies*, 102:203–226.
- Williamson, T. (2000). *Knowledge and its Limits*. Oxford University Press, Oxford.
- Williamson, T. (2003). Understanding and inference. *Proceedings of the Aristotelian Society*, 77:249–293. Supplementary Volumes.
- Williamson, T. (2007). *The Philosophy of Philosophy*. Blackwell, Oxford.
- Williamson, T. (2011). Reply to Boghossian. *Philosophy and Phenomenological Research*, 82(2):498–506.
- Witherspoon, E. (2000). Conceptions of nonsense in Carnap and Wittgenstein. In Crary, A. and Read, R., editors, *The New Wittgenstein*, pages 315–349. Routledge, London.
- Wittgenstein, L. (1914–16/1998). *Notebooks 1914–1916*. Blackwell, Oxford.
- Wittgenstein, L. (1930). *Philosophical Remarks*. Blackwell, Oxford.
- Wittgenstein, L. (1945/1953). *Philosophical Investigations*. Blackwell, Oxford.
- Wittgenstein, L. (1949–51/1969). *On Certainty*. Blackwell, Oxford.
- Wright, C. (1980). *Wittgenstein on the Foundations of Mathematics*. Harvard University Press, Cambridge, MA.
- Wright, C. (2001). *Rails to Infinity*. Harvard University Press, Cambridge, MA.
- Wright, C. (2002). On basic logical knowledge. Reflections on Paul Boghossian's *How are Objective Epistemic Reasons Possible?* In Bermúdez, J. L. and Millar, A., editors, *Reason and Nature. Essays in the Theory of Rationality*, pages 49–84. Clarendon Press.
- Wright, C. (2004a). Intuition, entitlement and the epistemology of logical laws. *Dialectica*, 58(1):155–175.
- Wright, C. (2004b). Warrant for nothing (and foundations for free?). *Supplement to the Proceedings of The Aristotelian Society*, 78(1):167–212.