HANDOUT

Basic principles of inference as implicit definitions of the logical constants

(Draws on joint work with Paul Boghossian)

**Introduction—two questions**

1. — Inferentialism about logic = the idea that basic logic does not *answer to* but rather *fixes* the meanings of the logical constants.

The idea has been around for a long time that, so understood, inferentialism helps with the epistemology of basic logic by somehow cutting the ground from underneath the Hard Question: *how is the soundness of basic logic recognised*?

However we need to distinguish two quite different types of issue raised by the epistemology of basic logic:

(i) Our presumed knowledge of *basic logical propositions* – propositions like:

* If a conditional and its antecedent are both true, then so is its consequent.
* If a set of propositions are inconsistent, then if all but one are true, the last is untrue.
* If a disjunction is true, then any proposition is true which follows from each of its disjuncts

Here the question (*Question A*) is: do we know —(are we justified in believing)—and if so, *how* do we know—(what justifies us in believing)—such propositions?

But a different question concerns

(ii) Our basic logico-inferential *practice* (Rylean ‘knowledge how’, C.S Peirce’s *logica utens*). You can have such a practice while having never given explicit logic a thought. The second question (*Question B*) is: what —epistemically—entitles us to the extensions and revisions of our beliefs that inference in accordance with that practice mandates/enables?

2. So we have two different questions about justification for basic logic: what justifies us in our basic logical propositional beliefs, and what justifies the revisions and extensions of belief that we routinely accomplish by basic logical inference (whether or not we have any explicit beliefs about inference or validity)? Discussion point.

I’ll mainly be concerned here with the second.

**The core inferentialist epistemological thought**

3. Now inferentialism is a *semantic* thesis — how, if it does, does it bear on *epistemic* justification?

I’ll sketch what I take to be the idea that proponents may have (inchoately) had in mind. Our conclusion will be that, even in its best version: (a) there are massive philosophical issues with the idea and (b) that inferentialism anyway needs a helping hand from background epistemology if it is to address a basic epistemological issue, which —the need for the helping hand—(c) arguably makes it redundant.

4. So, we can think of Inferentialism as proposing either or both of these claims:

(i) *Statements* of basic logical laws are implicitly definitional (*primitively analytic*) of the meanings of the logical constants they contain.

(ii) Basic logical-inferential *practice* implicitly defines the meanings of the logical constants involved.

5. Here is what I take to be the Basic Inferentialist Thought about these questions:

(BIT) If a principle, or a practice, fixes meaning, then in accepting the principle, or following the practice, you are *merely doing what that meaning requires*. No further question of justification arises.

An example where this seems clearly right:

Simple explicit definition-

*Vixen*: A vixen is a female fox

*Father*: A father is a male parent

Accepting these propositions, and using “vixen” and “father” in ways that respect them, is surely directly mandated by their definitional status. There seems to be no further interesting epistemological issue. Asked to justify so using “vixen” or “father”, or your belief that *Vixen* and *Father* are true, the appropriate reply is surely: “That’s just what “vixen”, resp. “father”, means.”

Call that the “That’s just what X means” response.

Note: Explicit definitions of this kind are, to be sure, not *guaranteed* to be successful. There may be trouble lurking in the concepts on the rhs and/or in they way they are configured on the rhs. But modulo that, explicit definition seemingly does finesse/pre-empt the epistemological issues.

6. Does the “That’s just what X means” response carry over to implicit or contextual definition? It depends. Consider two examples:

(i) Russell on the definite description operator: the meaning of contexts of the form ‘The F is G’ is characterised by stipulating that they are to have the same truth conditions as the three-part conjunction:

Something is F and at most one thing is F and if anything is F, then it is G.

There was Oxonian 1950s controversy whether this captures the actual antecedent meaning/use of the definite article in English, but it certainly seems it could do. There could be a variant of English for the def. article in which the Russellian account was stipulatively correct. Then in response to the “How do you know” question — how do you know that the F is G? — it would once again be enough to have verified the Russellian rhs and to add that “That is just how the definite article is correctly used”, or “That’s just what ‘the’ means’.

(ii) But what about the Hilbertian idea that the axioms of ZFC implicitly define the notion of set? Well, what exactly is the vehicle of the definition according to Hilbert? The ZFC axioms themselves, or for each ZFC axiom, A, in n objectual variables, something of the form: if x1…xn are sets, then A? (Defining truth conditions, vs. stipulating truths.)

**Bad Company**

The Russellian example is an encouraging precedent for the inferentialist. But now consider this passage from Hartry Field:

. . .why should the fact, if it is one, that certain beliefs or inferences are integral to the meaning of a concept show that those principles are correct?  Why should the fact, if it is one, that abandoning those beliefs or inferences would require a change of meaning show that we shouldn’t abandon those beliefs or inferences?  Maybe the meaning we’ve attached to these terms is a bad one that is irremediably bound up with error, and truth can only be achieved by abandoning those meanings in favour of different ones (that resemble them in key respects but avoid the error).

(From his “Recent Debates about the A Priori”, in Gendler and Hawthorne, eds., *Oxford Studies in Epistemology* (Oxford University Press 2005), pp. 69–88.)

This is the problem of Bad Company. There are plenty of illustrations– *tonk*, *tunk*, *quink* and *quonk* and the course-of-values operator conceived as implicitly defined by Basic Law V. Discussion point.

Inferentialist reply: these particular operators fall prey to defeaters – but justification doesn’t have to be *conclusive*/defeater-proof.

Good reply? Discussion point.

7. Bracketing the problem of Bad Company, it’s important that the logical case has anyway to be an example of **implicit implicit** definition. Why? Discussion point

Philosophical problems with that.

—What is it for something that could in principle be formulated as an explicit implicit definition *tacitly* to enjoy that status, unformulated but implicit in the practice it regulates?

—What if an alleged implicit definition calls on a prior understanding of its definiendum in order to be explicitly formulated?

—What constitutes tacit following of a specific unformulated rule?

—What it is about certain but not other patterns of use of an expression that makes them meaning-constituting?

These are very tough questions which Inferentialism needs to answer. My expectation is that it cannot. But we’ll let the inferentialist off the hook and save them for another day.

**Taking stock**

If the rules for ‘&’, say, are indeed defensibly regarded as fixing its meaning by determining its inferential role, then someone challenged to justify the practice of so deploying statements in which ‘&’ is the main connective in inference can simply reply as envisaged: “That’s just what ‘&’ means.” Or “That’s just to use ‘&’ in the way required by its meaning”. And— the idea is — use of a symbol in a way that complies with its meaning is always at least prima facie justified. The remaining task that, as indicated above, the inferentialist has not yet accomplished, is to explain how the availability of this response in the explicit and explicit implicit cases carries over to the case of alleged implicit implicit definition by the practice concerned.

8. Is there perhaps a fairly straightforward carry-over? Suppose a sophisticated member of a community for which it is true that their basic inferential practice implicitly determines the meanings of the logical constants therein configured. The sophisticate, let us suppose, is in possession of well-conceived answers to the hard questions of section 7 above and, based on those answers, knows that they are a member of such a community. So when the sophisticate is asked: how are you justified in inferring in such-and such a way with statements of such-and-such a kind, they are in position to answer: that’s just what the meanings of those statements require. So good for the sophisticate!

But now the evident point is that this—albeit prima facie— justification is not *conferred* by the ability to claim it explicitly: the justification is grounded in the *fact* of meaning-compliance, not in the recognition of the fact. So, it is also possessed by the unsophisticated members of the community in question. Their basic logical inferential practice, when true to the meanings of the constants involved, is just that— it is what they *ought* to do in conformity with those meanings, —and justified accordingly.

**Not so fast**

The requirement of *coherent semantic incorporation (*= the real issue with Bad Company*).* Practice in accordance with the meanings of the logical constants has to cohere with practice in accordance with the antecedent meanings of the statements between which the logical principles in question allow us to transition by inference.

**Entitlement to the rescue?**

An idea in “Warrant for Nothing”[[1]](#footnote-1) applied to this case yields that a community is entitled to confidence in the conclusion of an accepted pattern of inference, *I*, when justifiably confident in its premises, just if

(i) There is no extant reason to regard *I* as unsound

(ii) Any attempt to demonstrate the soundness of *I*, if feasible at all, would either require further inferential moves instantiating *I* itself or require other principles, *I* \*, of no more secure an antecedent standing than *I* (where the attempt to justify *I* \* would in turn require moves instantiating *I* \* or *I*, or other principles of no more secure an antecedent standing. and where this point iterates indefinitely . . . . .)

(iii) Potentially valuable, even indispensable, cognitive projects require applications of *I* (or, instances of other inferential principles that are sound only if *I* is.)

When *I* meets these three conditions, then according to the proposal, the community is entitled to rely on its application in their general practices of belief management. and crucially, so it is proposed, this entitlement — like any right— is independent of their having any inkling either that, or why, they have it.

Compare Reichenbach on induction. (Reichenbach, H. [2006]. *Experience and Prediction: An Analysis of the Foundations and the Structure of Knowled*ge, (first published 1938), Chicago: University of Chicago Press.)

**But if we buy this argument, why do we now need the semantic inferentialism??**

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1. C. Wright, (2004). “Warrant for nothing (and foundations for free)?” *Aristotelian Society Supplementary Volume* 78 (1):167–212. [↑](#footnote-ref-1)