Intuition, Entitlement and the Epistemology of Logical Laws

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ABSTRACT

The essay addresses the well-known idea that there has to be a place for intuition, thought of as a kind of non-inferential rational insight, in the epistemology of basic logic if our knowledge of its principles is non-empirical and is to allow of any finite, non-circular reconstruction. It is argued that the error in this idea consists in its overlooking the possibility that there is, properly speaking, no knowledge of the validity of principles of basic logic. When certain important distinctions are observed, for instance that between recognising that Modus Ponens is sound and recognising that it is proof against the competent discovery of basic counterexamples, the case for thinking that there is indeed no space for genuine recognition of the validity of Modus Ponens becomes increasingly impressive. It is argued however that, the impossibility of knowledge notwithstanding, we are, in an important sense, entitled to take it that Modus Ponens is sound and that this notion of entitlement can help break the trichotomy – intuition, inference, experience – which imprisons our ordinary thinking about logical knowledge.

Logic gives rise to three hard, interrelated epistemological problems – two of them (at least until quite recently) surprisingly neglected. One is the problem of saying what exactly, at the level of a movement of thought, an inference is – what it is for a belief to be formed as a result of inference. The second is to determine under what circumstances an inference transmits a thinker’s justification for its premisses to its conclusion – under what conditions a thinker is in position genuinely to learn by a particular inference. But it is the third that has attracted most attention, though not – so far – any very thorough or persuasive treatment. It is natural – and traditional – to regard the most fundamental laws of logic as among the most certain components of our knowledge. We know, we think, that modus ponens, for instance, is a valid rule, and that this knowledge is as rock-solid as any we have. But it is notoriously difficult to say anything satisfactory about the provenance of such knowledge: about how it is, or might in principle be achieved. That is the issue on which I focus here (though mindful that no treatment of any of the problems is likely to prosper which does not heed the other two.)

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I.

By ‘intuition’ I shall here mean, roughly, a faculty of a priori, non-inferential rational insight, delivering propositional knowledge – knowledge of truths. A simple thought makes it seem inevitable that there will be work for this notion in the epistemology of logic, granted only that basic logical laws are indeed part of our knowledge. The simple thought is this. The principles of logic cannot all be known by doing logic – by inference – since acquiring knowledge by inference presupposes, so one might naturally suppose, that one first knows of the validity of the relevant rules of inference. Thus there have to be rules of inference whose validity is not itself recognised by inference if inference is to deliver knowledge at all. What is left, then, but intuition, in roughly the sense gestured at, to vouchsafe the validity of such rules?

The idea that basic logical and indeed basic mathematical knowledge is somehow intuitive in this way is a venerable tradition which runs from Euclid to Frege and lingers in the thoughts of many modern philosophers, unconvinced by the attacks on the a priori launched by Quine and others. Again: if inference can deliver (a priori) knowledge at all, then must not its ability to do so ultimately rest – on pain of vicious regress – on basic principles which themselves admit of no proof but are simply directly evident to rational scrutiny?

The idea may seem unavoidable, but it merits remark that at least one important line of contemporary research\(^1\) has maintained that it is not – that knowledge of the validity of basic rules of inference can coherently be conceived as itself the product of inference. More on that in a moment. But whether or not unavoidable, the idea that logic is ultimately founded on intuition is certainly less than wholly comfortable. A major – but not the only – problem is that, venerable as the tradition of postulating intuitive knowledge of first principles may be, no-one working within it has succeeded at producing even a moderately plausible account of how the claimed faculty of rational intuition is supposed to work, – how exactly it might be constituted so as to be reliably responsive to basic logical validity as, under normal circumstances, vision, say, is reliably responsive to the configuration of middle-sized objects in the nearby environment of a normal human perceiver. In brief, rational intuition seems to hold out no prospect of integration within the broad body of scientifically accountable knowledge – accountability within the explanatory

\(^1\) That proposed by Paul Boghossian, who has argued in several places (see especially Boghossian 2003) that a justification for at least some basic rules of inference may be achieved in a ‘rule-circular’ fashion. I’ll come back to this.
resources of a broad scientific naturalism. The phenomenology of obviousness that attends basic logic is beyond dispute. But to acknowledge that is no commitment to the idea that such obviousness is the marker of a very fundamental, very solid form of cognitive success. The intuitional tradition can all too easily seem like one of empty self-congratulation. And that worry then gives aid and comfort to the opposed Quinean thought that actually the only real cognitive pedigree enjoyed by our most basic logical beliefs is something they share with the laws of well-entrenched empirical science – to wit, a central role in the system whereby we organise and modify our network of empirical belief.

If our knowledge of fundamental laws of inference is neither intuitional nor inferential a priori, then the Quinean proposal represents the last of three prima facie exhaustive possibilities: viz. the possibility that our knowledge of basic logical laws is, as Mill supposed for basic arithmetic, not a priori at all but part of our empirical knowledge. Much of the resistance to this idea has been fuelled, no doubt, by the consideration just noted – the impressive pre-experimental phenomenology of obviousness that simple logic enjoys. But be that as it may, any claim the Quinean proposal might have to forestall the misgivings about intuition is rapidly exploded by the reflection that it must surely be equally vulnerable to the difficulty which motivated the intuitional view in the first place. Simply: any plausible account of the methodology of empirical theory, a fortiori of ‘deeply entrenched’ empirical theory, must represent it as riddled with logical inference. Crudely, theoretical hypotheses get to be confirmed – get to be ‘deeply entrenched’ – by testing their consequences: it takes inference to acquire any but the most immediate empirical knowledge. So for just so long as we continue to presuppose that the acquisition of knowledge by inference requires knowledge of the validity of the principles of inference employed, the Quinean epistemology of logic will be no less viciously regressive than the simpler but seemingly hopeless idea which calling on intuition was meant to avoid, viz. that one may reason ones way to basic logical knowledge.

We had therefore better ask: is the simpler but seemingly hopeless idea really hopeless? In a number of recent papers, Paul Boghossian has resourcefully argued that it is not. His considerations are various, ranging from the reflection that we credit intelligent animals and young children, who presumably have no concept of valid logical inference as such – nor therefore any knowledge about it – with the ability to learn by reasoning, to the suggestion that the message of Lewis Carroll’s famous 1895 note in *Mind* is that it leads to vi-

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2 In addition to his paper cited, see Boghossian 2000a and 2000b.
cious regress, or circularity, to suppose that acquiring knowledge by inference must presuppose knowledge of the good-standing of the particular inference involved or the general rules it deploys. If the presupposition is waived, then the possibility is opened that, as Boghossian puts it, blind reasoning – reasoning uninformed by self-conscious logical policing – may be knowledge-conferring. And if that is a possibility, might it not be that one can blindly infer to knowledge of logic itself?

It is an arresting thought. But Boghossian is, of course, vividly aware that the prospect is vain unless an account can be given of which the knowledge-conferring blind inferences are; for plainly not every merely valid inference generates knowledge of its conclusion just provided its premises are known. Boghossian gives the example of Fermat’s Last Theorem. This, as we now know, corresponds to a valid rule of inference. But only the most sclerotic externalist would regard inferences from known premises made in accordance with Fermat before we had Wiles’ proof as having been knowledge-conferring. So, if not in general, then under what conditions can a valid inferential movement of thought generate knowledge even though uninformed by knowledge of its logical credentials? Boghossian thinks it is possible to give a purely general answer, in the tradition of conceptual role semantics: blind inference can be knowledge-conferring provided it is in accordance with concept-constituting rules – rules such that it is a condition for possession of one of the concepts in the premises and conclusion of the inference that a thinker be disposed to accept inferences of the kind in question.

I shall not here further consider the recent debates about this kind of proposal nor the details of Boghossian’s ongoing development of it. Rather I want to note a limitation it shares with any attempt to ground knowledge of logic in blind reasoning, no matter what characterisation one offers of the conditions under which blind inference is knowledge-productive. Let C be a correct such characterisation. So if an inference meets conditions C, then the inferrer gets to know its conclusion if she knows its premises. The question is how this result might get us what we want: a vindication of the claim that, as I expressed it in my opening paragraph, “[w]e know....that modus ponens, for instance, is a valid rule, and that this knowledge is as rock-solid as any we have”. The notable point is that the claim that has to be vindicated is second-order: it is not the claim that modus ponens is valid but the claim that we know that it is valid that has to be made good. How is this to be delivered?

To see the problem, consider a third personal perspective on the situation. We – theorists – are considering whether a valid chain of inferences performed by a

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3 For discussion of Boghossian’s arguments, see Wright 2000.
thinker, Hero, on the basis of which he has concluded that a certain inference rule R is sound, is knowledge-conferring. It will be so if it meets conditions C. So we are in position to claim that Hero has come to know the rule – that the belief in its validity that he has formed is a knowledgeable belief – if we are in position to claim that conditions C are met by his inference. Plainly, since invalid inference cannot be knowledge-productive, C had better include as a minimum the requirement that the rules involved be valid. So we need to be in position to claim that the rules involved in Hero’s inference are valid if we are to defend the knowledgenessability of his belief in the validity of R. But now – a point with connections to Moore’s Paradox – the defensibility of any claim one makes stands or falls with the defensibility of the claim that one is in proper epistemic position to make it: one succeeds in justifying P if and only if one thereby succeeds in justifying the claim that one knows or is justified in claiming P. So to defend the knowledgenessability of Hero’s belief in the validity of R, we need to be in position to claim that we know, or at least justifiably believe, that the rules involved in his inference are valid. And now, if the inference in question is a rule-circular one, that means that we have to be justified in claiming that we know, or at least justifiably believe, that R is valid before we can credit Hero with the acquisition of that same knowledge by blind inference via R. Obvious corollary: if the perspective is first-personal – if we are ‘Hero’ and it is our knowing R to be valid that we wish to vouchsafe, – then the possibility of rule-circularly acquired knowledge is no help to us. For we’ll have to know, and be justified in claiming that we know, that R is valid before we can credit ourselves with the acquisition of that knowledge by blind inference via R. In effect, – when attention is shifted to the task of justifying the claim to knowledge, rather than the validity of the rule, and allowance is made for first-personal dialectical constraints – the rule-circularity of the basic inference issues in a premise-circularity. And whatever the story with rule-circularity, premise-circular arguments are no good.

We seem, therefore, to be in a bind. How might our confidence in basic logic be justified except in one of three ways: empirically (Quine), a priori inferentially (Boghossian), and a priori non-inferentially (Intuition)? Yet each proposal seems unsatisfactory. Intuitionism is open to the complaints of supernaturalism and empty self-congratulation which we noted. But even if we allow that blind reasoning may lead to knowledge of logical principles, no inferential story, it seems – whether Quinean or a priorist (and Quine’s empiricism has additional drawbacks of its own) – can properly address the second-order need: the need to vindicate our claims to knowledge of logic.

What I want to do here is to begin to explore an alternative – fourth – way of looking at the matter: a conception of the epistemological status of basic
logical principles at least – it’s another question how far the ideas I’ll sketch may ramify into the epistemology of mathematics – which is a priorist, so opposed to the Quinean conception, yet makes no play with intuition. I’ll offer some additional considerations later about why I think the intuitional conception should be discarded. But the main task of the first part of the discussion to follow will be to try to persuade the reader that there is a viable but still a priorist alternative to both intuitionism and Boghossian’s inferentialism. Eventually, however, I shall suggest a possible way in which this fourth proposal might complement Boghossian’s.

II.
Here are some passages from Wittgenstein’s remarks *On Certainty* to illustrate (or provide a reminder of) what will be a crucial idea:

163. ...We check the story of Napoleon, but not whether all the reports about him are based on sense-deception, forgery and the like. For whenever we test anything, we are already presupposing something that is not tested. Now am I to say that the experiment which perhaps I make in order to test the truth of a proposition presupposes the truth of the proposition that the apparatus I believe I see is really there (and the like)?

Compare

337. One cannot make experiments if there are not some things that one does not doubt. But that does not mean that one takes certain presuppositions on trust. When I write a letter and post it, I take it for granted that it will arrive – I expect this. If I make an experiment I do not doubt the existence of the apparatus before my eyes. I have plenty of doubts, but not that. If I do a calculation I believe, without any doubts, that the figures on the paper aren’t switching of their own accord, and I also trust my memory the whole time, and trust it without reservation.

Now recall

166. The difficulty is to realise the groundlessness of our believing.

and

253. At the foundation of well-founded belief lies belief that is not founded.

The first point I want to elicit from these remarks is that to take it that one has acquired a warrant for a particular proposition by the appropriate exercise of certain appropriate cognitive capacities – perception, introspection, memory, or intellection, for instance – always involves certain kinds of presupposition. Central among these presuppositions will be the proper functioning on the specific occasion of the relevant cognitive capacities. Further, I take it that Wittgenstein is suggesting not merely that such presuppositions are unavoid-
able but that one cannot, in the end, do better than to take such things for
granted: claims to cognitive achievement must rest, in the end, on groundless
presupposition.

I think it is clear that he is right. That is not to deny that, if one chose, one
could investigate (at least some of) the presuppositions involved in a particu-
lar case. I might go and have my eyesight checked, for example. But the point
is that in proceeding to such an investigation, one would then be forced to make
further presuppositions of the same general kinds (that my eyes are function-
ing properly now, when I read the optometrist’s report, perhaps with my new
glasses on; or that my ears are functioning properly when he tells me of his
findings.) It is a necessary truth that wherever I achieve a warrant for a par-
ticular proposition, – even warrant brutally externally conceived, if that is your
taste – I do so courtesy of the proper functioning of my cognitive powers; so
whenever I, as I think, get in position to claim to have achieved warrant, my
claim must rest on my accepting specific presuppositions – about the proper
functioning of my cognitive powers – for which I will have no specific, earned
warrant. To be sure, I may, in any particular case, set about earning such a war-
rant in turn – and that investigation may go badly, defeating the presupposi-
tions that I originally made. But whether it does or doesn’t go badly, it will
have its own so far unevidenced4 presuppositions. Again: whenever cognitive
achievement takes place, it does so in a context of specific preconditions whose
satisfaction is not the content of any actual cognitive achievement to date.

The statements of these respective preconditions should not be thought of
as just one more kind of Wittgensteinian ‘hinge’ proposition as that term has
come generally to be understood. Hinges, broadly speaking, are standing cer-
tainties, exportable from context to context. Whereas the present range of
cases are particular to the investigative occasion: they are propositions like that
my eyes are functioning properly now, that I am not right now too badly con-
fused to reason effectively, etc.

A natural first reaction to this thought is to feel that our cognitive situation
is suddenly extremely precarious. If all claimable cognitive warrant rests on
ungrounded presuppositions, don’t we just have the materials for a new and
rather ugly-looking sceptical paradox? For presumably our confidence in the
things which we take ourselves to have verified in a particular context can justi-
fably be no stronger than our justified confidence in the presuppositions of
our having verified anything at all. But now it appears that it will always be
the case that some at least of these presuppositions are simply taken for

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4 unbegründet – (On Certainty, § 253.)
granted. Suppose, for instance, I set myself to count the books on one of the shelves in my office and arrive at the answer, 26. Then presumably the warrant thereby acquired for that answer can rationally be regarded as no stronger than the grounds I have for confidence that I counted correctly, and that my senses and memory were accordingly functioning as required throughout. Yet I will have done nothing – we may suppose – to justify my confidence in those specific presuppositions. How then can I responsibly claim to have achieved any genuine warrant at all?

There is much to say about this but here is not the place to try to say it; I must simply offer you the essence of what I take to be the correct line of reply. Since there is no such thing as a process of warrant acquisition for each of whose specific presuppositions warrant has already been earned without further presuppositions, it should not be reckoned to be part of the proper concept of an acquired warrant that it somehow aspire to this – incoherent – ideal. Rather, we should view each and every cognitive project as irreducibly involving certain elements of adventure. In the end, I have to take on trust – and in that sense, take a risk on – the reliability of my senses and cognitive powers in general just as I take a risk on the continuing reliability of the steering, and the stability of the road surface every time I ride my bicycle. As soon as I grant that I ought ideally to check the presuppositions of a cognitive project, even in a context in which there is no particular reason for concern about them, then I should agree pari passu that I ought in turn to check the presuppositions of the check – which is one more project after all – and so on potentially indefinitely. For since at least some of the presuppositions involved at each stage will be no more secure than – indeed may just be tokens of the same type as – the presuppositions made initially, there will be no principled stopping point to the process of checking and the quest for security will be doomed to failure. The right conclusion is not that the acquisition of genuine warrant is impossible, but rather that the sceptical anxiety is guilty of naiveté about what getting in position to claim warrant should properly be taken to require. Warrant may be taken to be acquired whenever an investigation is undertaken in a fully responsible manner. Responsibility in general, however, cannot require more than taking all precautions which may reasonably be required. Ergo epistemic responsibility, in particular, cannot, per impossibile, involve an investigation of every presupposition whose falsity would defeat the claim to have acquired a warrant – for the simple reason that there could be no principled end to such an investigation.

The principle that made the ultimate groundlessness of at least some of the presuppositions involved in any cognitive project look like a fast track to scepticism was that any acquired warrant may rightly be regarded as no stronger
than the weakest of one’s independently acquired sets of reasons for each of its presuppositions. And the crucial point I am tabling is that this principle is wrong. The right principle is rather something like this: that any acquired warrant may rightly be regarded as no stronger than the weakest warrant for any of its presuppositions about which there is some specific antecedent reason to entertain a misgiving.

This strategy of reply concedes that the best sceptical arguments may have something to teach us – that the limits of justification they bring out may be genuine and essential – but then replies that, just for that reason, cognitive achievement must be reckoned to take place within such limits. At least in the kind of cases we have been considering, the attempt to surpass the limits would result not in an increase in rigour or solidity but merely in endless regress and hence cognitive paralysis.

The next task is to fashion these ideas into a definite proposal about epistemic entitlement.5 First a definition: say that

P is a presupposition of a particular cognitive project if to doubt P (in advance) would rationally commit one to doubting the significance or competence of the project.

Then the relevant kind of entitlement – we can call it entitlement of cognitive project – may be proposed to be any presupposition, P, of a cognitive project meeting the following two conditions:

(i) there is no extant reason to regard P as untrue and

(ii) The attempt to justify P would involve further presuppositions in turn of no more secure a prior standing, ... and so on without limit; so that someone pursuing the relevant enquiry who accepted that there is nevertheless an onus to justify P would implicitly undertake a commitment to an infinite regress of justificatory projects, each concerned to vindicate the presuppositions of its predecessor.

5 A word on how I am using the term. Tyler Burge (1993, 458 f.) writes

The distinction between justification and entitlement is this. Although both have positive force in rationally supporting a propositional attitude or cognitive practice, and in constituting an epistemic right to it, entitlements are epistemic rights or warrants that need not be understood by or even be accessible to the subject .... The unsophisticated are entitled to rely on their perceptual beliefs. Philosophers may articulate these entitlements. But being entitled does not require being able to justify reliance on these resources, or even to conceive such a justification. Justifications, in the narrow sense, involve reasons that people have and have access to.

I share with Burge the intent that “entitlement” denote a kind of warranted acceptance which does not require ratifiability by the entitled thinker. But the crucial component in the notion for my purposes – and which is inexplicit in the quoted passage from Burge – is that it denote a kind of warranted acceptability which originates quite otherwise than in the existence of evidence for the truth of the proposition accepted.

The notion is further discussed in Wright 2004.
No doubt that will bear some refinement, but the general thrust is clear enough for our purposes. If a (certain type of) project (cognitive or otherwise) is rationally non-optional – is indispensable in rational enquiry and in deliberation – and if the attempt to vindicate (some of) its presuppositions would raise further presuppositions of its own of no more secure an antecedent status, and so on ad infinitum, then we are rationally entitled to – may rationally trust in, take for granted – the original presuppositions without specific evidence in their favour.

Let me run through the key ideas here one more time. Entitlements of cognitive project are all presuppositions in the sense I outlined – statements, that is to say, of conditions such that a doubt about their obtaining would be rationally sufficient for a doubt about the competence or significance of the particular cognitive project in hand. What makes such a presupposition into an entitlement, it was proposed, is a combination of two additional conditions: first, that one has no information which would warrant doubt that the presupposition was met and, second, that the attempt nonetheless to verify that it was met would implicate further presuppositions of the same sort, of no more secure an antecedent standing, …, and so on without end. In such circumstances, to run the original cognitive project, and to take its findings on board, is merely to run an unavoidable kind of risk – or anyway, one there is no avoiding if one is to run such projects at all (and maybe doing that is nothing optional.) And, so the basic thought goes, it is not irresponsible – one is rationally perfectly entitled – to run unavoidable risks.

III.

If this notion is in good order, then in all circumstances where there is no specific reason to think otherwise, we are each of us entitled to take it – without special investigative work – that our cognitive faculties are functioning properly. But is that the full extent of entitlement of cognitive project, or does it extend to matters of other kinds? What else is presupposed by ordinary cognitive projects in general, whose possible failure to obtain enters into the same broad category of unavoidable risk?

A second immediately salient broad category of such presuppositions is that of conditions articulating the general co-operativeness of the prevailing cognitive environment. My eyes may, on a particular occasion, be functioning well enough yet my acquisition of visually-based knowledge may be frustrated by the character of the background conditions: perhaps the local environment is populated by barn facades, mules cleverly disguised to look like zebras, or
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hi-tech robotic copies of my friends and colleagues. Or again, my intellect and senses may be functioning properly yet my attempt to acquire knowledge by some routine calculations may be frustrated if they require more written pages of formulae than I can simultaneously attend to and the written figures which I am not attending to mysteriously mutate or disappear. Our cognitive faculties are merely abilities and, like all abilities, their successful exercise depends upon the co-operative nature of the prevailing circumstances. That circumstances are appropriately co-operative is clearly a presupposition of any cognitive project in the sense we defined, namely, that to have reason to doubt it in a particular case would indeed be to have reason to doubt the significance or competence of the project in question. It is thus an entitlement of project to take it that the prevailing circumstances are indeed appropriately co-operative in any case where there is no antecedent reason to suppose that they are not, and where to attempt to investigate the matter nevertheless would throw up further, no safer presuppositions of the same sort. The clinching thought is therefore that such an investigation would presumably be bound to have that regressive character – I may indeed, for instance, investigate the stability of the figures on the paper, or scrutinise the environment for barn facades, but in doing so I will have to take it for granted that the prevailing conditions are generally co-operative for the successful operation of the faculties deployed in these further investigations.

This reflection, coupled with those in the preceding section, delivers a modest but successful coup against one kind of scepticism. If we are in general, absent specific reasons for doubt, rationally entitled to take it that our cognitive faculties are operating properly in an environment which is broadly co-operative – broadly conducive to their successful operation, – then we are immediately entitled to discount the scenarios of cognitive disablement and dislocation – scenarios like those of persistent dreaming, entainment, or long-term deception by a Cartesian malin genie – which are the stock-in-trade of one familiar form of sceptical paradox. True, we do not, just by that reflection, get any closer to having real countervailing evidence against the obtaining of these uncongenial possibilities. That is why the coup is modest. Still we are rationally entitled to discount all such scenarios, and so to discount any sceptical doubt that may be erected upon their possibility. So if, as I would suggest, what is primarily disconcerting about the best such sceptical arguments is their apparent ‘post-modernist’ implication that our entrenched cognitive procedures are actually groundless and arbitrary, and of no deeper standing than rules of etiquette, then what we have just seen is a line of thought which blocks off that implication. It blocks it off by pointing out that there is a dis-
tinction between being rationally entitled to proceed on certain suppositions, and the having of evidence that those suppositions are actually true. You can be in the first situation without being in the second. It would be wonderful to be in the second situation, of course, but it is by no means useless if we are merely in the first. For then, even if the best sceptical arguments establish the impossibility of the second, their doing so may do nothing to impugn the principled, rational character of our best procedures. (That’s why the coup is successful.)

IV.

We have recognised two arguable species of entitlement of cognitive project: to the proper functioning, on an occasion, of relevant cognitive faculties, and to the co-operativeness of the prevailing circumstances in the successful operation of those faculties. But how does this bear on the matter in hand – the epistemology of basic logic? Well, pretty directly. Basic logic is clearly a third potential kind of example – we can anticipate exactly this kind of rational entitlement to rely on the validity of the basic inferential machinery, if any, involved in the execution of a project. The validity of such machinery is clearly presuppositional in the sense defined. And we – fortunately – characteristically lack evidence that it is invalid. So the crux is condition (ii). Of course it is true that, if a rule of inference is challenged or falls into question, we may very often be able to address the concern. But addressing it is going to involve inference, and familiarly, in the most basic cases, a seemingly inevitable reliance upon a principle of inference in a meta-language of the very same pattern as the rule under scrutiny. Consider, for instance, the kind of thing that it would come very naturally to say if someone – a very dull student, perhaps (or maybe a rather clever one) – really did ask for a justification of Modus Ponens. You’d probably say something like

“Look, a conditional statement is true just provided that if its antecedent is true, so is its consequent. Right? So suppose you’re given that a certain statement is true, and that so is a certain conditional statement in which that statement features as the antecedent. Then it follows that the consequent is true. And that will hold no matter which statements you are concerned with. See?”

A fully explicit representation of that train of thought would obviously involve the use of Modus Ponens itself in the underlying logic. Since any legitimate concern about the original rule should, manifestly, not be assuaged by meta-

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6 I prescind on this occasion from refining the formulation so as to respond to the slight but harmless awkwardness that the characterisation of entitlement proposed has no immediate application to the acceptance of a rule.
theoretic reasoning in the very same pattern, it follows that if this is the best that we can do, then – at least in cases where we have no antecedent reasons for misgivings about a rule – reliance upon it should be regarded as an entitlement.

There are, of course, going to be subtleties here about which exactly are the rules of inference which we might regard ourselves as entitled to in this way, and to what extent a principled demarcation can be made between them and rules the right to use which has to be cognitively earned. But however the discussion of those matters may best go in detail, it is natural to expect that the rules of Modus Ponens (henceforward MPP) and (some version of) Conditional Proof as represented by the schematic transitions:

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\begin{align*}
\{A_1,\ldots,A_n\} &\vdash A ; \quad \{B_1,\ldots,B_n\} \vdash \text{if } A, \text{ then } B \\
\{A_1,\ldots,A_n, B_1,\ldots,B_n\} &\vdash B \\
\{A_1,\ldots,A_n\} &\vdash B \\
\{A_1,\ldots,A_{n-1}\} &\vdash \text{if } A_n, \text{ then } B
\end{align*}
\]

and

\[
\begin{align*}
\{A_1,\ldots,A_n\} &\vdash B \\
\{A_1,\ldots,A_{n-1}\} &\vdash \text{if } A_n, \text{ then } B
\end{align*}
\]

will turn out to count as basic entitlements of the intended kind.

At least: it is natural so to expect so long as we have turned our backs on the venerable conception that views our apprehension of the validity of rules of this kind as intuitive. In classifying the acceptance of such rules as entitlements of cognitive project, we affirm their presuppositional status in a given (very large) range of cognitive projects, together with the considerations (i) that we are possessed of no reason to call them into question and (ii) that, were an attempt to justify them to be made, it would necessarily involve reliance on an inferential apparatus of no more secure an antecedent standing – actually, in this case, a reliance on the very same inferential apparatus. But the last claim is, of course, wrong if there is another, non-inferential way whereby the validity of the rules in question might be recognised. Just that possibility is attempted by the venerable thought that the validity of our most basic rules of inference is given to us by a kind of immediate rational insight or intuition. I will now make so bold as to argue that, for a reason additional to the worries about “self-congratulation” and supernaturalism voiced in my opening remarks, the venerable thought is bankrupt in this context.

V.

Let me first state the argument in an over-simple way. Intuition, whatever exactly it may be, if it is to give us recognition of the validity of MPP, will have
to be capable of going to work in the context of an antecedent understanding of the conditional and an open-mindedness about the status of MPP – just as perception can go to work in the context of an understanding of the proposition that I have left my keys in the garage and an open-mindedness about the truth value of that claim. The point is, however, that there is no such possible context. It is constitutive of an understanding of the conditional to acknowledge, at least implicitly in one’s practice, the rule of MPP. So an understanding of the conditional cannot coherently be supposed to provide the materials for an intuitive recognition that the rule is sound. If it could, there ought to be such a thing as understanding the conditional perfectly yet – because of a failure of one’s intuitive faculty rather than one’s faculty of comprehension – failing to be arrested by the validity of the rule. That there is no such possibility means that here there is no work for intuition to do – there is no space for it to work in.

This claim may attract the following rejoinder. Surely there is no denying that there is such as thing a being trained in the use of the conditional just by direct immersion in practices in which reasoning to and from conditional statements is in play – and only later coming into a reflective understanding of the concept. Surely this is what actually typically happens. But in that case why cannot we say that an understanding of the conditional – the understanding implicit in competent ordinary practice – can appropriately underwrite an intuitive recognition that MPP, say, is valid? It’s just that recognition of its validity is inevitably triggered by the process of bringing the implicit understanding to reflective self-conscious awareness.

The rejoinder is a weak one. For one thing, the point has not gone away that if there really are two things – understanding the conditional and recognising the validity of its basic rules of inference – then it still needs explanation why the former could not, in an unfortunate subject, be as reflective and self-conscious as you like yet still, because of a defective intuitive faculty, leave him short of the wherewithal to recognise the validity of the basic conditional rules. But in any case, there is an additional problem. The proposed version of what goes on in the transition from an implicit understanding to a reflective one is tendentious. We can allow that reflection upon a hitherto unreflective practice of inference in accordance with the conditional rules is normally somehow pivotal in a thinker’s coming to appreciate their ungainsayable appeal. The crux of the matter, though, is whether the appeal they have, appreciated in this way, is the appeal of obvious truths – better: obviously valid principles – as opposed to: obviously correct codifications of actual intentional practice. The distinction is crucial. One would expect that a statement
of the rule for the powers of movement of the Knight in chess would have the same kind of obviousness to someone who had been taught to play chess by immersion in the practice of the game, rather than explicit statement of the rules. But there is no sense in the idea that it is the correctness, that is, the validity of the Knight’s rule that would be reflectively apparent to him. What would be obvious to him would be merely that ‘This is how I play’.

VI.

So much for the basic objection to the explanatory pretensions of intuition. However I warned that the presentation of the argument would be over-simple. The complication we need to take account of is that it is actually highly implausible to require that a mere understanding of the conditional stifle any conceivable reservation about its standard rules. No-one sympathetic with “relevance” considerations, for instance, will be happy with the standard classical rule of Conditional Proof. And as for MPP, well, there are the well-known ‘counter-examples’ of Vann McGee7 which, whatever one wants to say about them, may certainly give pause without impugning the competent understanding of the pauser.8

But this does not affect the objection in principle. It remains that too much is required of one who understands the conditional to leave the elbow room for intuition to work in which is necessary if we are to conceive of it as a sui generis cognitive faculty issuing in and indispensable for our knowledge of basic logic. Where the understanding really does co-operate with another primary faculty – perception or memory, for instance – in underwriting a competence with a suitable range of claims, almost any degree of abnormality in the functioning of the latter can be reconciled with a full and perfect understanding of the claims at issue. I may be completely blind yet perfectly understand all the (non-demonstrative) claims you want to throw at me concerning our local visible environment. I may be drastically amnesiac and just for that reason very concerned about which of a range of claims about my past – which, a fortiori I understand – are true. By contrast you simply don’t understand the conditional unless you are responsive at least to the prima facie case made for a conditional claim by the satisfaction of the premisses for a condi-

7 McGee 1985.
8 This kind of reservation about a simple inferentialist conception of the meanings of the logical constants is elaborated in Timothy Williamson’s (2003) reply to Boghossian (2003). I do not think it is clear that Boghossian’s argument there needs to rely on so simple an inferentialist view, but I take no stand on the matter here.
And you don’t understand the conditional unless you are ready to practice with it in a manner that is broadly compliant with MPP, notwithstanding the fact that something needs to be said about certain cases where compound conditionals – conditionals embedding antecedents or consequents that are themselves conditional – are involved. If we had a faculty of basic logical intuition worth so regarding, it should have the independence of the understanding that perception and memory have, interacting with the understanding in the generation of logical opinion in the way that they do in the generation of opinion about the perceptible locality and the past. We have nothing that performs like that.

VII.

If this is right, and any intuitional story is rejected, then it seems we may now have to face the conclusion that MPP is not merely an entitlement of cognitive project but a rule of inference to rely on which we have only entitlement of cognitive project – that no superior form of cognitive achievement is here possible. The content of the conditional is given, broadly, by the practice of inference in accordance with MPP and conditional proof. It does not stand apart from that practice providing a standard whereby the adequacy of the practice might be assessed, or a piece of information by which it might be intuitively recognised as sound. Yet there are still various possible failings – inconsistency, epistemically irresponsible forms of non-conservativeness, etc. – which, in general, a practice so constituted may prove to exhibit. And there remains, I acknowledge, a strong inclination to say that we know that our practice with the conditional is, insofar as we are concerned with features just attributable to the role of the conditional, innocent of such failings – at least, that if we get into trouble, then – pace McGee – it won’t be MPP’s fault.

I want to suggest that the impression that we have knowledge of these matters fails to sustain the necessary contrasts with two feasible but lesser cognitive achievements in the vicinity. Let us pause to accomplish them now. The first is the reflection that what rules out a fully comprehending open-mindedness about the status of MPP also rules out a competent belief that one has hit on a counterexample – or at least a basic counterexample. Whatever one makes of the McGee cases, the sincere impression – at least for atomic P and Q – ‘See, here I have a case where both P and if P then Q hold, yet Q doesn’t’, merely convicts the thinker of misunderstanding of the conditional (unless there is misunderstanding of conjunction, negation, or the ingredient clauses.) So there is no such thing as believing that one has a basic counterexample to
And if not, then a fortiori there is no such thing as intelligently finding one either. In that sense, \textit{MPP} is proof against – at least basic – counterexample.\footnote{This point is made in Hale 2002.}

Of course, a rule can \textit{in this} way be proof against counterexample – immune to competent correction – yet still defective. For instance, it may still work in tandem with other rules for the operator it concerns to generate inconsistency, or other forms of invalidity. Just that is the situation of Prior’s famous rules for ‘tonk’. But, interestingly, the conditional rules have a kind of immunity to the possibility of disclosure of this kind of problem too. When we show that the tonk-rules are unsound – that they permit the derivation of any proposition from any other – we treat schemata of the two rules as premises and reason from them in a theory which utilises the two conditional rules. This reliance is undischarged in the discovery of the incoherence of ‘tonk’. A demonstration that a similar kind of singularity attended \textit{MPP} or conditional proof would likewise involve an undischarged reliance upon rules in a metatheory which, one cannot but foresee, would itself incorporate the conditional rules. So the conclusion of the reasoning would have to involve an undischarged reliance on the validity of those rules. We would thus be in the incoherent position of depending upon the validity of ordinary conditional reasoning in disclosing its invalidity. This is, emphatically, not what happens in ordinary reasoning by \textit{reductio ad absurdum}. \textit{A reductio} proof survives the discharge of its premise, remaining as a standing demonstration that the premise deserved to be discharged. By contrast, once we discharged the conditional rules, no standing demonstration of their invalidity would remain.

In sum: we can knowledgeably foreclose on the possibility of each of two discoveries: that one of the conditional rules taken in isolation, has a basic counterexample or that they work together to engender triviality, or some other form of catastrophe, after the fashion of ‘tonk’. To acknowledge these two points, however, is merely to recognise that certain kinds of anxiety about the conditional rules will be incoherent or self-undermining. We are not going to find trouble of either of two kinds. That’s a good argument for not being anxious about such discoveries. But it doesn’t amount to a recognition that the conditional rules are sound.

In general it’s hard to see what possible positive reason we could give ourselves for thinking that our inferential practice with the conditional is sound that would not variously rely on conditional reasoning. To be sure, for a theorist who is content to construe knowledge – at least locally, in this particular kind of case – in some appropriate externalist way, it can still be true that we do, properly speaking, \textit{know} that our rules of inference for the conditional are
That is the view in effect—although he will want to qualify its description as externalist\(^{10}\)—that Boghossian has been trying to make good in the work I referred to. Once again: for Boghossian, when reasoning proceeds in accordance with basic, meaning-conferring\(^{11}\) rules, it is unnecessary, in order that the subject acquire knowledge of a conclusion, that there be prior knowledge of the validity of the rules involved. So a derivation—\textit{a rule-circular} derivation—of a schematic statement of MPP, say, may in principle be at the service of the acquisition of knowledge that the rule is valid even though that very rule is used therein. We observed however that, if the question is not how we might get such knowledge but our right to claim it, then Boghossian’s proposal is no help—that the claim to knowledge must rest, even in the rule-circular case, on a prior claim that the machinery utilised in the rule-circular derivation is valid. Indeed, this is a characteristic kind of failing: it’s a characteristic weakness of externalist manoeuvres in epistemology that, while leaving us rich in possibilities for knowledge, they tend to leave us short on claims to have it. At this point, therefore, it’s hard to see that we are in position to claim to know that MPP is sound; it is hard to see that we are better placed than to claim it as a pervasive entitlement of cognitive project.

\textbf{VIII.}

But if that is the most we can justifiably claim, then someone may now have the following worry. If basic rules of inference enjoy this kind of status—if their validity is, so to say, a mere entitlement, \textit{beneath} cognitive achievement—how is that compatible with a right \textit{ever} to claim knowledge on the basis of deductions in accordance with them? If I correctly reason, even from premises I know to be true, in accordance with a rule of inference which—for all I know—I am merely entitled to take to be sound, how do I get an any more robust warrant for the conclusion at which I arrive than a mere entitlement to take it to be true? Presumably the consequences of premises which are mere entitlements could not, just on account of their being consequences, acquire a more robust form of cognitive status. If I am merely entitled to accept P, and I show that it entails Q, I can, to be sure, thereby get an entitlement to accept

\(^{10}\) Boghossian construes the traditional internalist insistence that knowledge or justification should be (partially) reflectively appreciable as driven by an underlying requirement of epistemic responsibility, and so is able to regard any belief-producing process as still accredited, so to speak, from an internalist point of view, even if it involves no element of reflective self-policing, provided it opens the believer to no accusation of epistemic irresponsibility. That is the situation, in his view, of inference in accordance with a concept-constituting pattern.

\(^{11}\) Of course, as he is very well aware, it is a crux for him to say which cases these are and why their meaning-conferring role underwrites his view.
Q – but surely nothing better unless via some independent grounds. Why doesn’t the same limitation apply to the conclusions of inferences from known premises if they are drawn in accordance with rules which we are merely entitled to suppose to be sound?

If that were so, then inference in general would not be a means of extending knowledge – not if all inference must in the end depend on the basic rules, and they are merely entitlements. But I do not think it is so. Rather, to be tempted by the thought that inference in accordance with merely entitled rules must correspondingly downgrade the status of its conclusions would be to be tempted by a false modesty. If we are entitled to claim that a principle of inference is sound, then it is part of the content of that entitlement to suppose that the rule in question is available for the deductive extension of our knowledge. Compare: if I am entitled to claim that my eyes are right now functioning properly, then I am entitled to claim that reliance upon them is right now at the service of acquiring perceptual knowledge of my local environment. So we are entitled to claim knowledge of a statement which we have recognised to follow from known premises by inference in accordance with an entitled rule. We are not restricted to (claiming) a mere entitlement to such conclusions.

That generates an interesting twist. For now – to about face – it would appear that we may be in position to claim better than a mere entitlement to trust in the validity of MPP: it may be that we are in position to claim knowledge after all. For if we are entitled to claim knowledge of a statement which we have recognised to follow from known premises by inference in accordance with entitled rules, then we are surely entitled to claim knowledge of a statement which we have recognised to follow from an empty set of premises by inference in accordance with entitled rules. But – assuming an entitlement to MPP and conditional proof – that is just what a rule-circular derivation of MPP provides for.

Such a derivation could proceed like this:

1 (i) P Assumption
2 (ii) If P, then Q Assumption
1,2 (iii) Q (i), (ii) Modus Ponens
1 (iv) If (if P, then Q), then Q (ii), (iii) Conditional Proof
(v) If P, then if (if P, then Q), then Q (i), (iv) Conditional Proof

Here, at line (v) we arrive, discharging all assumptions, at a schematic statement of MPP which has been established by appeal only to rules which we are entitled to regard as valid. And whatever can be established by appeal only to such rules we are entitled to regard as proved – and hence as known.
IX.

Let's take stock. The problem on which I have focused is that posed by our – presumed – knowledge of the validity of basic logical laws. But the problem has a first-order and a second-order dimension. The first-order problem is: if we do indeed have the knowledge of the validity of basic logical laws that we think we do, how might this knowledge be achieved? I have argued against a conception of its provenance as either intuitive or empirical; but I have endorsed Boghossian's suggestion that, suspicious as the idea may initially seem, a model that represents it as acquired by (rule-circular) inference has yet to be seen to be incoherent. The – at this point – outstanding problem with any such model is not with the acquisition of knowledge but the second-order problem: that of explaining with what right we claim it – as we undoubtedly wish to do. What we have seen is that if the rule-circular response to the first-order problem can be made to work, then the second-order problem has a chance of being addressed by invoking the notion of entitlement of cognitive project. If, on the other hand, the rule-circular account should prove to founder, then my suggestion is that we should consider that there is at this level only entitlement: what we have, at the level of the most basic laws of logic, is not knowledge, properly so regarded, at all but something beneath the scope of cognitive enquiry, – a kind of rational trust, susceptible beneath corroboration nor rebuttal by any cognitive achievement.

A final point. The central plank in Boghossian's proposal is that blind reasoning may be warrant-conferring – that an inference may endow a thinker with warrant for its conclusion who has no knowledge, indeed perhaps no concept of the validity of the rules involved. The question, though, is when – for which kinds of inference – this can happen. Boghossian gives a generic answer: inference is warrant-conferring when acceptance of its conclusion opens the thinker to no charge of epistemic irresponsibility, and fills it out with the suggestion that such is the situation just when the rules of inference deployed constitute non-defective concepts. But the generic answer could be filled out differently. It is as plausible that a thinker is likewise open to no charge of epistemic irresponsibility in inference if the rules followed are entitlements, beyond doubt but beneath justification. The further relations between entitled rules and meaning-constitution merit further investigation.12

12 Since its presentation at the Fribourg conference, subsequent versions of this paper have been given at the European Summer School in Analytical Philosophy, Florence, in July 2003 the Arché graduate conference at St. Andrews, and at a departmental colloquium at the University of East Anglia. My thanks to the discussants on those occasions and to Arché colleagues at St. Andrews in September 2003 for additional seminar discussions of the issues. The paper was completed during my tenure of a Leverhulme Personal Research Professorship and I gratefully acknowledge the support of the Leverhulme Trust.
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