DOUBLE TROUBLE FOR LOGICAL PLURALISTS

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According to tradition, logic is normative for reasoning. According to many contemporary philosophers of logic, there is more than one correct logic. What is the relationship between these two strands of thought? This paper makes two claims. First, logic is doubly normative for reasoning because, in addition to constraining the combinations of beliefs that we may have, logic also constrains the methods by which we may form them. Second, given that logic is doubly normative for reasoning, a wide array of logical pluralisms are inconsistent with the normativity of logic as they entail contradictory claims about how agents ought to reason. Thus, if logic is normative for reasoning, these pluralisms are untenable.

I

Introduction. A time-honoured view has it that logic is normative for reasoning. A more recent view, *logical pluralism*, has it that there is more than one correct logic. What is the relationship between these two views? In a bid to help answer this question, this paper advances two theses. First, the *Double Thesis*: logic is doubly normative for reasoning because, as well as constraining the *combinations* of beliefs that we may have, logic also constrains the *methods* by which we may form them. Second, the *Inconsistency Thesis*: given that logic is doubly normative for reasoning, many pluralisms—including those defended by Beall and Restall (2006), Field (2009a), and Varzi (2002)—are inconsistent with the normativity of logic, as they entail logically contradictory claims about how agents ought to reason. Accordingly, if logic is normative for reasoning as I suggest, these pluralisms are untenable.

© 2021 THE ARISTOTELIAN SOCIETY Proceedings of the Aristotelian Society, Vol. CXXI, Part 3 doi: 10.1093/arisoc/aoab005 The Double Thesis. Orthodoxy has it that logic is normative for reasoning. In this slogan, the term 'logic' refers to *correct* logics¹—after all, incorrect logics do not tell us how we ought to reason—and 'reasoning' to the process of forming and revising our doxastic attitudes via inference (Harman 1986, pp. 1–2). This section argues for the Double Thesis: logic is doubly normative for reasoning because it constrains the combinations of beliefs that we may have and the methods by which we may form them. As we shall see, the novelty of this proposal resides in the fact that the former aspect of logic's normativity has been discussed extensively whereas the latter has gone unnoticed.

To illustrate that logic is doubly normative, we begin with two examples of reasoning gone awry:

Suky. Suky truly believes both that there is a cat on the mat and that there is a dog on the log, but refuses to take a stance on their conjunction.

Max. Max is curious about how Aeschylus died. He reasons: if an eagle dropped a tortoise on Aeschylus's head, then Aeschylus is dead; Aeschylus is dead, so an eagle dropped a tortoise on his head.

Both Suky and Max make logical errors, albeit of different kinds. Suky's reasoning is problematic because of the *combination* of beliefs she has. The problem is that she believes two conjuncts but refuses to take a stance on the conjunction which they straightforwardly entail. Moreover, this is erroneous regardless of how she formed these beliefs. By contrast, Max's fault lies not in his combination of beliefs—indeed, they are all true—and therefore his error is of a different kind to Suky's. Rather, his mistake resides in the *method* by which he formed his belief, namely, via the invalid inference of affirming the consequent.

These two kinds of errors indicate that logic is doubly normative for reasoning: it constrains both the *combinations of beliefs* that agents may have and the *methods* by which they may form them. However, we cannot immediately conclude from these cases that the Double Thesis is true. Ever since Harman (1986) showed us that

¹ Loosely speaking, a logic, L_i , is correct just in case a natural language argument is valid in the extra-systemic sense of 'valid' if and only if its counterpart in L_i 's formal language is L_i -valid (Haack 1978, pp. 221–2).

logical facts and normative constraints on reasoning are not identical, if logic is to be normative for reasoning in either way there must be true *bridge principles*. Bridge principles are conditionals whose antecedents are logical facts and whose consequents are the normative constraints on reasoning that these facts induce (MacFarlane MS). Accordingly, logic is normative for belief combinations and methods just in case there are separate bridge principles linking logical facts to constraints on belief combinations and to constraints on methods of belief formation. The remainder of this section establishes the Double Thesis by articulating bridge principles of both kinds.

We begin with the bridge principles capturing the normativity of logic for belief combinations. As illustrated by Suky's case, constraints on belief combinations are induced by validity facts of the form form $\Gamma \vDash_{L_i} \varphi$, where L_i is a correct logic. Let us call the bridge principles relating validity facts to these constraints validity bridge principles. The existing literature on the normativity of logic has focused exclusively on whether there are any true validity bridge principles, and this remains a matter of great controversy (see, for instance, Harman 1986; Streumer 2007; Milne 2009; Field 2009b; Pinder 2017; Steinberger 2019a, 2019b; MacFarlane MS). Happily, we can circumvent this issue. §III aims to show that many pluralisms are inconsistent with the normativity of logic, as they entail contradictions when two of the pluralist's logics conflict over an argument's validity. Since these conflicts can arise for arguments whose conclusions are both easily deducible from their premisses-such as basic disjunctive syllogisms and double-negation eliminations-and of interest to the agent, we only need a validity bridge principle that holds in these 'simple' cases, such as:

 (VBP_{L_i}) If $\Gamma \vDash_{L_i} \varphi$, then *s* ought to (if *s* believes Γ , then *s* believes φ).²

Thus when it comes to simple arguments whose conclusions are of interest to the agent, (VBP_{L_i}) states that if the argument is valid according to a correct logic, then *s* ought to see to it that if they believe the premisses, then they believe the conclusion.

² Since (*VBP_{Li}*), is restricted to simple cases, it can be understood as an evaluative, directive, or appraisal norm in Steinberger's (2019a) sense.

Whilst (VBP_{L_i}) has a number of attractive features, two are particularly salient: it satisfies MacFarlane's (MS, p. 12) *strictness* and *obtuseness* criteria.³ By employing the indefeasible 'ought to' operator, (VBP_{L_i}) captures the fact that in simple cases our logical obligations are *strict*. Irrespective of her reasons for doing so, Suky's reasoning is erroneous if she believes both conjuncts whilst refusing to take a stance on their conjunction. By positively requiring agents to believe the logical consequences of their belief sets (or else revise them)—rather than merely forbidding agents from disbelieving said consequences— (VBP_{L_i}) captures the fact that it is logically wrong to be *obtuse* and, as Suky does, believe both conjuncts whilst refusing to take a stance on their conjunction.

We now turn to bridge principles which capture the normativity of logic for methods of belief formation. Since Max's mistake is that he reasons invalidly, the constraint that he violates is induced by an invalidity fact of the form $\Gamma \not\models_{Li} \psi$. Let us call the corresponding bridge principles *invalidity bridge principles.*⁴

What might an invalidity bridge principle look like? In so far as the existing literature has been exclusively preoccupied with bridge principles concerning constraints on belief combinations, the prevailing conception of the normativity of logic neglects its normativity for methods of belief formation. Thus we are now entering unchartered waters; but the basic idea is that if an argument is invalid according to a correct logic, then agents are forbidden from forming the belief that ψ via deduction from Γ :

(IBP_{L_i}) If $\Gamma \not\models_{L_i} \psi$, then *s* is forbidden from forming the belief that via that ψ via deduction from Γ .

A couple of points are in order. First, deduction as a method of belief formation must be individuated *fallibly*, so that forming beliefs via invalid deductive inferences may qualify as tokens of deduction. This is because if deduction were individuated *infallibly*, and only forming beliefs via valid inferences qualified as tokens of deduction, (IBP_{L_i}) would be vacuous, as it would forbid agents from doing the

 $^{^3}$ Restricting (VBP_Li), to simple cases dispels concerns about over-demandingness, clutter, and paradoxes.

⁴ I have explored invalidity bridge principles in greater detail elsewhere—see Evershed (2021).

impossible: validly deducing ψ from Γ . Since fallibilist method individuation is a mainstream position in contemporary epistemology (see, for instance, Goldman 1979, 1986; Nozick 1981; Sosa 1991; Brown 2018) and there are strong independent arguments in its favour, I take this to be unproblematic.⁵

Second, (IBP) has some attractive features which further motivate it. Uncontroversially, that the sun has risen every previous morning does not entail that the sun will rise tomorrow morning. Although this invalidity fact induces a constraint that forbids agents from believing the latter via deduction from the former, it does not induce a constraint that forbids agents from forming this belief via induction from the same premiss. (IBP_{L_i}) can accommodate this, as any fallibilist individuation of deduction used in epistemology will not count inductive inferences as tokens of deduction. With (VBP_{L_i}) and (IBP_{L_i}) in place, we turn to the *Inconsistency Thesis*.

III

The Inconsistency Thesis. According to the Inconsistency Thesis, given that logic is doubly normative, many pluralisms are inconsistent with the normativity of logic. Roughly, the *normative contradiction argument* for this thesis is that many pluralisms entail contradictory claims about how agents ought to reason when two of their correct logics disagree over an argument's validity.

The main obstacle to establishing the Inconsistency Thesis by teasing out a contradiction from (VBP_{L_i}) , (IBP_{L_i}) and pluralism is that the consequents of (VBP_{L_i}) and (IBP_{L_i}) are not contradictories. Whilst the former says that one is required to have a certain combination of beliefs, the latter says that one cannot form beliefs via certain methods. To jump this hurdle, we require a principle that somehow links the fact that one ought to have a belief to its being permissible to form it via deduction. Principles delineating how oughts transmit from ends to the means by which they can be accomplished—*instrumental transmission principles*—are familiar

⁵ Sosa (1991, ch. 13) and Brown (2018, pp. 114–19) reject individuating deduction infallibly because doing so divorces deduction's reliability from agents' propensity to reason validly and is incompatible with the widely accepted phenomenon of epistemic defeat, where beliefs lose an epistemic status such as justification.

from the literature on instrumental rationality (for an overview, see Kolodny 2018). The following principle fits the bill:

Transmission. If *s* ought to believe φ and *m* is a reliable⁶ method by which *s* can form the belief that φ , then *s* is permitted to form the belief that φ via *m*.

Besides its intuitive plausibility, Transmission satisfies two key desiderata. First, the means that it permits one to employ *increase the probability* of accomplishing the end since employing a reliable method to form a belief is *sufficient* for doing so (Kolodny 2018, pp. 734–7). Second, employing a reliable method like deduction to form a new belief is not *superfluous*, in the sense that part of the permitted means alone is sufficient to form the belief (Kolodny 2018, pp. 747–50).

With Transmission to hand, we may articulate the normative contradiction argument in the following two steps. First, take a simple argument from Γ to φ , like a disjunctive syllogism, whose premisses *s* ought to believe. If this argument is L_i -valid—that is, if $\Gamma \vDash_{L_i} \varphi$ then, by (VBP_{L_i}) , it follows that *s* ought to believe φ . Given that L_i is correct and supposing *s* is an adept reasoner, forming the belief that φ via L_i -valid deduction from Γ is a reliable method for *s*. In conjunction with Transmission, this entails that it is permissible for *s* to form the belief that φ via deduction from Γ . That is, for an adept reasoner who ought to believe Γ , the following methods-oriented validity bridge principle holds:

$(m - VBP_{L_i})$ If $\Gamma \vDash_{L_i} \varphi$, then *s* is permitted to form the belief that φ via deduction from Γ .⁷

Second, suppose that logics L_1 and L_2 are correct and that the argument from Γ to φ is L_1 -valid but L_2 -invalid. Since $\Gamma \vDash_{L_i} \varphi$, it follows from $(m - VBP_{L_1})$ that *s* is permitted to form the belief that φ via deduction from Γ . However, since L_2 is also correct and $\Gamma \nvDash_{L_2} \varphi$, it follows from (IBP_{L_2}) that *s* is forbidden from forming the belief that φ via deduction from Γ . Contradiction. So both L_1 and L_2 cannot be correct. Accordingly, given that logics are doubly normative for reasoning, whenever two of the pluralist's logics conflict over the

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⁶ By 'reliable', I mean reliably truth-tracking.

⁷ Some might find $(m - VBP_{Li})$ plausible independently of the fact that it can be derived from (VBP_{Li}) and Transmission. This strengthens the normative contradiction argument, as it means it can proceed even if one finds (VBP_{Li}) or Transmission problematic.

validity of an argument whose conclusion is easily deducible from premisses that the agent ought to believe, contradiction ensues. Hence the Inconsistency Thesis.

Which pluralisms are vulnerable? To get off the ground, the normative contradiction argument relies on there being an argument to which both L_1 and L_2 can be correctly applied and whose validity they conflict over. And although not all pluralisms allow for the existence of such an argument, many do and are therefore vulnerable. To see why, following Shapiro (2014, pp. 8-9) we can think of different pluralisms as relativising logics to different parameters, such as the cases that the consequence relation quantifies over or domains of inquiry. For a given pluralism, different logics are correct depending on what value this parameter takes, which in turn varies with the features of the argument in question. Consequently, although L_{I} and L_2 may conflict over an argument's validity, if only one of them applies to this argument then no contradiction arises. For instance, on Lynch's (2009) domain-relative pluralism, different logics are correct relative to different domains of inquiry, with classical logic correct in the mind-independent realm but intuitionistic logic correct in the mind-dependent realm. Although these logics conflict over the validity of double-negation elimination concerning mind-dependent entities, only intuitionistic logic applies to this argument, and so no contradiction arises. Whilst Lynch's domain-relative pluralism may not allow multiple logics to apply to an argument whose validity they disagree over, it is very much the exception rather than the rule. Here we sample three prominent pluralisms.8

Beall and Restall's Case-Relative Pluralism. Beall and Restall (2006) claim that the core of our concept of validity is given by the Generalised Tarski Thesis (GTT):

GTT. 'An argument is valid_x if and only if, in every case_x in which the premisses are true, so is the conclusion' (Beall and Restall 2006, p. 29).

Different logics are correct relative to the cases that GTT quantifies over: classical logic when they are Tarskian models, intuitionistic

⁸ Other pluralists include Blake-Turner and Russell (2018), Bueno and Shalkowski (2009), Haack (1978), Kouri Kissel (2018), Russell (2008), and Shapiro (2014). I am inclined to think that these pluralisms are also vulnerable to the normative contradiction argument, but showing this lies beyond the scope of the present work.

logic when they are constructions, and a relevant logic when they are situations. Crucially, Beall and Restall endorse the formality of logic (2006, pp. 18–23)—that is, the logics they endorse are correct across all domains of inquiry—and they 'do not take *logical* consequence to be relative to languages, communities of inquiry, contexts, or anything else' (2006, p. 88). Accordingly, for any given argument, cases can be models, constructions, or situations, and so any of these conflicting logics can be applied to any argument, which is all that the normative contradiction argument requires.

Varzi's Distinction-Relative Pluralism. On Varzi's (2002) pluralism, different logics are correct relative to where the distinction between a language's logical and non-logical terms is drawn. Thus a propositional logic is correct when only the standard connectives are logical terms, but a first-order logic is correct when the quantifiers are added. Given that 'all (or any) terms of the language could in principle be regarded "as logical" (2002, p. 200), for any given argument the logical–non-logical distinction can be drawn such that any combination of its terms are logical, relative to which different conflicting logics are correct. Consider the argument, 'Guinness is fluffy; therefore, something is fluffy'. Because the quantifier 'something' can be treated as either a logical or non-logical term, both a propositional and a first-order logic can be applied to this argument. But since they conflict over its validity, contradiction ensues.

Field's Aim-Relative Pluralism. According to Field (2009a), logics are correct relative to agents' epistemic aims. Classical logic might be correct when one's aim is to draw true conclusions from a set of premisses, but if one's aim is to draw true and relevant conclusions, then relevant logic is correct. Since 'it isn't obvious that there need be a uniquely best logic for a given goal' (2009a, p. 356), multiple conflicting relevant logics might be correct for a single argument if one's aim is to draw true and relevant conclusions from its premisses, thereby rendering Field's pluralism susceptible to the normative contradiction argument.

IV

Replies and Rejoinders. I now consider five replies on the pluralists' behalf. A natural response to the normative contradiction argument is that the contradiction only follows because we have failed to

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disambiguate certain terms which should be indexed to the logics in question. Replies 1-3 are all in this vein, but differ over which terms need disambiguating. Reply 4 questions the assumption that all of the pluralist's logics are normative, whilst reply 5 challenges the logic employed by the normative contradiction argument itself.

Reply 1. The pluralist can avoid contradiction by indexing the bridge principles' deontic operators to L_1 and L_2 . Accordingly, $(m - VBP_{L_1})$ becomes: If $\Gamma \vDash_{L_1} \varphi$, then *s* is L_1 -permitted to form the belief that φ via deduction from Γ . And (IBP_{L_2}) becomes: If $\Gamma \nvDash_{L_2} \varphi$, then *s* is L_2 -forbidden from forming the belief that φ via deduction from Γ . But rather than leading to contradiction, all that follows from these principles via the normative contradiction argument is that *s* is L_1 -permitted to deduce φ from Γ but L_2 -forbidden from doing so.

Rejoinder. Given that other paradoxes and contradictions arising from conflicting norms cannot be resolved just by distinguishing between different kinds of oughts, nor can this one. Take the Preface Paradox. An author rationally believes each sentence in her book, and so deductive norms require her to believe their conjunction. Given that an action is not forbidden if it is required of us,⁹ it follows via the deductive norm that she is not forbidden from believing the conjunction. But since she and others like her have made mistakes before, inductive norms require her to believe the conjunction's negation and forbid her from believing the conjunction. Thus the Preface Paradox involves the following normative contradiction: the author is both forbidden and not forbidden from believing the conjunction of all the sentences in her book. Since the Preface Paradox cannot be satisfactorily resolved merely by distinguishing between deductive and inductive oughts, and deduction and induction are more distinct modes of reasoning than deducing in accordance with different logics, a fortiori, pluralists cannot evade the normative contradiction argument by distinguishing between deductive oughts.¹⁰

⁹ This is the principle of deontic consistency, and is widely accepted in deontic logic and the literature on whether moral dilemmas entail inconsistency—see Lemmon (1965, p. 51) and McConnell (2018, §5), respectively.

¹⁰ Even if the normative contradiction argument and the Preface Paradox were disanalogous, resolving the former by indexing deontic operators comes at a high cost. Namely, it leaves reasoners in an irresolvable dilemma whenever the pluralist's logics conflict. They will be L_1 -permitted but L_2 -forbidden from forming the belief that φ via deduction from Γ , and given the pluralist's belief that both logics are equally correct, neither's prescription can trump the other's. As we have already seen, the pluralist's logics conflict frequently, and so reasoners will be left in this state of paralysis often, thereby jeopardising the idea that logic guides our reasoning.

Reply 2. The methods of belief formation should be logic-indexed, so that $(m - VBP_{L_1})$ becomes: If $\Gamma \vDash_{L_1} \varphi$, then *s* is permitted to form the belief that φ via L_1 -deduction from Γ . (IBP_{L_2}) would then read: If $\Gamma \nvDash \varphi$, then *s* is forbidden from forming the belief that φ via L_2 -deduction from Γ . Consequently, all that follows by the normative contradiction argument's reasoning is that *s* is permitted to form the belief that φ via L_1 -deduction from Γ but forbidden from doing so via L_2 -deduction. Again, no contradiction arises.

Rejoinder. For this reply to work, the pluralist must find a plausible way of individuating deduction this finely-that is, they must tell us what L_1 -deduction is and how it differs from L_2 -deduction. But, as we shall now see, the most natural way of doing so leaves the pluralist unable to account for the logical erroneousness of Max's reasoning. Since deduction must be individuated fallibly, L_i-deduction cannot simply be to form a belief via a L_i -valid inference. The most straightforward way to fallibly individuate L_i -deduction is according to the intentions of the reasoner. Roughly, s forms the belief that φ via L_i -deduction from Γ just in case *s* intends to infer φ from Γ via the rules of L_i-valid deduction. But suppose that Max, like most laypeople, has neither encountered any of the pluralist's logics nor been 'socialised' into accepting a particular logic. Then, for any L_i , Max forming a belief by affirming the consequent does not qualify as a token of L_i -deduction, because he cannot have the requisite intention and so his reasoning cannot violate any version of $(IBP_{L_{e}})$ in which deduction is logic-indexed. Thus, at least on the most natural way of individuating L_i-deduction, this reply falters, as it has the unacceptable consequence that Max's reasoning is logically unproblematic.

Reply 3. Since different logics give different truth conditions to logical terms, the meanings of the logical terms in an argument's premisses—and thus the meanings of the premisses themselves—differ between logics. Accordingly, the argument that is L_1 -valid has different premisses from the argument that is L_2 -invalid, and so there is no contradiction, because *s* is permitted to and forbidden from deducing φ from different sets of premisses, Γ_1 and Γ_2 .

Rejoinder. This reply relies on the Quinean 'Change in Logic, Change in Meaning' thesis (CLCM) and, as far as it goes, it is correct. However, even if CLCM is true, this reply is limited in scope, and therefore the normative contradiction argument remains of interest. First, Beall and Restall (2006, p. 79) and Field (2009a, p. 345) explicitly disavow CLCM. Beall and Restall, for example, endorse a view on

which proponents of different logics agree on minimalist truth conditions for logical terms, and thereby agree on their meanings.¹¹ Second, this move will not help Varzi, since within his pluralism, conflicts over an argument's validity may arise because the different logics treat different terms in the argument's premisses as logical, rather than because they give these terms different truth conditions. Finally, there are good reasons to doubt CLCM beyond those given by the aforementioned pluralists. For instance, Williamson (2007, pp. 85-98) argues that the same considerations which support semantic externalism militate against CLCM because they undermine a claim which it presupposes: that identity of truth conditions is necessary for identity of meaning. Although proponents of different logics may give a logical term different truth conditions, in everyday practice their usage of this term will largely conform to that of the broader linguistic community. Moreover, both intend their words to have the same meaning as their linguistic community-after all, each believes that their semantics is correct for the term as used by the wider community, not just themselves. These two facts together ensure that they are both part of the same linguistic community and, consequently, that they use the logical term with the same public meaning.

Reply 4. The normative contradiction argument relies on $(m-VBP_{L_i})$ and (IBP_{L_i}) being true for *all* of the pluralist's correct logics. Accordingly, pluralists can avoid its conclusion by claiming that $(m-VBP_{L_i})$ and (IBP_{L_i}) only hold for *some* correct logics.

Rejoinder. First, it is unclear why $(m-VBP_{L_i})$ and (IBP_{L_i}) would hold for some correct logics but not others—after all, they are all equally correct. Second, the normative contradiction argument only requires $(m-VBP_{L_i})$ and (IBP_{L_i}) to hold for *more than one* of the pluralist's correct logics, not them all. For as long as this is so, a normative contradiction can be derived from these logics' bridge principles when they conflict over an argument's validity. Thus, for this strategy to succeed, $(m-VBP_{L_i})$ and (IBP_{L_i}) must only hold for *one* of the pluralist's correct logics. However, given the intimate connection between logic and reasoning, the one normative logic would have a compelling claim to being the one true logic thereby collapsing the pluralist's position into monism.¹²

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¹¹ For a more detailed discussion of this point, see Restall (2002, pp. 437-8).

 $^{^{12}}$ It is worth highlighting that the normative contradiction argument cannot be avoided by claiming that all correct logics constrain either belief combinations or methods of belief formation, but none constrain both. This is because the argument only needed ($m-VBP_{Li}$) to

Reply 5. The normative contradiction argument employs *reductio* ad absurdum to move from the contradictory normative claims to the conclusion that logics L_1 and L_2 are not both correct. Accordingly, pluralists can sidestep this conclusion by claiming that the only correct metalogics for reasoning about logics are paraconsistent. Since *reductio* ad absurdum is invalid in paraconsistent logics, this conclusion will not follow from the contradictory normative claims.

Rejoinder. This reply is of little help. First, pluralists who are not dialetheists will be loath to admit that their pluralism entails contradictory normative claims, even if said contradictory claims cannot be used in a *reductio*. Second, although *reductio ad absurdum* is invalid in paraconsistent logics, it remains truth-preserving provided that none of its premisses are dialetheias—in Priest's (2006) terminology, *reductio ad absurdum* is *quasi-valid*. Since there is no reason to think that any of the normative contradiction argument's premisses are dialetheias, if its premisses are true as I have argued, then so too is its conclusion.

V

Conclusion. We began with the question, 'What is the relationship between logical pluralism and the normativity of logic?' In a bid to help answer it, this paper has advanced two theses. First, the Double Thesis that, in addition to constraining the combinations of beliefs that we may have, logic also constrains the methods by which we may form them. Second, the Inconsistency Thesis that many pluralisms are inconsistent with logic being doubly normative for reasoning, thus spelling double trouble for these pluralists. This was demonstrated by the normative contradiction argument, which showed that many pluralisms entail contradictory claims about how agents ought to reason whenever two of the pluralist's logics conflict over the validity of an argument whose conclusion is easily deducible from premisses that the agent ought to believe. Thus, at the very least, many pluralists must choose between their pluralisms and the normativity of logic.

hold for logic L_1 and (IBP_{Li}) to hold for L_2 , and at no point required both $(m-VBP_{Li})$ and (IBP_{Li}) to hold for both or either of L_1 and L_2 . Of course, one way to ensure that this requirement is met is to argue, as I did in §II, that both $(m-VBP_{Li})$ and (IBP_{Li}) hold for both L_1 and L_2 . However, strictly speaking, this is stronger than necessary.

And if there are compelling reasons for thinking that logic is doubly normative, as I have suggested, these pluralists have no choice at all.¹³

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