CONSEQUENCE AND NORMATIVE GUIDANCE*

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Abstract: Logic, the tradition has it, is normative for reasoning. But is that really so? And if so, in what sense is logic normative for reasoning? As Gilbert Harman has reminded us, devising a logic and devising a theory of reasoning are two separate enterprises. Hence, logic's normative authority cannot reside in the fact that principles of logic just *are* norms of reasoning. Once we cease to identify the two, we are left with a gap. To bridge the gap one would need to produce what John MacFarlane has appropriately called a *bridge principle*, i.e. a general principle articulating a substantive and systematic link between logical entailment and norms of reasoning. This is Harman's *skeptical challenge.* In this paper I argue that Harman's skeptical challenge can be met. I show how candidate bridge principles can be systematically generated and evaluated against a set of well-motivated desiderata. Moreover, I argue that bridge principles advanced by MacFarlane himself and others, for all their merit, fail to address the problem originally set forth by Harman and so do not meet the skeptical challenge. Finally, I develop a bridge principle that meets Harman's requirements as well as being substantive.

1   Introduction

In this article I address the question whether, and if so in what sense, logic can be said to have normative authority over reasoning. I claim that there is an interesting sense in which logic can indeed be said to be normative for reasoning. To

substantiate my claim, I proceed as follows. I begin by laying out Gilbert Harman's influential skeptical challenge to the thesis that logic and norms of reasoning are indeed interestingly related. According to Harman, once we realize that principles of deductive logic are not norms of reasoning in and of themselves, a gap opens up between the two. Thus, a response to Harman's challenge would consist in what John MacFarlane (2004) has fittingly dubbed a 'bridge principle'—a general principle articulating a substantive and systematic link between logical entailment and norms of reasoning. We must therefore ask what possible bridge principles there are and how to decide which bridge principles (if any) are viable. In §3, I expound and further develop MacFarlane's classification of bridge principles. In §4, I introduce a set of criteria that any bridge principle worth its salt would have to meet and explain how the principles can be assessed against the criteria. §5 is concerned with bridge principles proposed by others contributors to the debate. I begin by introducing a distinction between different types of normative roles that logic might be thought to perform. I show that the type of first-personal normative role Harman is concerned with differs from the third-personal normative roles other contributors to the debate have in mind (Field (2009a, 2014), MacFarlane (2004), Milne (2009), Streumer (2007)). Therefore, Harman and the other contributors to the debate—the merit of their contributions notwithstanding—are not addressing the same question and so are failing to engage with one another. Consequently, the proposals of MacFarlane and others cannot be said to meet Harman's skeptical challenge. Finally, in §6 and §7, I build up to my positive account that does. That is, I formulate a bridge principle that has the right normative profile and which satisfies our desiderata. I conclude that there is a clear and interesting sense in which logic is normative for reasoning in Harman's sense.

2   Harman's skeptical challenge

At the root of Harman's criticism lies a diagnosis. The traditional conception whereby logic occupies a normative role in our cognitive economy rests upon the mistake of conflating (or at least running too closely together) principles of deductive logic with what Harman calls 'a theory of reasoning'. Yet the two enterprises—formulating a deductive logic and formulating a normative theory of reasoning—are fundamentally different according to Harman. A theory of reasoning is a theory of how ordinary agents should go about managing their beliefs. Thus a theory of reasoning is concerned with the dynamic 'psychological events or processes' by which we form, revise or retain beliefs. The theory seeks to formulate general guidelines as to which mental actions (judgments and inferences) to perform in which circumstances and which doxastic attitudes (belief, disbelief, suspension) to form, to retain or abandon (Harman 2009, p. 333). In contrast, 'the sort of

implication and argument studied in deductive logic have to do with [static, non-psychological] relations among propositions'. Consequently, 'logical principles are not directly rules of *belief revision*. They are not particularly about belief [or the other mental states and acts that constitute reasoning] at all' (Harman 1984, p. 107).

In short, Harman's explanation of our intuitions to the effect that logic must have a normative role to play in reasoning is that we conflate deductive logic and theories of reasoning. Little wonder, then, that we take there to be an intimate relation between logic and norms of belief: the relation is simply that of identity! However, once we are disabused of this confusion, Harman maintains, we are left with 'a gap' (Harman 1986, p. 5). The question is whether that gap separating logic and norms of reasoning can be bridged. This 'interesting and non-trivial problem' (Harman 2002) is what I call Harman's *skeptical challenge.*

Before pursuing the question of the nature of the gap and how it might be bridged, we must mention a further component of Harman's skepticism. Harman at times (1984, 1986) presents the challenge as consisting not merely in securing a normative role for logic in reasoning, but in explaining how, in addition, logic is 'specially relevant' to reasoning. It is not immediately clear what it would take for logic to be of 'special relevance'. Yet, it is important to note that there are really two components to Harman's skeptical challenge:

- Given that principles of logic are distinct from norms of reasoning what (if anything) exactly is the connection between the two?

- Wherein consists the *special* relevance of logic to reasoning?

My focus throughout this paper is on the first of these questions. I will briefly address the second question in §7 below.[1]

Now, there are a number of ways one might try to respond to Harman's challenge. One line of response might be to reject his diagnosis regarding the provenance of our intuitions concerning the normative role of logic. It might be thought, for instance, that Harman is led to exaggerate the gulf between deductive logic and theories of reasoning as a result of a contestable—because overly narrow—conception of either logic or reasoning, or both. Regarding Harman's conception of logic, for instance, advocates of broadly logical accounts of belief revision (belief revision theories, non-monotonic logics, dynamic doxastic logic, etc.) may object that Harman is driven to his skepticism by his failure to take into account more sophisticated logical approaches. After all, many of these approaches make explicit mention of doxastic attitudes; many seek to capture the dynamic character of reasoning. Harman is certainly not unaware of such approaches, though he expresses

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[1]As far as I can tell, this second aspect of Harman's challenge has been largely ignored by his respondents, (Field (2009a, 2009b), Milne (2009), MacFarlane (2004), Streumer (2007).

some skepticism about them (Harman 1986, p. 6). But even those who—like the present author—harbor no such skepticism towards such approaches do well to acknowledge that it is worth getting clear about the question of the normativity of logic in the basic terms in which Harman poses it. Any logic-based formalism used to model belief (more or less tacitly) takes a stance on the question of the normativity of logic. To shed light on the normative status of logic is thus to shed valuable light on the philosophical foundations of such formal theories of belief revision.

On the other hand, some philosophers—especially (though not only) externalists of various stripes—may find fault with the epistemological presuppositions underlying Harman's conception of a theory of reasoning. Harman views the aim of epistemology as closely linked to his project of providing a theory of reasoning. According to Harman's 'general conservatism' central epistemological notions, like that of epistemic justification, are approached from the first-person standpoint. Its aim is to articulate principles 'offering methodological advice of a sort a person can take' (Harman 2010, p. 154) about how to manage one's beliefs. In this he adopts a standpoint different to that of much of contemporary epistemology which, unconcerned with direct epistemic advice, is mainly in the business of laying down (explanatorily illuminating) necessary and sufficient conditions for what, from a third-person point of view, is to count as epistemically justified, knowledge, etc.[2] However, one need not abandon one's more mainstream epistemological project to take an interest in the question Harman poses: How, if at all, can logic offer the reasoner first-personal advice as to how to manage her beliefs? For present purposes, therefore, I want to accept Harman's way of setting up the problem.

Let it be granted, therefore, that logic (narrowly construed) really is not a theory of reasoning.[3] Even so, saying that deductive logic and theories of reasoning are distinct is one thing, affirming that there could not be an interesting normative connection between them is quite another. Harman acknowledges as much. His point, as we noted, is that there is a gap between logic and reasoning and that it is far from clear how anything of substance can be said about the relation between the two.

To get the discussion off the ground, though, let us consider the following (perhaps naive) attempt at articulating such a connection: theoretical reasoning aims

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[2]Notice that this difference in methodological approach need not coincide with the internalism/externalism divide. Some externalists are happy to explore "first-person" epistemology so long as the status of beliefs formed in compliance with the theory's directives is distinguished from justification conceived as a necessary condition of knowledge (see e.g. (Goldman 1980)). On the other hand, not all internalists regard epistemic justification to be a matter of responsibly following such directives. See e.g. (Feldman and Conee 1985).

[3]By 'narrowly construed' I mean logics that are not specifically designed to model belief revision explicitly—i.e. logics such as (dynamic) doxastic logic or theories of belief revision.

to provide an accurate representation of the world. We accurately represent the world by having true (perhaps even knowledgeable) doxastic attitudes. Our doxastic attitudes have contents—propositions, let us say—and these contents stand in certain logical relations to one another. Having an awareness of these logical relations would appear to be conducive to the end of having true beliefs (and avoiding false ones) and so seems relevant to theoretical reasoning. In particular, the logical notions of consequence and consistency seem to be central. If I believe truly, the truth of my belief will carry over to its logical consequences. Conversely, if my belief entails a falsehood it cannot be true. Similarly, if the set of propositions I believe at a time (in general or in a particular domain) is inconsistent, they cannot possibly afford an accurate representation of the world; at least one of my beliefs must be false.

Let us give voice to these intuitions in the form of the following two principles. Let S be an agent and A a proposition.[4]

- Logical implication principle (IMP): If S's beliefs logically imply A, then S ought to believe that A.[5]

- Logical consistency principle (CON): S ought to avoid having logically inconsistent beliefs.

Notice that IMP and CON are distinct. IMP, in and of itself, does not prohibit inconsistent or even contradictory beliefs. All it requires is that my beliefs be closed under logical consequence. CON, on the other hand, does not require that I believe the consequences of the propositions I believe, it merely demands that the set of propositions I believe be consistent. However, given certain assumptions, IMP does entail CON. Against the background of classical logic, the entailment obtains provided we make two assumptions: (i) that one ought not both believe and disbelieve one and the same proposition, and (ii) that disbelieving a proposition is tantamount to believing its negation.[6] With these assumptions in place,

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[4]The following principles are roughly those discussed by Harman. Harman's formulations of IMP vary in that they employ different deontic modals (e.g., in his (Harman 2002, p. 172), Harman mentions 'should' and 'may', in his (Harman 1986, p. 11), he uses 'can be a reason for'.) We will return to the question of deontic modals in due course.

[5]For simplicity, I assume that the consequence relation invoked here is that of first-order classical logic with identity. Nothing much hangs on this. Feel free to plug in your preferred non-classical consequence relation. Furthermore, I am setting aside the interesting issues raised by logical pluralism, pursuing them here would lead us too far afield.

[6]Both assumptions can be challenged. On a more course-grained conception of propositions we face Fregean puzzles. For instance, some take 'Oedipus wants to marry his mother' and 'Oedipus wants to marry Jocasta' to express one and the same proposition. Yet, Oedipus does not appear to be irrational if he assents to what is expressed by the former sentence, but rejects what is expressed by the latter sentence. The second assumption is rejected by advocates of paraconsistent logics. See e.g. (Priest 2006, Ch. 6) for discussion.

the entailment is trivial. For let S be an agent with the inconsistent belief set $\{A_1, \ldots, A_n\}$. By classical logic, $A_1, \ldots, A_{n-1} \models \neg A_n$. Since S's beliefs are closed under logical consequence, S believes $\neg A_n$ and hence, by assumption (ii), disbelieves A_n. So, S both believes and disbelieves A_n which, by assumption (i), we cannot have. On account of this entailment, my focus here will be on IMP and principles of its ilk.

3   The objections

IMP is thus a first—hopelessly naive, it turns out—attempt at specifying logic's normative role in reasoning. I now present four objections, most of which can be extracted from Harman's writings, that our preliminary principle would seem to be vulnerable to. It is worth spelling the objections out in some detail as they will later serve us as criteria of adequacy for future attempts at improving upon IMP.

(1) Suppose I believe p and $p \supset q$ (as well as Modus Ponens). The mere fact that I have these beliefs and that I recognize them to jointly entail q does *not* normatively compel any particular attitude towards q on my part. In particular, it is not the case in general that I ought to come to believe q. After all, q may be at odds with my evidence, and so it would be unreasonable of me to follow Modus Ponens slavishly by, as it were, 'adding q to my belief box'. What I presumably should do, rather, when I have good grounds for disbelieving q, is to relinquish my belief in at least one of my antecedent beliefs p and $p \supset q$ on account of their untenable implications. IMP is too strong because it implausibly claims to take precedence over other epistemic norms (like the norm that I ought not believe what is discredited by the evidence). Also, IMP makes no provision for cases in which it is appropriate to revise one's beliefs as opposed to adding to our existing stock of beliefs. Let us therefore call this objection the *Objection from Belief Revision* (or simply *Belief Revision*) for short.

There is a closely related objection due to John Broome (2000, p. 85) that deserves separate mention. Broome observes that since any proposition trivially entails itself, IMP implies that we *ought* to believe any proposition we in fact believe. However, the fact that, by mere happenstance, I hold a belief, in no way implies that I ought to believe it. Call this variation of the Objection from Belief Revision, the *Bootstrapping Objection* (or simply *Bootstrapping* for short).

(2) Any of the propositions I believe entails an infinite number of propositions that are of no interest to me whatsoever. Not only do I not care about, say, the disjunction 'Vienna is the capital of Austria or Stalin was a lizard' entailed by my true belief that Vienna is the capital of Austria, it would be positively irrational

for a finite being like myself to squander my meagre cognitive resources on inferring trivial implications of my beliefs. It therefore again seems false that I ought to believe the logical consequences of my beliefs. Following Harman, let us call the objection the *Objection From Clutter Avoidance* (or simply *Clutter Avoidance* for short).[7]

(3) According to IMP, anyone who believes the axioms of Peano arithmetic ought to believe every last one of its theorems, even if its shortest proof has more steps than there are protons in the visible universe. But if the logical ought implies can (in the sense of what agents even remotely like us *can* do), once again: IMP cannot be correct. Let us call this the *Objection From Excessive Demands* (or simply *Excessive Demands* for short).

(4) Arguably, there are cases in which I may find myself in epistemic circumstances in which having logically coherent beliefs is not merely excusable on account of my 'finitary predicament' (Cherniak 1986), it is what rationality requires. The well-known Preface Paradox dramatizes such a situation (Makinson 1965). Here is one standard way of presenting it. Suppose I author a meticulously researched non-fiction book on the subject of aardvarks. My book is composed of a large set of non-trivial propositions $p_1, \ldots, p_n$ about every aspect of aardvark behavior, physiology, and so on. Seeing that all of my claims are the product of scrupulous research, I have every reason firmly to believe each of the p_i individually. At the same time, though, I have overwhelming inductive evidence for my own fallibility. That is, I have unimpeachable grounds for believing that at least one of my beliefs concerning the propositions articulated in the book is in error. Call that proposition q. The Preface Paradox thus tells against CON because the p_i and q cannot be jointly true. More importantly for my purposes, however, it seems also to constitute a counterexample to IMP. For in the Preface scenario I believe each of the p_i while simultaneously disbelieving (for very good reason) an obvious logical consequence there of: their conjunction (because q is transparently equivalent to $\neg(p_1 \wedge \ldots \wedge p_n)$).

So much for the objections to IMP. On the basis of these considerations, some may be led to the pessimistic conclusion that there just is nothing interesting and systematic to be said about the normative relation between principles of deductive logic and reasoning. I am interested in whether a normative role for logic in reasoning can nevertheless be carved out in the face of these challenges.

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[7]Notice that this is not a case in which non-epistemic reasons intrude upon my theoretical reasoning. Practical considerations play a role by forcing me to prioritize certain epistemic projects over others.

4 Bridge principles

Harman's objections convincingly demonstrate that IMP, in its current formulation, is too crude for the job at hand. The question that will occupy us for the remainder of the paper is whether IMP can be improved upon in a way that does reveal a normative link between logic and reasoning, while being invulnerable to the objections of the previous section. In other words, to speak with MacFarlane (2004), we are asking whether a viable *bridge principle* is to be had, where by 'bridge principle' we mean a general principle that articulates a substantive relation between, on the one hand, 'facts about logical consequence' (or our attitudes towards such facts) and, on the other hand, norms governing the agent's doxastic attitudes vis-à-vis the propositions standing in these logical relations.[8]

The pessimists maintain that there is no tenable bridge principle to be had. However, for such a non-existence claim to stick, one would need to know what the "options" are and why none of them ultimately works. But is there a way of overseeing the range of possible bridge principles? Thankfully, a good deal of the work of mapping out the logical space of bridge principles has been undertaken by MacFarlane (2004), who provides an extremely useful classification. I devote the remainder of this section to describing and further developing MacFarlane's taxonomy. With its help, we will be able to assess Harman's skeptical claim in a systematic fashion.

Let us begin with the general blueprint for constructing bridge principles:[9]

- (BP) If $A_1, \ldots, A_n \models C$, then $N(\alpha(A_1), \ldots, \alpha(A_n), \beta(C))$.

A bridge principle thus takes the form of a material conditional. The conditional's antecedent states 'facts' about logical consequence (or attitudes toward such 'facts'). Its consequent states a normative constraint on the agent's doxastic attitudes towards the relevant propositions. Doxastic attitudes, as I use the term, include belief, disbelief, and degree of belief.[10] α may (but need not) represent the same attitude as β.

To produce instances of the schema, MacFarlane introduces three parameters: type of deontic operator, type of doxastic attitude and scope of deontic opera-

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[8]My talk of logical 'facts' should be taken with a grain of salt. I adopt it mainly for ease of presentation. Non-factualists about logic need not be put off. The alternatives to IMP we consider can be straightforwardly reformulated in ways that are congenial to the non-factualist (roughly along the lines of Field's 'projectivist' principles (2009a, 2009b, 2015).

[9]We will soon also encounter what I call *attitudinal* bridge principles. They take the slightly different form:

- (BPγ) If $\gamma(A_1, \ldots, A_n \models C)$, then $N(\alpha(A_1), \ldots, \alpha(A_n), \beta(C))$,

where γ designates a particular attitude of the agent towards the instance of $\models$.

[10]I will set suspension of belief aside for present purposes.

tor. Each parameter can be thought of as admitting of multiple discrete settings. The range of possible combinations among these parameter settings generates the logical space of bridge principles. The possible parameter settings are as follows:

1. Bridge principles involve a normative claim. To be able to express it, they will need to incorporate deontic vocabulary. MacFarlane considers three deontic operators. The normative constraint might take the form of an *ought* (o), a permission (p) or merely of having (defeasible) reasons (r).

2. The normative claim might take positive or negative *polarity*: is it a *positive* obligation/permission/reason to *believe* a certain proposition given one's belief in a number of premises (+)? Or rather is it a *negative* obligation/permission/reason *not to disbelieve* (-)?

3. The deontic operators vary in scope. Let O stand generically for one of the above deontic operators. Given that the consequent of a bridge principle will typically itself take the form of a conditional, the operator can take

   - narrow scope with respect to the consequent (C) $(P \supset O(Q))$;
   - wide scope (W) $O(P \supset Q)$;
   - or it can govern both the antecedent and the consequent of the conditional (B) $(O(P) \supset O(Q))$.

These parameter settings can be combined so as to generate a total of eighteen bridge principles. The symbols in parentheses associated with each parameter setting combine to determine a unique label for each of the principles: The first letter indicates the scope of the deontic operator (C, W or B), the second letter indicates the type of deontic operator (o(bligation), p(ermission), r(easons)), and '+' and '-' indicate the polarity.[11] For example, the label 'Co+' corresponds to our original principle IMP: 'If $A_1, A_2, \ldots, A_n \models C$, then S *ought* to believe C, if S believes $A_1, A_2, \ldots, A_n$'. 'Wo-' designates the negative wide-scope obligation: 'If $A_1, A_2, \ldots, A_n \models C$, then S ought to (not disbelieve C, if S believes $A_1, A_2, \ldots, A_n$)', and so on.

Many will find fault with the bridge principles we have presented thus far. Their triggering conditions—the conditions under which the constraint kicks in— are not sensitive to the agent's cognitive capacities. So long as we are dealing with an ordinary agent (as opposed to with a logically perfect one), such principles are vulnerable to Harman's Objection from Excessive Demands. These unrestricted principles relate 'entailment facts' to certain normative claims. But the agent

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[11]See MacFarlane (2004, p. 7) for an exhaustive list of all bridge principles that can be generated in this way.

cannot be expected to be apprised of all logical 'facts' and so is in no position to follow the norms expressed by the bridge principles. Consequently, it may be thought, the agent cannot be faulted for violating them.

There thus seems to be a good *prima facie* case for considering bridge principles whose antecedents are restricted to logical implications that are, in a sense to be specified, within the agent's ken. One idea is to amend (Co+) so as to yield:

- (Co+r) If S recognizes that $A_1, \ldots, A_n \models C$, then S ought to believe C, if S believes the A_i.

Let us call this an *attitudinally constrained* variant of (Co+). A principle may be constrained by different types of attitudes. Recognizing, I take it, is a factive attitude. Certain internalists about epistemic justification and rationality will be dissatisfied with this. They maintain that epistemic rationality or justification supervenes on the agent's *non-factive* attitudes (e.g. (Broome 2010, p. 288) and (Wedgwood 2002)). The motivating thought, perhaps, is that agents are always in a position to tell whether they are in the relevant state. This, in turn, would guarantee that norms enjoying such internalized triggering conditions are ones the agent is always in a position to follow. The notion that there are states or attitudes whose obtaining or non-obtaining is always transparent to the agent and the correlative idea that the corresponding norms are invariably followable has recently been challenged.[12] For our purposes we need not take sides on these issues. In particular, we need not assume that there are bridge principles that invariably provide guidance in any context. However, some bridge principles clearly are followable in many more contexts than others. On these grounds, we may thus still wish to consider attitudinally restricted bridge principles.

Having thus outlined the classificatory scheme, a number of comments are in order.[13] For one, MacFarlane's bridge principles are not fully explicit. They may in fact be read in two ways. They may be read *diachronically* as principles specifying how an agent should modify her doxastic attitudes over time in response to the constraints imposed by logic; or they may be read *synchronically*—as principles specifying which patterns of doxastic attitudes the agent should have at a given moment in time. For instance, the diachronic version of (Co+r) could be formulated thus:

- (Co+r-Dia) If S recognizes that $A_1, \ldots, A_n \models C$, then S ought to believe C at t', if S believes the A_i at t (where t slightly precedes t').

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[12]Timothy Williamson (2000) has argued that there are no states that are, in his words, 'luminous'. Amia Srinivasan (2015) has argued against what she calls 'Cartesianism', i.e. that there are norms enjoying transparent triggering conditions.

[13]For a fuller discussion see my (Steinberger 2017).

By contrast, the synchronic variant of the same principle comes to this:

- (Co+r-Sync) If S recognizes that $A_1, \ldots, A_n \models C$, then S ought to believe C at t, if S believes the A_i at t.

In other words, the former principle instructs us, going forward, to come to believe the logical consequences of our beliefs; the latter principle demands that one's beliefs be, at all times, closed under recognized logical consequence.

Different principles lend themselves more or less well to these two readings. C- and B-type principles can be interpreted as either synchronic or diachronic principles on account of the fact that they make explicit claims as to what an agent ought, may or has reason to believe or disbelieve given her other beliefs. The Ws, by contrast, are most naturally read as synchronic principles. Such principles do not, in and of themselves, recommend specific inferences. They merely rule out certain patterns of belief and disbelief. In much of what follows the diachronic/synchronic distinction turns out to be of no moment. Where it does matter, I will make it clear which of the two readings is intended.

Given Harman's emphasis on the dynamic character of reasoning, it may be tempting to think that he conceives of IMP as a diachronic principle. This is brought out also by the Objection from Belief Revision. However, synchronic principles can also play an important role in belief revision. To take the example above, (Wo-r) in fact says that if I recognize that q is entailed by p and $p \supset q$, I ought to avoid believing p and $p \supset q$ while simultaneously disbelieving q. (Wo-r) thus does not tell me which of these beliefs to adopt, it merely prohibits certain constellations of doxastic attitudes. But this seems attractive. After all, who would have ever thought that it fell to logic to tell us what to believe (apart, perhaps, from the case of (obvious) logical truths)? Plausibly, the role of logic is to instruct us which logically coherent doxastic options are open to me. And that is what the principle does: going forward I can either revise my belief in p or $p \supset q$, or I can persist in believing them while also ensuring that I do not disbelieve q. To decide between these options, I do not rely solely on logic. Rather, I consult my evidence and other doxastic norms. I will return to these questions in the final sections.

A word about the deontic modals. *Ought* and *may* are understood to be strict or verdictive notions, whereas *reason* is a *pro tanto* or contributory notion. Having a reason to ϕ, as I understand it, is compatible with simultaneously having reasons not to ϕ and even with it being the case that I ought not to ϕ. Reasons, unlike *ought*s, may be weighed against each other; the side that wins out determines what ought to be done. Hence, it may be perfectly proper for me to have reasons to ϕ and yet not to ϕ because my reasons are overridden, whereas if I ought to ϕ and fail to do so, this amounts to a normative failure on my part. That said, I do not rule out the possibility of conflicting ought-claims off the bat. Nevertheless, clashing

obligations differ fundamentally from competing reasons in that any agent in such a situation is inevitably liable to criticism.

Finally, I treat all deontic modals as propositional operators. This too is not uncontroversial. Peter Geach (1982) and more recently Mark Schroeder (2010) have argued that so-called deliberative or practical *ought*s are best analyzed not as operators acting on propositions but rather as expressing relations between agents and actions.[14] Nevertheless I will assume without argument that the operator-reading can be made to work (for defenses of this position see e.g. (Broome 2000, 2013), (Chrisman 2015) and (Wedgwood 2006)).

So much by way of clarification. We have seen that the framework provides a wide array of candidate bridge principles. But how are we to assess our candidates? The following simple procedure—roughly the one MacFarlane pursues—seems promising. We lay down a set of criteria that a good bridge principle should meet. And we then evaluate each of the contenders against these desiderata. The winner (or set of winning principles) is to be determined by way of a cost-benefit analysis on the basis of each principle's performance as judged against the criteria.

What are the criteria? It is here that the objections we encountered in §3—Belief Revision, Clutter Avoidance, Excessive Demands and Preface Paradox—make their second appearance, this time in the role of criteria of adequacy. But MacFarlane proposes the following two additional desiderata:

- **The Strictness Test:** At least when it comes to ordinary, readily recognizable logical implications leading to conclusions that the agent has reason to consider, the logical obligation should be *strict*: there is something amiss about an agent who endorses the premises and yet disbelieves the conclusion on account of stronger countervailing reasons (MacFarlane 2004, p. 12). (MacFarlane takes inspiration from (Broome 2000, p. 85).) The Strictness Test represents a prima facie strike against principles featuring the *reason* operator, which allow for such cases.

- **The Priority Question**: The attitudinal variants have a distinctive advantage when it comes to dealing with Excessive Demands worries. But relativizing one's logical obligations to, e.g., one's believed or recognized logical consequences invites problems of its own, according to MacFarlane.[15] The problem according to MacFarlane is that 'we seek logical knowledge so that we will know how we ought to revise our beliefs; not just how we will be obligated to revise them once we acquire this logical knowledge, but how we are obligated to revise them even now, in our current state of ignorance' (MacFarlane 2004, p. 12).[16]

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[14]MacFarlane (2014, Ch. 11) has followed suit.

[15]MacFarlane (2004) only considers factive attitudes towards logical entailment.

[16]In fact, MacFarlane (2004, p. 12) also considers the following further criterion:

These are the criteria. MacFarlane's own evaluation in light of these criteria leads him to adopt a combination of the principles Wr+ and Wo-. I do not wish to engage directly with MacFarlane's conclusions or with the reasoning by which he arrives at them at this point. The reason is that MacFarlane's account, for all its considerable merit, oversees an important distinction. When we ask whether logic is normative for reasoning, there are several different normative functions we might have in mind. MacFarlane (and others) conceives of the normative role of logic differently than Harman does and so does not properly address Harman's skeptical challenge. The next section introduces the distinction in question and its consequences for our discussion.

5   Three normative roles

Norms can fulfill at least three distinct functions. Norms can have the purpose of providing first-personal guidance in the process of practical or doxastic deliberation. I call norms that play this role *directives*. Alternatively, norms might serve as objective, third-personal standards of evaluation. I call norms playing this role *evaluations*. Finally, norms might serve as the basis for our (equally third-personal) criticisms of our epistemic peers and so underwrite our attributions of praise and blame. I call norms that play this role *appraisals*. An act-utilitarian principle such as 'You ought to act in such a way as to maximize net happiness' might be an apt evaluative norm in that it serves as a metric for what is to count as a right action, but the norm is of little help to the agent trying to figure out what to do. Frequently it will not be transparent to her which of the actions available to her are happiness-maximizing. Thus, the norm is not fit to play the role of a directive because, in many contexts, it offers the agent no guidance. Similarly, if our agent violates the evaluative utilitarian norm she may nevertheless not be liable to criticism. It may be that she acted reasonably in light of how the situation presented itself to her even though she violated the norm. Conversely, she might have acted recklessly and yet, out of sheer luck, complied with it. In both cases, our appraisals and our evaluations come apart, and this is largely because our

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    – **Logical Obtuseness**: Suppose someone professes to believe A and B, but refuses to take a stand on (neither believes nor disbelieves) the conjunction $A \wedge B$. Intuitively, such a person is liable to criticism. Whereas the weaker (positive) reason-based principles fail to live up to the Strictness Test, they do not commit the sin of logical obtuseness since one at least has reason to believe or not disbelieve $A \wedge B$. Not so for principles with negative polarity. So long as the agent does not actively *disbelieve* $A \wedge B$, our negative bridge principles find no fault with cases like these. If this intuition carries any weight, negative principles may prove to be ultimately too weak.

For my purposes Logical Obtuseness, which tells mainly against bridge principles of negative polarity, is of negligible importance, we will, however, return to it in §7.

appraisals are, while our evaluations are not, sensitive to the agent's perspective.

Let us apply this distinction to bridge principles. We may ask of bridge principles which of the three types of norms we want them to express. Different types of bridge principles may lend themselves more or less well to a given normative role. For instance, an unrestricted bridge principle of the form 'If $A_1, \ldots A_n \models C$, then Φ' will be ill-suited to expressing the appraising role, since in order to comply with the norm the agent would need to be logically omniscient. Surely, no one can be faulted for being logically imperfect. By contrast, an unrestricted principle of this form may lend itself to the role of evaluation.

Relatedly, the normative function for which we are assessing a bridge principle also determines how the different desiderata against which the principle is to be assessed should be weighted. A desideratum may be appropriate to a higher degree or absolutely when assessing principles as performing one kind of normative function, but it may receive less weight or may be discounted altogether when it comes to principles performing a different kind of normative function. Take the Excessive Demands criterion. The criterion will be central to our assessment of bridge principles acting as directives (because a criterion that flouts Excessive Demands is not one that can provide guidance to the agent) and as appraisals (because appraisals too are sensitive to the agent's doxastic situation). However, Excessive Demands will not be part of the package of adequacy criteria called upon to assess principles acting as evaluations. Evaluations, we said, set objective standards and so need not take the agent's recognitional capacities into account.

Matters are reversed, it would seem, when it comes to the Priority Question criterion. Recall that the Priority Question requires that a principle reflect what logic demands of us, not what we may think that it demand from us. It is an apt requirement to place on evaluative bridge principles.[17] By contrast, if the picture of directives as norms that must be 'followable' is correct, then Priority Question concerns are misplaced when it comes to bridge principles designed to function as directives. It may be that the only norms sufficiently transparent to us are

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[17]One may ask whether evaluative standards could themselves be relative to agents' attitudes. That is, for instance, could a principle of the form 'If S knows $A_1, \ldots A_n \models C$, then Φ' express an evaluative standard? It could, I suppose. Allowing for this, of course, would mean that, in the case of such relativized evaluations, the Priority Question, in its present formulation, should be discounted after all. But that is not quite right. The point of the Priority Question constraint is not to rule out attitudinal principles *per se*, but rather to ensure that no principles can serve as an evaluation that replaces the evaluative standard—relativized or not—by attitudinal triggers weaker than that of the standard itself. For instance, taking known entailment to be an evaluative standard, this generalized Priority Question is still in force. It requires that no bridge principle appealing to attitudes weaker than knowledge can serve as an evaluation (e.g.'If S believes $A_1, \ldots A_n \models C$, then Φ'). That said, it would seem that the foremost task of an evaluation is to express an absolute standard. In our case, the central task is to state 'what logic demands of us'.

ones whose triggering conditions appeal to the agent's states or attitudes. In the discussion of logical directives below I will thus take it for granted that directives must satisfy Excessive Demands, but are not answerable to the Priority Question.

The crucial point that these examples are meant to illustrate is that the central question concerning the normativity of logic must be asked anew for each of these normative roles. We in fact find ourselves with three separate questions.[18] Consequently, we may ask of a given bridge principle whether it successfully articulates logic's normative role *qua* directive/evaluation/appraisal. Moreover, it will depend on which of these questions we are asking as to which criteria of adequacy are applicable.

With this distinction in place we can appreciate how MacFarlane (and others) are wrestling with a question other than the one originally raised by Harman. The role of logic in question for Harman is that of a purveyor of first-personal norms that offer 'advice of a sort a person can take', i.e. what I call *directives*. Answering Harman's challenge would thus require that one advance a defensible bridge principle fit to act as a directive.[19] Clearly, this is the normative role Harman is after. After all, Harman's original question is whether a systematic and interesting normative connection obtains between principles of deductive logic and a 'theory of reasoning'. And by 'theory of reasoning', recall, he means a first-personal normative account that *instructs* the reasoner how to go about managing—forming, revising, reinstating—her beliefs in light of her doxastic situation.[20] The question of the normativity of logic, for him, must therefore be understood as of a kind: it is concerned with the question as to whether logic gives rise to directives.

In MacFarlane's case it is not immediately clear which of the three types of normative roles is at issue. What is beyond dispute, though, is that MacFarlane is *not* after a directive. Rather he seeks a bridge principle capable of playing one of the two non-guiding normative roles. This is evidenced by the weight he gives to the Priority Question. The Priority Question, recall, states that bridge principles should express the normative constraints the agent is in fact under whether or not she is aware of it. MacFarlane takes this desideratum to rule out attitudinal bridge principles altogether and thus he is led to principles which, because they are in no way tied to the agent's doxastic situation, are presumably ill-suited to play a guiding role. By contrast, Harman's 'rules of immediate implication' are of the Priority Question-contravening attitudinal variety. In short, then, Harman and MacFarlane are engaging with subtly, but importantly different questions:

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[18]I have explored this distinction and its ramifications for the debate surrounding the normative status of logic at length elsewhere (Steinberger MS).

[19]It is clear from Harman's descriptions of the form a bridge principle would have to take that any bridge principle would have to have the hallmarks of a directive (Harman 2009, p. 333).

[20]This is characteristic of his view of the nature and ends of epistemology. See (Harman 2010) for a summary of his own epistemological views.

Harman is asking whether logic is normative in the sense of providing directives; MacFarlane asks whether logic is normative in the sense of providing evaluations or appraisals.[21]

The upshot of this is that Harman's skeptical challenge is yet to be met. In the following section I will argue that the challenge can be met: there is a bridge principle consonant with Harman's aims and background assumptions.

6   A Harman-friendly principle

The previous section gave us a better understanding of the true target of Harman's skeptical challenge: his skepticism is directed at the idea that logic can play a *guiding* role in doxastic deliberation. In this section, we will probe whether the challenge so understood can be met. Before doing so, however, we must briefly pause to mention a further important constraint on the range of candidate bridge principles. The constraint is the result of Harman's commitment to outright or full beliefs to the exclusion of quantitative ones: doxastic attitudes, for him, are binary states, as opposed to states that admit of degrees. According to Harman, 'people do not normally associate with their beliefs degrees of confidence of a sort they can use in reasoning' because 'it is too complicated for them to do so.' Consequently, probabilistic principles involving degrees of belief are too computationally demanding to serve as directives. Instead, 'principles of reasoning [must be] principles for modifying [...] all-or-nothing representations'.[22] The upshot of this is that bridge principles, too, must be *qualitative*. Consequently, Harman requires that bridge principles articulate only constraints on 'full beliefs' (or disbeliefs), while quantitative bridge principles like those proposed by Field (2009a, 2015), in which logical entailments give rise to constraints on degrees of belief (Harman 2009) are rejected. As one would imagine, this constraint will be of particular relevance when it comes to dealing with epistemic paradoxes like the Preface Paradox seeing that quantitative approaches are able to parry it in a particularly satisfying manner.

Harman's framing of the issue solely in terms of full belief states is of interest even to many of those who, unlike him, are comfortable with credence talk. For

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[21]Other proposals (Field (2009a, 2015) and Streumer (2007)) similarly fail to engage with Harman's challenge on his terms. For a fuller discussion, see Steinberger (MS).

[22]But what, then, does Harman make of the seemingly undeniable phenomenological *datum* that beliefs can be held with varying levels of confidence? Harman admits that our beliefs come in 'varying strengths', but he denies that this necessitates postulating the existence of a corresponding graded doxastic state. Rather the phenomenon can be 'explained as a kind of epiphenomenon resulting from the operation of rules of revision [e.g. you believe P to a higher degree than Q iff it is harder to stop believing P than to stop believing Q]' (Harman 1986, p. 22). These rules of revision need only appeal to 'beliefs one accepts in a yes/no fashion (idem).'

they too may wish to know whether a viable *qualitative* guiding principle can be found. One motivation is this. Some advocates of probabilism—the view that perfect rationality requires that one's credences be probabilistically coherent—have argued that epistemic paradoxes like the Preface reveal the concept of full belief with its attendant system of logical norms of rationality to be incoherent (or at the very least unfit to play a role in a rigorous account of rationality). According to this line of thought we should either abandon the concept of full belief altogether or at least be mindful of its highly approximate, folk-theoretic character. Thus even if we cannot or will not dispense with full belief talk in everyday contexts, it is the concept of degree of belief (and the broadly Bayesian machinery that is thought to accompany it) that alone ultimately enjoys philosophical and scientific respectability.[23] In light of the dialectic just sketched those philosophers who take the concept of full belief to play an ineliminable theoretical role in our epistemic lives will take a keen interest in the question as to whether there are qualitative bridge principles capable of accommodating the epistemic paradoxes.[24]

What is needed to meet the skeptical challenge as Harman understands it, therefore, is a bridge principle that offers genuine guidance to reasoners (so features qualitative states) *and* meets our desiderata. As we have seen in §4, the operative desiderata are Belief revision, Excessive Demands, Clutter Avoidance, Preface Paradox and Strictness.

What form, given these constraints, might such a principle take? Let us again take IMP as our point of departure and try to work our way towards a more attractive principle. IMP, in MacFarlane's nomenclature, amounts to:

- (Co+) If $A_1, \ldots, A_n \models C$, then S ought to believe C, if S believes all of the A_i.

To stave off Excessive Demands worries, let us move to an attitudinally restricted principle. We might try a principle restricted to the agent's beliefs about entailment. It avoids Excessive Demands worries and it allows for the possibility that the agent may be mistaken about what follows from what. It seems that the type of advice Harman has in mind should be sufficiently "internalist" to allow for such error. We might thus try the following. (The 'b' in the label designates the kind of attitude the principle is restricted to.)

- (Co+b) If S believes that $A_1, \ldots, A_n \models C$, then S ought to believe C, if S believes all of the A_i.

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[23]Richard Jeffrey (1970, p. 132) famously takes what appears to be a radical elimininativist stance. Christensen (2004) takes a more moderate line with respect to full belief, taking it to be a useful and perhaps indispensable way of talking in many ordinary contexts, but still not one that 'will [...] turn out to be an important part of epistemic rationality' (p. 100).

[24]See *inter alia* (Buchak 2014), (Leitgeb 2013), (Sturgeon 2008) and (Weisberg 2017) for defences of full belief.

I will return to the question of the viability of belief-based principles in the next section. For now, the aim is to arrive at a principle that is of the right overall shape; it can be fine-tuned later.

Next up: Belief Revision. The natural fix here is to move to the corresponding wide scope principle:

- (Wo+b) If S believes that $A_1, \ldots, A_n \models C$, then S ought to (believe C, if S believes all of the A_i).

(Wo+b) elegantly dodges both the Belief Revision and the Bootstrapping Objection. As for the former, the wide-scope reading provides just the wiggle room needed to neutralize Harman's objection. Suppose I believe p and $p \supset q$. According to Wo+, I may meet my logical obligations in one of two ways: I may either stick to my antecedent beliefs and also come to believe q, *or* I may ditch at least one of my beliefs in p and $p \supset q$ so as to absolve myself from the obligation to believe q. When q turns out to be untenable, the latter course of action recommends itself: we revise our beliefs in the light of their unpalatable consequences. This not only meets Harman's challenge; it paints an attractive picture of the interaction between logic and other epistemic norms: logic, on the whole, does not require us to have any particular beliefs (except towards obvious logical truths, perhaps). Rather, it prohibits certain constellations of doxastic attitudes. When we reason we must negotiate these global constraints on our system of beliefs with other epistemic norms—local norms that guide us in determining whether a given proposition is to be believed. This element of negotiation is well captured by the wide-scope reading. Applied to the Bootstrapping Objection, the wide scope principle yields that, for any proposition A that I happen to believe, I ought to (believe A, if I believe A). This is equivalent to it being the case that I ought to (believe A or not to believe A). Provided one accepts, as I do, that deontic modals are best construed as propositional operators, this causes no problem: the proposition in the scope of the *ought* operator is a tautology. Hence, nothing at all is required of the agent in order to discharge one's obligation for believing the embedded tautology.

But what about the Objection from Clutter Avoidance? There may be a great many logical consequences I believe to obtain, but which I have good reason not to believe explicitly because doing so would needlessly clog up my 'belief box'. However, with just a little tweaking (Wo+b) can tackle that problem too:

- (Wo+b*) If S believes that $A_1, \ldots, A_n \models C$ and S *considers C or has subjective reasons to consider C*, then S ought to (believe C, if S believes all of the A_i).

Notice that it would not be enough merely to add the clause 'and S considers C' because there may be cases in which an agent fails to consider logical consequences she has good reasons to consider. For example, I might, out of intellectual dishonesty, fail to take into account a damning consequence of my philosophical position of which I am otherwise aware. Surely, in such a case, I have good epistemic reasons to consider it. Moreover, in order for the principle to be 'followable' the reasons must be ones an intellectually honest agent is in a position to appreciate. Whence, the need for subjective reasons. Finally, we must ensure that the reasons do not come too cheaply. For instance, the mere fact that C is a consequence from one's beliefs (and one is aware of this entailment) cannot yet provide a reason, otherwise we would face Clutter Avoidance worries all over again. The reasons for considering the conclusion must be independent of its being entailed and suitably strong.

This should take care of Clutter Avoidance worries. Let us now turn to the Preface Paradox, which spells so much trouble for qualitative bridge principles. As it turns out, it too can be overcome provided we are prepared to retreat to the weaker defeasible *reasons* operator: I believe each of the propositions comprising my book. This provides me with a reason to believe in the conjunction of those propositions. After all, the conjunction, trivially and recognizably to me, is a logical consequence of my beliefs. However, my (logic-based) reasons for believing the conjunction can be trumped by the weightier demand for epistemic humility: I am bound to have made a mistake somewhere along the way. Thus, the *reasons* operator allows our qualitative principle to accommodate exceptional Preface-like situations in which our standard logical reasons are overridden by competing epistemic considerations. We thus arrive at the principle:

- (Wr+b*) If S believes that $A_1, \ldots, A_n \models C$ and S considers C or has subjective reasons to consider C, then S has reasons to (believe C, if S believes all of the A_i).

We do well at this point to replace the (catchy) label '(Wr+b*)' by '($\star$)' for ease of future reference. ($\star$) is our best bet at this point.

There is an alternative option we might have considered, which turns out to be unsatisfactory, however. In response to the Clutter Avoidance problem (as well as the Excessive Demands worry) one might have been tempted by a negative wide scope principle instead. In particular, we might have gone with:

- (Wo-b) If S believes that $A_1, \ldots, A_n \models C$, then S ought to (not disbelieve C, if S believes all of the A_i).

(Wo-b) elegantly takes care of Clutter Avoidance: I am not enjoined to believe any old trivial consequence of my beliefs, I am simply forbidden from actively

disbelieving them. Similarly in the case of Excessive Demands. Though not devoid of initial appeal, there are two reasons that should disincline us towards (Wo-b). First, Obtuseness is a worry (see fn. 15). Much of our everyday reasoning involves very simple logical entailments. According to (Wo-b), if I (say) believe p and $p \supset q$, I am under *no* obligation to believe q even if q is a salient conclusion and I have no reason not to believe it. I do not even so much as have a reason to believe q. All that (Wo-b) demands is that I refrain from disbelieving q. Surely, logic requires more of us, and a guiding bridge principle should reflect this. We might try to mitigate this undesirable feature by opting, in addition, for a reason-based principle alongside (Wo-b).[25] However, negative ought-based principles such as (Wo-b) also have the drawback of being vulnerable to the Preface Paradox. We are better off, I submit, opting for the reason-based ($\star$) off the bat.

A final remark regarding ($\star$) is in order. In §4 we distinguished synchronic and diachronic bridge principles. As a wide scope principle, ($\star$) is most naturally read as a synchronic principle. It states that, at any given time, you have reason to avoid believing the premises of an argument you believe to be valid while at the same time not believing the conclusion (provided the conclusion is one you in fact consider or have reason to consider). How does this sit with Harman's conception of reasoning as an activity that, as he repeatedly emphasizes, is inherently dynamic? In light of reasoning's dynamic nature should we not have our eyes set on a diachronic principle? Yes and no. No, if from a diachronic principle one hopes to extract instructions as to which propositions to believe and not to believe. As we already noted, it is a mistake to look to logic to tell us what to believe. At best, logic can tell us which coherent doxastic options are open to us. But that is not to say that a synchronic principle like ($\star$) cannot play a central role in helping us figure out what we have reason to believe; except it can only do so in concert with other epistemic norms. ($\star$) advises me that I have reason to avoid believing all of p, $p \supset q$ and $\neg q$. Therefore, so long as those reasons are not overridden, I can either come to believe q along with my antecedent beliefs p and $p \supset q$ or I can drop at least one of these antecedent beliefs. In order to determine which of these two doxastic options is to be preferred, I draw on other epistemic considerations, e.g. which of the propositions is more likely to be true in light of the evidence. In this way, our synchronic principle in fact naturally feeds into a corresponding diachronic norm of belief:

- (†) If, at time t, S believes that $A_1, \ldots, A_n \models C$ and S considers C or has subjective reasons to consider C, then if S's reasons for believing the A_i are not outweighed by sufficiently strong prior reasons for doubting C, then S has reasons to believe C at t' (where t' is preceded by t); if S has sufficiently strong prior reasons for doubting C, S has reasons to revise her belief in some

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[25]This is the strategy MacFarlane (2004) pursues.

of the A_i at t' in a way that is consonant with the evidence and such that the remaining set of believed propositions—a proper subset of $\{A_1, \ldots, A_n\}$—no longer entails C.

Admittedly, that is a bit of a mouthful, but the general idea should be clear enough. (†) states that you have reason to comply with the demands of logic and that, going forward, you should rely upon your evidence to decide which of the consistent sets of beliefs you have most reason to endorse. Admittedly, also, there are a number of blanks to be filled in here, e.g. When are our prior reasons for doubting sufficiently strong? How exactly do I draw on my evidence to navigate these choices?[26] It will fall to a fully worked out theory of reasoning to answer these questions. I take it, though, that the normative role of logic within such a theory has been clearly delineated.

Let us briefly take stock. Our review of the objections and challenges faced by a bridge principle of Harman's specifications led us to (⋆)—a principle that has a lot to recommend itself. Moreover, we have demonstrated that a synchronic principle like (⋆) can be put to good use in a theory of reasoning whose principles are, in the main, diachronic. Before embracing it whole-heartedly, however, there is some more work to do. For one, we still need to consider the final hurdle among our desiderata: the Strictness Test. Doing so gives us the opportunity to characterize the force of the *reasons* operator more fully.

The thought, recall, is that at least when it comes to obvious logical entailments leading to conclusions that the agent considers or has reasons to consider, an agent who endorses the premises but fails to believe the conclusion opens herself up to criticism. Principles based on the *reasons* operator fail the Strictness Test. The flexibility allowing them to parry Preface Paradox-like challenges—namely, the fact that they allow for cases in which our reasons for logical coherence are trumped by other epistemic considerations—now turns out to be a source of weakness. But the blemish is not to be avoided. So long as one is wedded, as Harman is, to the idea that bridge principles may only involve qualitative doxastic states (as opposed to ones featuring degrees of belief), it looks as if the only way around the Preface Paradox consists in resorting to a weaker, non-strict deontic operator. The only alternative is to try to parlay ourselves out of our 'Preface intuitions'. Thus far, unfortunately, I have been unable to convince myself to join the ranks of the 'Preface deniers'.[27] I see no way around our Preface intuitions.

An alternative response—MacFarlane's (2004, p. 14) response—is to take our Preface intuitions seriously but to resist the conclusion that our strict bridge prin-

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[26]Cf. (Dogramaci 2015).

[27]Milne (2009) is a particularly relevant example of a Preface denier. See Christensen (2004, Ch. 3) for an illuminating and persuasive discussion of the significance and the inevitability of the Preface Paradox.

ciples are thereby shown to be too strong. According to MacFarlane, we simply must reconcile ourselves to the existence of an ineliminable normative conflict: our strict logical obligations clash with other epistemic obligations, namely, the obligation to believe that some of my beliefs must be mistaken. Our agent becomes a tragic heroine. She finds herself, through no fault of her own, in a situation in which she inevitably will fall short of what, epistemically speaking, she ought to do.

My worry with this is that, as a principle of sound methodology, admitting an irresolvable normative clash should only be our last resort. A better approach, it seems to me, consists in finding a way of reconciling the conflicting epistemic norms. But how? Here is a simple idea. Let us assume we have a partial ordering over our doxastic norms according to relative priority. We could allow the priority orderings to vary with the contexts. For instance, norm N_1 may take precedence over N_2 in one context, but N_2 may have a higher priority than N_1 in another. In the practical realm, for instance, the norm of being polite may be judged to be more important than that of being honest in some situations (when it comes to your opinions about a friend's baby's cuteness levels, say); all the same, there are important situations in which we regard honesty as vastly more important than politeness.

How might we implement this thought in the case of the epistemic norms that interest us? Our intuitions regarding Strictness apply in *ordinary* contexts, where the agent is typically dealing with a very limited number of beliefs and their manageable logical consequences. In situations like these our Preface intuitions get no purchase on us. Think of a 'Preface case' involving three propositions, four propositions, and so on. Going in the other direction: as we are considering ever smaller sets of propositions, the plausibility of our holding at least one of the propositions expressed in the book in error decreases proportionately. Our Preface intuitions only kick in once we deal with sufficiently large bodies of propositions. Conversely, it is precisely in the contexts in which our Preface intuitions get a foothold that our intuitions regarding strictness lose their force. In such Preface Paradox-like scenarios, it is rationally required, or at least excusable, to violate Strictness.[28]

In light of this, what we would like is a principle that is sensitive to whether the agent's situation is 'ordinary' or 'Preface-like'. More precisely, we would like instructions telling us how to understand the reasons invoked by ($\star$): How heavily, *depending on* whether the context is ordinary or Preface-like, should the reasons for respecting logical coherence be weighted relative to the reasons favoring competing epistemic considerations? In ordinary contexts our reasons for taking into account the logical consequences of our beliefs take precedence over considerations

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[28]Cf. (Cherniak 1986, p. 51).

of our own fallibility. Within such contexts, our *reasons* operator behaves like the corresponding *ought* would, thus preserving our Strictness-supporting intuitions. It is only in Preface-like contexts that the defeasible nature of the deontic operator makes itself felt. For it is in these situations that our Preface intuitions trump our Strictness intuitions. The operator, as we might put it, behaves *quasi-strictly*. Of course there are no sharp boundaries demarcating ordinary from Preface-like contexts. But the resulting vagueness in our account need not deter us. It is simply a reflection of the vagueness of the phenomenon we are giving an account of.

7   Further discussion

The aim of the previous section was to show that there is a logical bridge principle capable of performing the particular normative function Harman is after. Our preliminary conclusion is that such a principle is indeed to be had: in ($\star$), we have formulated a qualitative guiding bridge principle (in place of IMP) that is not only immune to Harman's objections, but which also performs well against MacFarlane's additional desiderata. In the present section we will need to refine our proposal and tie up some loose ends. More precisely, we need to say more about the nature of the attitudinal restriction featuring in the final version of our bridge principle.

What is the reason we need to return to ($\star$) and its restriction to the agent's believed logical consequences? One important worry about it is that principles of the form 'If S believes that $A_1, \ldots, A_n \models C$, then Φ' overly intellectualize what it means for S to be guided by a norm. There may be certain circumstances in which some agents consciously deliberate in the following way: they explicitly represent the appropriate norms to themselves, observe that those norms' triggering conditions are met in the circumstances and then act in compliance with the norm as a result of the deliberation and out of a concern for norm-compliance. But as Peter Railton rightly points out, 'such higher-order reflection occupies a small fraction of our normative lives—concentrating on it tends to locate the center of mass of our norm-guided selves *too high*, that is, too much in the domain of self-conscious, deliberative judgment' (Railton 2006, p. 3, author's emphasis). As Railton (2006) illuminatingly illustrates through a number of vignettes, in our everyday lives our behavior is constantly guided in myriad ways by norms the vast majority of which we would be unable to make explicit even if we paused to think about them. These norms must therefore operate beneath the surface of conscious experience. Yet we are guided by them and navigate the world around us thanks to them with seeming lack of effort.

What lessons can be gleaned from these considerations about the nature of directives? Plausibly, a directive should be understood as the explicit articulation

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of the norms that are implicit in our norm-governed behavior.[29] All the same, the norms we so formulate should not place inordinate conceptual demands on the agent. Most agents are in some sense guided by logical norms without following such norms deliberately or even having the concepts required to articulate these norms explicitly. Thus, if doxastically constrained norms like our $(\star)$ are to be understood so as to imply that normative guidance presupposes an explicit grasp of the guiding norm and its ingredient concepts, this would disqualify them. This is so, especially if guidance by $(\star)$ were to require a grasp of the specifically *logical* concept of consequence. More reasonably, if only because more vaguely, we might say that all that is required is for the agent to possess a capacity to determine whether a conclusion is indeed a logical consequence of a set of premises. That is, we might try a modified antecedent of the form:

- If (competently drawing on her deductive capacity) S determines that $A_1, \ldots, A_n \models C$, then Φ.[30]

I am assuming that such a capacity may be fallible. That is, there may be false positives (e.g. I take A to be entailed by $A \supset B$ and B) as well as false negatives (e.g. I may fail to see that e.g. C entails $((A \supset B) \supset A) \supset A$.

As it stands, the resulting directive is not without exception, though. After all, it may be that I know my deductive capacities to be weak or highly fallible. As a result, I may well—in situations where it matters to me—choose to rely on the testimony of a friend whose deductive capacity I know to be more reliable than my own. If my friend advises that A is not entailed by $A \supset B$ and B, it seems that I should align my beliefs with her views about consequence rather than with the deliverances of my own deductive capacities. Hence, what ultimately matters is what, in my best estimation (marshalling all resources available to me at the time), is entailed by what.[31] That, at the end of the day, is all I have to go on. In light of this, let us reformulate our principle once more:

- $(\bullet)$ If according to S's best estimation at the time, S takes it to be the case that $A_1, \ldots, A_n \models C$ and S has reasons to consider or considers C, then S has reasons to (believe C, if S believes all of the A_i).

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[29]For a fuller account of what such implicit norm guidance amounts to, I refer the reader to (Railton 2006).

[30]This is in line with Harman's thinking. See (Harman 1986, p. 2).

[31]Harman (1986, p. 17) takes the relevant restriction to be 'the immediately implied' ones. This is rather vague. Moreover, Harman goes on to claim that 'one might have *no* reason to accept something that is logically implied by one's beliefs if there is no short and simple argument showing this (ibid.).' Taken literally this is incorrect. If I have reliable information that a non-immediate implication obtains, surely I do have reason (in the relevant subjective sense) to adjust my beliefs accordingly. My formulation is an attempt to improve upon Harman's own suggestion.

The formulation is intended to make room for all of the possibilities we have imagined. If the agent is a trained logician, she might, compatibly with (•), have explicit beliefs about entailment. However, S's *taking it to be the case that* need not be understood in intellectualist terms. In simple cases S might simply be drawing on her deductive capacity unreflectively. Moreover, (•) allows for S to draw on external resources such as the testimony of others in order to determine what follows from what.

The bridge principle we end up with, then, (•), strikes me to be both substantive and correct given its normative role as a directive, i.e. of guiding the agent. (•) is my response to Harman's skeptical challenge. However, as we noted in §2, there is a further component to Harman's skepticism, which we need to address briefly.

Recall that Harman occasionally suggests that even if logic did have some normative relevance to reasoning, it would not be '*specially* relevant for reasoning' (Harman 1986, p. 20). Harman notes that

> one can recognize a logical implication or logical inconsistency only if one has the relevant concept of logical implication or logical inconsistency. But it would seem that few people have such concepts, at least if this involves distinguishing logical implication and inconsistency from other sorts of implication and inconsistency (Harman 1986, p. 17).[32]

Ordinary folk presumably do not, for instance, distinguish necessary implications that hold in virtue of logical form from other types of necessary entailments like 'If Philadelphia is south of New York City, then New York City is north of Philadelphia' or that if 'A is a part of B and B is a part of C, then A is a part of C' and others like it. It is for this reason that logic does not, according to Harman, have any *special* normative role in reasoning, at least for the logically untrained. According to him, some immediately recognizable logical relations and properties may indeed be relevant to reasoning, but their properly *formal logical* character does nothing to distinguish their normative role for reasoning from that of non-logical types of implication (strict implication or analytic implication, say).

Now, I readily grant that the problem of providing a principled demarcation of what William Kneale (1956) once dubbed the 'the province of logic' is a tall order. Furthermore, even if there were a characteristic property possessed only by logical concepts—perhaps its topic-neutrality understood in terms of the invariance of logic's operations under all permutations or homomorphisms onto the domain—it would still need to be shown that this distinguishing feature bestows upon logic a privileged role in the reasoning of ordinary agents, setting it apart from the normative role played by non-logical implications. That is, if establishing logic's

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[32]Boghossian and Rosen (MS) make a similar point.

'special relevance' for reasoning involved showing that ordinary agents are sensitive to whatever property uniquely characterizes *logical* implication, skepticism would presumably indeed be the appropriate attitude.

It is just not clear, however, what hangs on the qualification 'special' here. Again, if our aim was to work back to the correct notion of logical consequences on the basis of its supposed unique and distinctive normative profile, Harman's worry would carry weight. But we are working in the opposite direction here, holding our notion of logical consequence fixed and determining its normative impact on that basis. The question with which we began was whether logic has a normative role to play in our epistemic lives. More precisely, we asked whether it can play the *guiding* role that most interests Harman when it comes to epistemic norms. I submit that our discussion has shown that it can, and (●) states exactly in what sense. If other types of implications are normative in similar ways, so be it. However, logic, on account of its universal applicability, does have a more significant role to play in reasoning than domain-specific analytic implications. This is so even if the logical implications do not have a distinctive normative oomph, and even if we are unable to delineate the province of logic as cleanly as some might have hoped.

8 Conclusion

Let me recapitulate. My point of departure was the question 'Is logic normative for reasoning? And if so, how?' I reviewed Harman's influential skeptical challenge to the notion that logic does have such a normative role to play. In order to respond to Harman's skeptical challenge, I suggested, one needs to produce a viable bridge principle. This raises the questions: 'What bridge principles do we have to work with?' and 'On what grounds do we evaluate the viability of such a principle?' I respond to the first question, by drawing on and further developing MacFarlane's taxonomy of bridge principles. I respond to the second question by laying out a set of plausible criteria of adequacy. Furthermore, I argue that the proposals advanced by MacFarlane and others fail to respond to Harman's challenge. I do so by introducing a crucial distinction between first-personal guiding uses of norms and other third-personal evaluative uses of norms. The question of the normativity of logic could be understood in either way. I demonstrate that Harman's skeptical challenge turns on the former first-personal conception of norms. By contrast, MacFarlane (and many of the other contributors to the debate) are concerned with a third-personal normative role of logic as giving rise to evaluations or appraisals. Consequently, Harman's challenge has not been met. Finally, I propose my own response to Harman's challenge. I argue that a restricted wide scope principle featuring a quasi-strict deontic operator fares better than its competitors against

the proposed criteria of adequacy.

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