

‘Must’, ‘Ought’ and the Structure of Standards

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Abstract. This paper concerns the semantic difference between strong and weak necessity modals. First we identify a number of explananda: their well-known intuitive difference in strength between ‘must’ and ‘ought’ as well as differences in connections to probabilistic considerations and acts of requiring and recommending. Here we argue that important extant analyses of the semantic differences, though tailored to account for some of these aspects, fail to account for all. We proceed to suggest that the difference between ‘ought’ and ‘must’ lies in how they relate to scalar and binary standards. Briefly put, *must*(φ) says that among the relevant alternatives, φ is selected by the relevant binary standard, whereas *ought*(φ) says that among the relevant alternatives, φ is selected by the relevant scale. Given independently plausible assumptions about how standards are provided by context, this explains the relevant differences discussed.

Keywords. necessity modals·ought·must·Kratzer·von Fintel·Iatridou

1 Introduction

Many philosophers take ‘ought’ to be the canonical term for asserting and discussing moral obligations and requirements. Indeed, the first entry for ‘ought’ in many well-known dictionaries identifies it as a word for duty or moral obligation. However, this proves problematic, as revealed by a (now) classic example:

- (1) Employees must wash hands. Non-employees really ought to wash their hands, too. [9]

It is not ‘ought,’ but rather ‘must’ that indicates an obligation or duty, or what we are required to do. In (1), while it is clear that employees are required to wash their hands, ‘ought’ seems to indicate a weaker claim on the non-employee—something more like a recommendation or exhortation.

Since both ‘must’ and ‘ought’ (and closely related expressions like ‘have to’ and ‘should’) play central roles in moral judgments and moral reasoning, it is important to ascertain what ‘ought’ does indicate, if not duties or obligations, as well as to under-

stand the difference(s) between ‘must’ and ‘ought.’¹ That is the purpose of this paper. We suggest that the difference should be understood in terms of *differently structured standards*. ‘Ought’ relates to a scalar standard—a ranking of alternatives as better or worse. ‘Must’, by contrast, relates to a requiring standard—one that rules out all alternatives not satisfying a certain condition. This distinction, we argue, can explain the variety of differences between the two locutions. At the same time, it is both parsimonious, relying on independently motivated assumptions and existing resources within semantics, as well as conservative, being compatible with standard general approaches to the analysis of modals, and compatible with substantive views in normative ethics about what, in particular, ought to be done or ought to be the case. (For earlier discussions of the distinction, see [2,3,4,5], [9,10,11,12], [14], [17,18], [20].) In what follows, we spell out some relevant explananda and indicate why we find some extant accounts of these wanting (section 2), present our proposal and how it accounts for the explananda (section 3), and address some complications (section 4).

2 Explananda

We start with some of the data that should be captured by accounts of ‘ought’ (and its close relative ‘should’) and ‘must’ (and its relative ‘have to’).²

Different flavors. Both ‘ought’ and ‘must’ famously come in different “flavors”, relating to different kinds of modalities:

MORAL: “One ought to help one’s friends.” / “One must not murder.”

PRUDENTIAL: “You ought to lock the garage; car thieves are active in the area!” / “We’ve been hit twice by violent burglars; we must protect ourselves.”

BOULETIC: “Oh man, she ought to be here—she’d love this!” / “You simply must see the Rembrandt exhibit while it’s in town.”

TELEOLOGICAL: “To get to Harlem, you ought to take the A-Train.” / “Actually, the subway broke down, the cabs are on-strike, and the heliport is closed for renovation; to get to Harlem, you have to walk.”

EPISTEMIC: “He ought to be home within 10 minutes; he left an hour ago.” / “He must have arrived; I see he checked-in on Facebook.”

The variety of modal flavors is of course familiar. Different modal claims clearly relate to different sorts of considerations. On a generic analysis of *must*(φ) in terms of quantifications over possibilities, it means *in all relevant possibilities*, φ . Within such

¹ The fact that the distinction occurs across a variety of languages furthermore suggests that it tracks some stable and important cognitive distinction [10].

² In this paper, we assume that what goes for ‘ought’ goes for ‘should,’ and that what goes for ‘must’ goes for ‘have to,’ though in reality matters are more complicated, with regard to both connotations and syntax. We set aside such complications in pursuit of an understanding of broader differences between the two categories of expressions, working on the assumption that they encode two importantly different kinds of thought.

an analysis, the different flavors correspond to different ways of selecting the relevant possibilities, ways that are in turn determined by context. In the case of epistemic ‘must’, for example, the relevant possibilities might be those compatible with the evidence; in the case of moral ‘must’, the possibilities might be those that are morally best among the possibilities an agent can bring about at a time.

What is important here is that the distinction between ‘ought’ and ‘must’ is felt across these flavors: exchanging one locution for the other in the examples above makes a striking difference across the board. In trying to account for the difference, our default assumption should be that the difference stems systematically from a difference in meaning between the two locutions.

Intuitive difference in strength. As we have already noted, ‘ought’ seems weaker, in some sense, than ‘must’. One way of bringing out intuitive differences in strength is to substitute one for the other in a given sentence, such as:

- (2) When you are in town, you *must/have to/should/ought to* see the new Rembrandt exhibit.

If one thinks that the Rembrandt exhibition is great and wants to recommend seeing it on this ground, the intuitive strength of one’s recommendation depends on whether we use ‘must/have to’ or ‘ought/should’: using the former would seem to express a *stronger* recommendation.

A difference in strength is also suggested by the fact that it often seems reasonable to say that someone should or ought to do something while denying that she has to, but not the other way around:

- (3) You ought to attend class every day, but you don’t have to.
- (4) # You have to attend class every day, but I’m not saying that you should.
- (5) She ought to help her neighbor, but she doesn’t have to.
- (6) # She must help her neighbor ...but it’s not as if she ought to.

As (1), (3) and (5) illustrate, it might be perfectly natural to say that someone ought to do something while denying that he must, but as witnessed by (4) and (6), the reverse is problematic.

The most straightforward way of understanding differences in strength is in terms of *logical* strength: *must(ϕ)* implies *ought(ϕ)*, but not the other way around. This needs an obvious qualification, however, as both ‘ought’ and ‘must’ come in different flavors. Depending on how fine a distinction we make between these flavors, the two locutions might have different flavors within examples like (3) through (6). Consider again (1) (“Employees must wash hands. Non-employees really ought to wash their hands, too”). Here, ‘must’ might be understood as legal or policy-based, whereas ‘ought’ is more naturally understood as moral. Moreover, if there is a shift, then clearly we can have cases where both *have to/must(ϕ)* and *should/ought($\sim\phi$)* are felicitous (even assuming that *should not(ϕ)* implies *not should(ϕ)*):

- (7) I’ve now read the regulations: you must hand in the documents by the end of today. But you really shouldn’t. We can save lives if we hold on to them until tomorrow.

The datum here, then, is that *when must(φ) and ought(φ) have the same flavor*, the former seems stronger. Exactly how this is spelled out obviously depends both on how sameness of flavor is to be understood and on the semantics of the two locutions.

Perhaps the best-known attempt to represent the differences in strength between ‘ought’ and ‘must’ comes from Kai von Fintel and Sabine Iatridou [9,10]. Following Angelica Kratzer [7,8], they take *must(φ)* to mean (simplifying somewhat) *φ holds in all the highest ranking accessible possible worlds*. The conversational background provides a “modal base” determining the set of worlds accessible from a world w , and an “ordering source” determining the ranking of worlds. In the case of moral ‘must’, the ordering source is a set of propositions describing a morally ideal situation; in the case of a legal ‘must’, a legally ideal situation. Their suggestion is that *ought(φ)* is similar, but that it takes a second ordering source which orders the accessible worlds favored by the primary ordering source. So if we say that

(8) Liz ought to ψ ; in fact she must.

and if ‘must’ and ‘ought to’ take the same primary ordering source, we are saying that

(9) Liz ψ s in all accessible worlds favored by O that are also favored by O’; in fact, she ψ s in all accessible worlds favored by O.

Since the second ordering source (O’) restricts the worlds that φ are said to hold in, the ought-claim in the first conjunct is weaker than the must-claim in the second.

Obviously, the proposal straightforwardly captures a difference in strength between the two locutions (cf. [12]).³ But there seem to be (a) cases where two ordering

³ von Fintel and Iatridou [9] suggest that ‘anankastic’ oughts—sentences of the form ‘if you want X, you ought to Y’ or ‘to X, you ought to Y’—are best understood to involve two ordering sources. That would let the explicit goal (X) operate on the first, thus ensuring that it isn’t trumped by other goals such that *to X you ought to Y* comes out as true even when Y-ing would in no way promote X. They furthermore think that this is best explained under the assumption that ‘ought’ takes two ordering sources generally. But we do not see why clauses like “if you want to X” or “in order to X” cannot equally well work to *introduce* a privileged ordering source.

In a more recent paper [10], von Fintel and Iatridou also note that in many languages, weak necessity modals are expressed using a combination of strong necessity modals and temporally unmotivated past tense morphology characteristic of counterfactuals. They take this to suggest that weak necessity modals operate with two ordering sources, but the connection they propose between the past morphology and an extra ordering source seems largely ad hoc. In the case of counterfactuals, the past tense morphology does not introduce an extra ordering source restricting the relevant possibilities, but instead relaxes constraints on the possible to include what might be epistemically impossible. We should expect it to do something similar here and speculate that in the case of necessity modals, it indicates a widening of the considerations grounding the relevant selection of accessible alternatives: whereas ‘must’ encodes a binary condition decisively favoring some alternatives over others, ‘ought’ encodes a scale given which such a condition would be one among many possible conditions determining an alternatives position on that scale (see Section 3). For an example of such weakening by past morphology at work in the case of modals, consider the two close synonyms of ‘ought’ in Swedish: ‘bör’ and its morphologically past ‘borde’. Both

sources are at play but ‘must’ still seems appropriate, and (b) cases where ‘ought’ seems clearly appropriate even though it is unclear what primary ordering source might be in play.

For an example of (a), suppose that we are considering whether to schedule a seminar on Monday, Tuesday, or Wednesday. Learning that the speaker can’t make it on Monday, we cross that day off our list, and remembering that we had dearly promised to leave Tuesday open for a departmental meeting, we cross Tuesday off our list too, leaving Wednesday. Even though we have two salient operative sources for our selection of the remaining alternative, it would be natural for us to conclude that:

(10) We have to schedule the seminar for Wednesday.

At least, it seems that this would be natural if we took our previous promise to be clearly decisive.

For an example of (b), suppose that we hear of some natural disaster. Thinking about the urgent needs, we might naturally say:

(11) We ought to contribute to disaster relief.

It is not clear, however, what the primary ordering source would be in this case, or that we need to identify one to know very well what was meant by (11). At the very least, it is not clear that the considerations triggering our utterance involve focusing on anything other than the fact that it is *better* if we contribute to disaster relief.

For these reasons, the number of salient ordering sources cannot itself be what distinguishes ‘must’ from ‘ought’: instead, there is something about the sources or our attitude towards them that favors one of the locutions over the other. And if we had an account of that difference in ordering sources, it might well be that we could explain the difference in strength without taking ‘ought’ to operate with a secondary ordering source.

Requirements vs. recommendations. As illustrated by several of our examples above, ‘must’ is naturally used to express requirements, whereas ‘ought’ is naturally used to express something like recommendations. This is something that an analysis of these terms should let us explain. However, a few words are needed about the strength of the connections between ‘ought’ and recommendations, and between ‘must’ and requirements.

At one extreme, one might think of these connections as mere connotations, attached to the locutions by historical accident rather than grounded in the semantics. This seems implausible, as the connections seem to hold cross-linguistically. At the other extreme, one might take them as part of the meaning of the terms. For example, Mike Ridge analyses ‘must’ as relating to standards that require certain actions or states of mind and ‘ought’ as relating to standards that recommend. Recommending and requiring standards are in turn understood in terms of the distinction between kinds of speech acts: in recommending something, we are typically disposed to tolerate that someone ignores our recommendations; in requiring something, by contrast,

are weaker than the equivalent of ‘must’ (‘måste’), but ‘borde’ is weaker than ‘bör’, indicating more uncertainty or less decisive reasons.

we are disposed to insist on compliance, and impose sanctions for non-compliance ([14], ch. 1, § 3).

As will be clear, we think that the connection between ‘must’ and ‘ought’ and these speech acts is no mere coincidence, but we doubt that it is part of the meaning of the terms. The first problem is that the connection seems insufficiently tight to ground a difference in meaning. Speakers seem to use ‘must’ in a variety of contexts where they are not disposed to impose sanctions or insist on compliance in relation to the standards invoked. For example it is unclear whether we should expect any more insisting or sanctions for non-compliance from someone uttering (2) with ‘ought’ or ‘should’ rather than ‘must’.

A different and perhaps more serious problem arises in the case of epistemic modals and uses of ‘must’ that express nomological or logical necessity. The problem is that what logically, nomologically or epistemically ought or must be the case often need not be an action:

(12) It must/ought to be snowing in Stockholm by now.

(13) When temperature increases, either volume or pressure must increase too.

Obviously, we do not normally recommend or require that it be snowing in Stockholm or that volume or pressure increase. Ridge suggests that statements expressing epistemic modals (such as (12)) say that what the relevant standards require or recommend is that we believe a certain proposition (e.g. that it is snowing in Stockholm). That might seem plausible (though perhaps less so for nomological or logical modals, as he acknowledges). But it introduces a compositionality problem: whereas (3) through (2) represent the actions recommended or required by the relevant standards, (12) or (13) do not in any clear way represent any *believing*, only a content that can be believed. Somehow, in the case of practical *must*(φ) or *ought*(φ), the relevant standards would concern φ , whereas in the epistemic (or nomological or logical) case, it would apply to *our believing* φ . A more uniform account would be preferable.

For these reasons we do not think that it is part of the meaning of ‘must’ and ‘ought’ that they express or otherwise semantically relate to different levels of intolerance of non-compliance. But it is clear enough that ‘must’ is particularly well suited to express requirements in the sanction-implicating sense, and this is something that calls out for an explanation.

Probability, conditionality, and collective commitments. Looking at epistemic uses of ‘ought’ and ‘must,’ one might think that the difference between the terms has to do with certainty or uncertainty. If one says that it *must* be snowing in Stockholm right now, one might seem to imply that we can be certain that it is snowing, or, more carefully, certain enough to consider the matter closed and not up for debate. If one says that it *ought* to be snowing, the implication is instead that it is probable or believable that it is snowing, or that a default assumption that it is snowing is in order, and one seems to leave the matter open for discussion. An analysis of the difference between ‘ought’ and ‘must’ should help us understand this difference.

As with the distinction between recommendations and requirements, one might think that the tendency of ‘must’ to express states of certainty or of considering a

matter closed is more or less tightly connected to the meaning of the term, and similarly for the tendency of ‘ought’ to express probabilistic judgments or default assumptions. Suppose, for example, that we say that someone *must* or *ought* morally to lend a helping hand, thereby expressing that moral considerations require or support that action. Here one might further think that the ought-judgment, as opposed to the must-judgment, *semantically leaves open* that there might be stronger moral reasons not to lend a helping hand, or that some other action might also achieve whatever ends or satisfy whatever ideals we are concerned with, though with lower probability, or perhaps that it leaves open that other parties of the conversation do not share the priorities on which one based one’s judgment.⁴

We do not see that the phenomenon generalizes in that way, however. Many think that there are cases where, all told and without remaining uncertainty, moral reasons favor but do not require a certain act. Morally speaking, it is what the agent should or ought to do, but not what he must do; it is morally recommended, but not mandatory. The difference here seems to be between the kinds of reasons involved, not their certainty or unqualified nature. Or take a prudential example, where we are faced with the choice between two routes to work, Highway 9 and Route 17, offering different driving conditions and different scenery. Given the current traffic, the weather and our mood, we judge that Route 17 is somewhat better all things considered. Though the difference is relatively small (while Route 17 is a little longer, it is prettier and a little less bumpy), we agree about the relative weights of these considerations and the facts involved, and so consider the matter settled. Now compare:

- (14) We ought to/should take Route 17.
- (15) ? We must/have to take Route 17.

⁴ Stephen Finlay has defended the suggestion that *must*(φ) means that φ holds in all the relevant possibilities (where the relevant possibilities in the case of practical or bouletic modals are those in which some relevant end is realized), whereas *ought*(φ) means roughly that φ is more likely than other relevant possibilities (see e.g. [3,4] and [5], §3.2). Aynat Rubinstein [15,16] distinguishes two kinds of priorities on which (non-epistemic) modal claims are based: those that support ‘must’ (i.e. provide a primary ordering source, in the von Fintel & Iatridou framework) are ones to which conversational participants are presupposed to be committed; those that support ‘ought’ (provide secondary ordering sources) lack that presupposition. Whereas Finlay takes ‘ought’ to leave room for uncertainty about the achievement of the relevant end, what Rubinstein takes ‘ought’ to leave unsettled (in the conversational context) are the preferences involved, i.e. more like the ends of Finlay’s account. Similarly, and simplifying quite a bit, Alex Silk [17] suggests that *ought*(φ) is distinguished from *must*(φ) in that *ought*(φ) represents φ as holding in all relevant possibilities *conditional* on the applicability of the ordering source, whereas *must*(φ) represents φ holding in all relevant possibilities unconditionally. Much earlier, Jones and Pörn [12] proposed that *must*(φ) indicates that *ought*(φ) holds unconditionally or inescapably, under relevant ideal *and* non-ideal conditions. Unfortunately for our purposes, they say little about how relevant non-ideal conditions are selected, or how this might apply to epistemic ‘ought’, and the plausibility of the suggestion crucially depends on getting that selection just right. (We thank an anonymous referee for pointing us to Jones and Pörn’s proposal.)

(14) strikes us as perfectly felicitous, whereas (15) seems out of place. (Must we take Route 17? No, that is putting it too strongly. We may take Highway 9, though it wouldn't be as good.) But suppose that *must*(φ) unconditionally represented φ as selected by considerations of the relevant flavor and presupposes that we are collectively committed to the priorities involved. Suppose also that *ought*(φ) semantically leaves open the possibility that considerations supporting φ are outweighed, or represent φ as having merely probabilistic support, or takes priorities that the parties of the conversation are not committed to. Then contrary to what we find, (15) should have been perfectly fine, and (14) too weak.⁵

For these reasons, we think that while 'ought' is often better suited for contexts of uncertainty and that this calls for an explanation, it is not part of the semantics of 'ought' that it leaves open that some alternative is better, all facts considered.

3 SOS: 'ought', 'must', and the structure of standards

In the previous section, we listed phenomena that an account of the difference between 'ought' and 'must' should account for, and indicated problems for extant analyses of the difference to do so. Though we cannot pretend to have shown that these problems cannot be dealt with, we do hope to show how our own proposal can account for the phenomena in comparatively straightforward ways, and that it is worthy of further consideration.

The basic intuition behind our proposal is this. In thinking that something *must* or *has to* be case, we are thinking that, among relevant alternatives, it uniquely satisfies some salient condition. In the case of teleological 'must', it is the only alternative compatible with achieving the relevant goal; in the case of epistemic 'must', it is the only alternative compatible with the evidence; in the case of a moral 'must', it is the only that satisfies some moral requirement, and so forth. In thinking that something *ought to* or *should* be the case, by contrast, we have in mind considerations seen as providing overall sufficient support for selecting that alternative. In the former case, we have in mind a requiring condition or standard, or requirement; in the latter a scalar standard of some sort, providing considerations based on which we can see alternatives as more or less supported.

Obviously not all scales and requirements ground oughts and musts. We do not think that something ought or must epistemically be the case because it is most *unlikely* or because it is the only alternative *incompatible* with the evidence. Similarly, we do not conclude that we ought to do something on the ground that this is most unlikely to give us what we want, or most likely to give us what we do not want.

⁵ Finlay ([5] Ch. 6 §6) suggests a pragmatic explanation of the difference. We currently think that our account is more straightforward, and avoids other problems with Finlay's account, in particular problems with accounting for how alternatives are compared not only with respect to likelihood of achieving an end, but with respect to how likely they are to provide amounts of various valued quantities. Finlay ([5]: Ch. 7) has an extensive discussion of this problem, but we are not yet convinced that he can fully handle the problem.

Generally, the scales and requirements on which we ground ought and must-judgments are ones that we take to be relevant in deliberation about what proposition to realize in action, have a positive attitude towards, or believe, depending on whether we are engaged in practical, evaluative or epistemic deliberation. Differently put, the standards that ground our judgments are standards for practical, evaluative or epistemic *endorsement* of propositions. This is not to say that we make ought and must-judgments only when we are in the business of forming beliefs, intentions, or attitudes, for standards can be applied from other points of view than the first-person present-tense deliberation. We can apply them in deliberating on behalf of someone else who has to make a decision (as potential advisors), or from the point of view of an unspecified agent in a hypothetical situation, perhaps with different beliefs or access to different information than we have. Nor is it to say that the standards in question must be standards that we ourselves endorse in full detail. We can make practical ought or must-judgments in relation to goals that we do not ourselves assign any practical authority, thinking what the movie villain ought to do to avoid the police, and we can reason theoretically from premises that we do not in fact accept. Still, the interpretation and use of ‘ought’ and ‘must’ seems to operate under the expectation that standards encoded by ‘ought’ and ‘must’ are possible standards for practical, evaluative or epistemic endorsement.

Here, then, is the basic idea of our proposal. First, both *ought*(φ) and *must*(φ) select some alternative for (practical, preferential, theoretical) endorsement at the exclusion of others. If we think of alternatives as propositions, the simplest case is one where the alternatives consist of a proposition, φ , and its negation, $\sim\varphi$. In this case, *must*(φ) and *ought*(φ) imply \sim *must*($\sim\varphi$) and \sim *ought*($\sim\varphi$), respectively (ignoring dialetheism). Second, *ought*(φ) and *must*(φ) differ as to the grounds, or standard, of selection. ‘Ought’ semantically encodes a scalar standard—a ‘scale’—which selects an alternative based on its position on that scale. ‘Must’ encodes a binary standard or a condition—a ‘requirement’—which selects an alternative fulfilling that condition.⁶ Call this

⁶ Compare Sloman’s early [18] suggestion that practical *ought*(φ) means that φ is, or is a necessary condition for, the best of the possibilities in some contextually determined class Z , whereas *must*(φ) means that φ is the only alternative.

The proposal in this paper also shares obvious similarities with Daniel Lassiter’s recent highly interesting proposal that modals in general relate to scales, that *ought*(φ) means (roughly) that φ exceeds some contextually salient threshold on some contextually salient scale (e.g. of probability or expected value) to a significantly higher degree among salient alternatives, whereas *must*(φ) means (roughly) that it is the only relevant alternative passing a very high threshold ([11] Ch. 6). (We thank an anonymous reviewer for pointing us to Lassiter’s dissertation.) Much of Lassiter’s discussion strikes us as illuminating and plausible, but our ambition here is somewhat different than Lassiter’s. Our primary goal is to say something general (and necessarily schematic) about the different contributions of ‘ought’ and ‘must’ that might explain differences in behavior between the two locutions across the various flavors, whereas Lassiter aims to provide detailed truth conditions for epistemic and deontic modals, respectively. Though we lack space to show this here, we think that given plausible assignments of scalar and binary standards, the general account outlined here can accommodate crucial aspects of Lassiter’s explanations.

the ‘Structure of Standards’, or ‘SOS’ account of the difference between ‘ought’ and ‘must’:

OUGHT(φ): Among the relevant alternatives, φ is selected by the relevant scale.

MUST(φ): Among the relevant alternatives, φ is selected by the relevant requirement.

We do not here endorse a specific way of understanding alternatives, but put in the most familiar terms of quantification over possible worlds, we can think of the relevant alternatives as sets of possible worlds, and the selection of an alternative φ as a restriction of the union of these to those in which φ holds. Prior to the selection encoded by a particular *must*(φ) or *ought*(φ) judgment, relevant alternatives will typically have been restricted in various way. In the case of practical oughts, for example, alternatives will have been restricted to those that the relevant agent is capable of bringing about at some specific time; in the theoretical counterparts, global skeptical alternatives might have been ruled out. Some such ‘preselections’ would correspond roughly to Kratzerian modal bases. Others will be based on something akin to Kratzerian ordering sources: perhaps we have already restricted our attention to alternatives in which we achieve some goal, and select among those using, say, a requirement that a promise be held, or a scale of degrees of convenience. A crucial difference between this proposal and that of von Fintel and Iatridou is that what determines whether ‘ought’ or ‘must’ is the appropriate locution is the structure of the salient selection (or ordering) source—is it a requirement or a scale?—not the number of ordering sources at play.⁷

For illustration, consider again:

- (1) Employees must wash hands. Non-employees really ought to wash their hands, too.

When interpreting the ‘must’-sentence in (1), one identifies as best one can the requirement or the rough kind of requirement made most salient by the occurrence of ‘must’ in the context: in this case that it is a practical requirement, and perhaps more precisely one backed up by company policy, or perhaps legislation. The sentence is then understood as expressing that the requirement in question selects the alternative that employees wash their hands over the alternative that they do not. When interpreting the ‘ought’-sentence, one instead identifies the scale or kinds of scales that are made most salient by the occurrence of ‘ought’ in the context: in this case perhaps a scale of social or moral desirability, a scale on which hygiene might affect the ranking of alternatives. The sentence is then understood as expressing that considerations on this scale select the alternative in which non-employees wash their hands.

⁷ SOS assumes no particular account of how, exactly, alternatives are selected or ranked given salient considerations of a certain type (moral, prudential, epistemic, etc.). We thus take it to be compatible with a variety of existing and possible suggestion (for relevant recent work the selection of alternatives, see e.g. [1], [6], [19]). More generally, we think that the proposal could be worked out in a variety of frameworks for modeling the content of modals, not only the broadly Kratzerian approach used here for illustration because of its familiarity.

In the rest of this section, we explain how this proposal accounts for the data; in the section that follows we discuss some complications.

Different flavors. On the SOS proposal, both oughts and musts come in different flavors because encoded standards of both the requiring and scalar kind come in different flavors: moral, prudential, bouletic, teleological, and epistemic. At least intuitively, most of us take morality to require us to act or not to act in certain ways, and to favor actions and states of affairs as morally better than others. Prudence might similarly require some actions and favor others as better than the alternatives. This makes for moral and prudential musts and oughts. Similarly, the achievement of certain ends or the satisfaction of certain desires might require certain actions or states of affairs, and some actions might be more rational or desirable means to certain ends than others, making for teleological and bouletic musts and oughts. Finally, epistemic alternatives might be selected by the requirement that they be compatible with evidence, or by their degree of likelihood or believability thus making for the distinction between epistemic musts and oughts. SOS thus promises to account for the distinction between musts and oughts in the variety of areas where it is encountered, based on an intuitively available distinction between relevant kinds of grounds.

Intuitive difference in strength. SOS does not itself tell us that ‘must’ is stronger than ‘ought’, as ‘must’ and ‘ought’ encode differently structured standards. Still, when focusing on cases where $must(\varphi)$ and $ought(\varphi)$ have the same flavor, it gives us reasons to expect cases of $ought(\varphi)$ but not $must(\varphi)$ as well as reasons not to expect cases of $must(\varphi)$ but not $ought(\varphi)$, or cases of $must(\varphi)$ but $ought(\sim\varphi)$.

The key here is to understand what it is to take $must(\varphi)$ and $ought(\varphi)$ to have the same flavor. A natural first proposal is that it is to see the relevant requirement and the relevant scale as *simultaneously relevant to the selection from the same set of relevant alternatives*. They might be relevant to the same choice between propositions to believe on the basis of evidence (as in the epistemic case), or the same choice between propositions to wish true based on whether they satisfy relevant desires (as in the case of bouletic modals). Or they might be relevant to the same choice between actions on the basis of features relevant to morality, to prudence, or to the achievement of specified goals (as in the case of moral, prudential or teleological modalities).

To see the requirement and the scale as providing a coherent set of considerations is in effect to see them as grounding a *scale* in the sense we are operating with here: a set of possible considerations based on which we select alternatives that have sufficient support. But notice that if we see the requirement as a consideration that determines an alternative’s position on a scale and continue to see it *as a requirement*—as a condition which selects some alternatives in favor of others—then we will see the scale as ranking the alternatives that satisfy the requirement higher than the alternatives that do not. From this it follows that if something uniquely satisfies the relevant requirement it must also be the highest-ranking alternative relative to this scale. Consequently, no other alternative *ought to be* relative to that scale, and insofar as we take it to be sufficiently supported by the considerations on the scale, it will also be seen as what ought to be, relative to that scale. But conversely, nothing prevents one among

several alternatives that satisfy the requirement to be uniquely selected by further, non-requiring considerations relevant to the scale, giving us a case where something ought to be the case, though it doesn't have to be. Given SOS, this is the explanation of why *must*(ϕ) seems logically stronger than *ought*(ϕ): it is an effect of what it is for a condition to be a *requirement* and what it is for a scale and a requirement to be seen as *of the same flavor*.

Another way in which SOS predicts intuitive differences in strength of recommendations emerges in contexts where (e.g.) one recommends seeing the Rembrandt exhibition using 'must/have to' or 'should/ought to'. Using the former seems to express a stronger recommendation than the latter: the question is why. According to SOS, if one uses 'have to', one is treating the relevant considerations as grounding a requirement, i.e. as constituting a condition that *itself* rules out other alternatives. By contrast, if one uses 'ought to', one is treating the relevant considerations as ranking the alternative in question (seeing the exhibit) best, so that perhaps the winning alternative came out by a slim margin. For the same considerations to ground a 'have to' rather than an 'ought to' is to treat it them, in a straightforward way, as decisive.

Requirements vs. recommendations. If we understand the speech act of requiring as involving a disposition to insist on compliance and impose sanctions for non-compliance, it is natural that it will be tied to requirements of the sort encoded by 'must' on the SOS account, i.e. to whether some binary condition is satisfied. Issues of vagueness to the side, insistence and sanctions are most naturally or even necessarily tied to binary conditions, considerations that are either violated or satisfied: without such a condition it is unclear what is insisted upon, or to what the sanctions are tied. To recommend something, by contrast, is to express that it is appropriate for some relevant purpose. In some cases, it might be that the recommended alternative is appropriate in virtue of being the only alternative satisfying some salient requirement: if our question concerns what to do when in town, we might think that missing out on the Rembrandt exhibition disqualifies any alternative, i.e. treat seeing the exhibition as a requirement, and so express our recommendation of this action using 'must'. In other cases, however, we recommend one alternative over others because it ranks higher on some relevant non-binary scale, and in these cases the recommendation will be expressed using 'ought'. So SOS correctly predicts that acts of requiring are tied to 'must' and 'have to' rather than to 'ought' and 'should', whereas recommendations can be expressed using either sort of expression, depending on the ground for the recommendation.

Probability, conditionality, and collective commitments. We do not take the phenomena considered thus far to necessarily be beyond the ken of alternative accounts of the difference between 'ought' and 'must.' Contextualist accounts can make room for a variety of flavors, and accounts that take 'ought' to involve some element of probability, conditionality or lack of agreement about priorities might be able to handle differences in strength and relations to recommendations and requirements. However, we think that SOS is particularly well suited to account for phenomena motivat-

ing the latter sorts of accounts while leaving room for cases involving neither uncertainty nor hedging.

Given SOS, it is clear why ‘ought’ is preferred to ‘must’ when the modal judgment is grounded in considerations that might be outweighed or undermined by further considerations, including probabilistic considerations. The reason is exactly that in such cases the modal judgment is grounded not in some requirement, but in considerations that raise the score of the alternative in question on the relevant scale. In the case of epistemic modals, we will judge that something must be the case when its not being the case violates the requirement of compatibility with the evidence. But when the possibility in question is merely highly likely, other possibilities meet the requirement of compatibility and all we can say is that it ought to be the case. In the case of practical modals, we will judge that something must be done when it is the only alternative that satisfies the relevant requirements, but when one alternative is selected because it strikes a better balance of risks and opportunities, we will judge that it ought to be done. Similarly, in the case of bouletic modals, when we take something to be the only satisfactory alternative, we think that it must be the case, but when we just take something to be more satisfactory than the alternatives such that further considerations might change that balance, or because it strikes a better balance of risks and opportunities, we think that it ought to be the case.

While explaining why ‘ought’ is preferred to ‘must’ under circumstances of uncertainty, SOS allows that ‘ought’ might be preferable even in cases without uncertainty. Recall the case where we are considering what route to take, and that we agree, without any significant remaining uncertainty, that Route 17 is on the balance a little better than Highway 9. We might now naturally conclude that we *ought* to take Route 17 though it would be unnatural to conclude that we *must*. Taking Route 17 is selected by a salient scalar standard weighing various considerations, but there is no salient requirement that rules out taking Highway 9.

4 Non-requiring thresholds and scale-based requirements

It is not our business in this paper to propose a fully-fledged analysis of any one particular flavor of ‘ought’ or ‘must’. But epistemic uses of ‘ought’ might raise a question about the SOS proposal. At first blush, the proposal applies nicely to epistemic ‘ought’ and ‘must’: intuitively, we think that something must (epistemically) be the case when we think that it is the only alternative satisfying the requirement of compatibility with the evidence, and we think that something ought (epistemically) to be the case if it is sufficiently well supported by the evidence, i.e. scores high enough on some scale of evidential support. The problem is that having a sufficiently high score on an evidential scale itself seems to be a requirement: a requirement for *rational believability*, say. If it is, SOS might seem to predict that ‘must’ would be felicitous whenever ‘ought’ is, collapsing the distinction.

Notice that it doesn’t help here to say that it is a requirement that refers to a threshold *on a scale*, for many requirements that ground musts do too: guests must leave a bar after a certain time (time provides a scale), and drivers must keep a certain dis-

tance to other vehicles (distance is another scale). Nor do we think that it helps to say that the thresholds that ground ought-judgments as opposed to must-judgments are essentially comparative, selecting the alternative that scores *highest* on the relevant scale. It is of course true that many ought-judgments do seem to select the highest-scoring alternative: it is often the case that we ought to do something because it is the best alternative. Unfortunately, epistemic ought doesn't seem to be grounded in comparisons in the required way, instead relying on thresholds (perhaps of a vague and context dependent nature): in cases where alternative A is 45% likely and B 55% likely, we are generally not warranted in saying that B ought to be the case, though one alternative is clearly more likely.⁸

Even if epistemic ought could be understood as selecting the most likely alternative, another problem remains: comparisons on scales can ground requirements and must-judgments. Suppose that we judge that some action is the best alternative available to us. Given SOS we will also naturally judge this as what we ought to do. But one might think that there is a rational requirement to do what is optimal. If one does, then it should make sense to say that we not only ought to do it, but that we have to, rationally speaking. This, we think, sounds just right: because it is best, we ought to do it, and if we are rationally required to do what is best, we have to do it, rationally speaking. But whether we think that there is a rational optimality requirement or not, the very selection of one option over others because it is optimal—the selection that we have said is operative in practical ought judgments—itself employs an optimality requirement: suboptimal alternatives are rejected. On the SOS proposal, one might think, this would mean that we should be willing to apply 'must' whenever we apply 'ought', which we clearly are not.

The solution to both these problems, about epistemic ought and about requirements of optimality, lies in the fact that not all requirements are the most salient requirements in a given context. The relevant distinction between requiring and scalar standards concerns the *salient* structure of the considerations grounding the selection of some relevant alternative. When we ask what requirement a given use of 'must' will convey, what matters is thus the relative salience of different requirements, which is affected by how easily we can think of the requirements and how informative or relevant the idea is that a certain alternative satisfies that requirement.

First apply this to the question of why the threshold that grounds epistemic oughts doesn't ground epistemic musts. To answer this question, we should ask what requirement is most salient in an epistemic reasoning. Here, compare the requirement that an alternative is compatible with whatever information is taken for granted (i.e. treated as evidential ground) with the requirement that it reaches above some threshold of evidential support required for believability. Both requirements are important, but the second is much less *clearly* binary in that it allows for more borderline cases, and thus less striking as a requirement. Because of this, when we ask in an epistemic

⁸ On Finlay's account, epistemic *ought*(ϕ) (and indeed all oughts) means (roughly) ϕ is *most likely*. Elsewhere we raise problems for this view and Finlay's attempts to explain away certain counterexamples. Since our concern here is to argue that SOS is tenable even if a highest likelihood account of epistemic ought is incorrect, we do not repeat the arguments here: should they be mistaken our view here has one less problem to deal with.

setting whether something must be the case, the SOS proposal suggests that ‘must’ will pick out the former requirement rather than the latter.⁹

Next consider the question about why the optimality requirement apparently operative in practical ought-judgments does not ground practical must-judgments. Again, the question is what the most salient requirements are when we are making the judgment, now in contexts of practical deliberation. On the one hand we have requirements on action backed up by preferences, emotional reaction, moral conscience and law, along with a variety of formal and informal sanctions. On the other hand, we have a general requirement to pick the best alternative, a requirement that is implicitly operative whenever we make a practical ought-judgment. Here, we suggest, the former sorts of requirements should be much more salient. For example, when we deny that we *must* or *have to* take Route 17 though we think that we *ought to*, the requirement to do what is best just does not spring to mind, and it is unlikely that it will except in philosophical contexts.¹⁰ For these reasons, the existence of optimality requirements does not undermine the SOS proposal.

5 Conclusion

What we have offered here does not comprise full analyses of ‘ought’ and ‘must’. We have not proposed a formal semantics for either locution, and have left open whether a full analysis should be purely truth-conditional or involve expressivist elements. Furthermore, we have only briefly discussed some of the pragmatics involved in the production and interpretation of the relevant modal claims, and have said nothing about how to understand disagreement about what ought to be done or ought to be the case among interlocutors who have different standards in mind or access to different evidence.

For these reasons, our proposal is best seen as a kind of analysis of the modal semantics and pragmatics of the two locutions and their relatives—one that we think best explains their different behaviors. Contrary to a common assumption, it is not ‘ought’ but rather ‘must’ and ‘have to’ that are typically used to talk about obligations. ‘Ought’ is used to express something weaker, such as recommendations or exhortations. This difference, we argued, is naturally and plausibly understood in terms of different kinds of standards: ‘ought’ and ‘should’ encode salient scalar standards for selecting alternatives, whereas ‘must’ and ‘have to’ encode binary standards.

⁹ The condition that alternatives be compatible with the evidential ground can be understood as requiring *logical* compatibility. However, it might more plausibly be understood as requirement that they not be rendered insignificantly likely by the evidential ground. If so, our proposal would have as a consequence something close to what Lassiter ([11], pp. 89–92) takes to be required to account for the connection between epistemic ‘must’ and claims about likelihood.

¹⁰ Compare: when thinking about why a house burnt down, we are unlikely to focus on the fact that the air contained oxygen, even though our thinking about the matter would change drastically if we no longer assumed that it did.

The type of analysis we propose not only offers an explanation of this difference in strength across the various “flavors” of ‘ought’ and ‘must.’ It also sheds light on what relations ought-judgments and must-judgments bear and do not bear to uncertainty and acts of recommending and requiring, without imposing implausibly strong constraints on either the role of probability or on the illocutionary acts performed using these locutions.

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