I Introduction

The present essay offers a unified and simple account of the modals “ought,” “must,” “is obliged to” and some of their relatives. In particular, there are no special moral senses of “ought” and “must.” This essay shows why the same predicate is often normative in application to agents, while in application to non-agents not normative.¹ The central theses are: 1) that “ought” and “must” are each single, univocal modal predicates with very wide application; 2) that “ought” is a different modal predicate with different truth-conditions from the truth-conditions of “must.”

This account is relevant to debates in at least two areas of philosophy: In ethical writing, because much of the time what we ought to do we are also obligated to do, and most of the time, for some kinds of obligations, we ought to do what we are obligated to do, “must” and “ought” are easily confused. In virtue epistemology, there is a long-standing debate about how it can be that we ought to believe things.²

Section II presents some semantic and logical facts about “ought,” “must” and “is obliged to.” It notes several differences between these modalities, and discusses the shortcomings of “prima facie obligation,” a popular papering-over of some of these differences. Sections III offers theories of the truth-conditions of these modals which fit the data in Section II. Section IV very briefly sketches some consequences of this account of these modals for ethical theory.

My apparatus differs from that employed by most theoreticians of modalities. Modals are not quantifications over possible worlds. Modals are predicates of propositions.³ The semantics


has excellent arguments for such a unification of the various “senses” of “ought.”


³ I understand propositions to be constructions out of “things said,” in Donald Davidson’s sense (Donald Davidson (1968) On Saying That. Synthese 19, 130–46). That is, propositions are what are demonstrated indirectly in “that”-clauses which demonstrate utterances of the speaker.
of modals says what those predicates are and how many places they have. The theory of modals is an account of what has to obtain for a particular modal predicate to be true of a proposition relative to a set of propositions. One can call these theories part of the semantics, or even parts of the logic of the words, but this masks an important difference, and invites turning the truth of “Cows produce milk” into a part of semantics or bovine logic. My account assumes a Davidsonian minimal semantics, in which only what must be part of logical form is properly semantics.

The treatment of modals as predicates simplifies in at least four ways:

First, it assimilates the treatment of adverbial modification of modals to ordinary adverbs. “Physically” in “physically necessary” is the same predicate as it is in “physically ugly.”

Second, it makes it relatively easy to give accounts of complex modal expressions. “Ought very much to” fits with one’s account of comparative adjectives if “ought” is a predicate. “Slightly more probable than” likewise is not a special case if “probable” is an adjective. “It is almost impossible to meet Fred and not be charmed” is easier to account for if “impossible” is a degree-predicate.

Third, it unifies a number of categories of expression. “Given A, it is hard to believe that B” and “Given A, it is ought not to be that B” seem very close, even though the first is a complex propositional attitude and the second is a modal. On the present account propositional attitudes are predicates of propositions and modals are two-place predicates relating a proposition to a set of propositions. Other words taking “that”-clauses, such as “provable” and “true” are in the same general group.

Fourth, since some modals in some applications are obviously relations to propositions, as in “In Connecticut, you must register motor vehicles,” an account of all modals as relations between propositions and sets of propositions treats modals uniformly.

For the modals that this essay discusses, “probably” “ought” “must” “is obligated to” and “reasonably expected that,” it is simpler just to describe the feature or relationship a given modal predicate expresses rather than to construct the appropriate condition on a set of possible worlds. Accounts of how we understand various expressions ought to have something to do with how we learn to understand them. While heuristic models in terms of possible worlds may illuminate some aspects of our understanding of some modals, such heuristics do not seem to be relevant to our understanding of all modals. For modals such as “somewhat more than just probably” and
“only barely possible” the heuristic value of thinking of the modals as quantifications over possible worlds is obscure.

“Necessary” and “possibly” are special limit cases corresponding to the quantifiers “all” and “some.” Because “all” and “some” are extreme quantifiers, unlike “a few” and “most,” it is possible to represent “All frogs are green” as an operator over a truth-functional conditional. But provably “Most frogs are green” cannot be represented using classical quantifiers. Just as logicians were misled by special features of the limit quantifiers “all” and “some” to take them to be operators, so contemporary linguistic theorists are misled by the success of possible world explications of the extreme limit modalities “is necessary” and “is possible” to suppose that modals are quantifications over possible worlds. Just as quantifiers are really (roughly) predicates of sets, so modals are really relations between propositions and sets of propositions.

II “Ought” “must” and “obligation”: some features a theory must accommodate

a) Non-agent subjects of “ought” and “should”

Some “ought”-sentences have nothing obvious to do with actions by agents. For instance it is correct to say that the flood-waters ought to be down to Hartford by now. Likewise, the asparagus should be up by now, since it is mid-May. There is no question whether flood waters or asparagus plants have obligations. So, at least in these non-agent applications, “ought” and “should” mean something different from “is obligated to.” Note that some of these non-agent applications of “ought” make perfect sense, but a different sense, with “must” substituted for “ought.”

One could claim that these non-agent applications of “ought” and “should” and related words are metaphorical or that they are homonyms of other modals that only apply to agents. The hypothesis that we have families of homonyms should be an absolutely last resort, rather

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6 There is a great deal more to say about “should,” which is related to “would” and “could,” with their relatives “can” and “will.” For present purposes, I treat “ought” and “should” as synonyms.
than what we immediately accept as the right theory. Similar remarks apply to “must” and its relatives in application to non-agents. Calling the non-agent applications “epistemic uses” of “ought” describes what is to be explained—how the same term can apply in both kinds of case—rather than explaining it.

In the next section, I propose a way to treat “ought” and “should” as univocal throughout their applications to agents and to non-agents and propose a similar account of “must,” treating “What goes up must come down,” “You must move your king when it is in check,” and “You must not lie” as the same “must.”

b) Obligations, requirements, and “ought”

Consider undergraduate advising. If I tell a student, “If you major in Philosophy, you ought to take Philosophy 2211,” that is compatible with Philosophy 2211 being recommended but not required. The student is at liberty to take Philosophy of Film instead. On the other hand, if I tell the student, “If you major in philosophy you must take Philosophy 2211,” I am describing a requirement. My accountant’s advice, “If you make over $100,000 per year you should invest part of your income in an IRA” is quite different from “If you make over $100,000 per year you are obligated to fill out the long form.”

Conditional “ought”-sentences do not warrant some of the inferences warranted by conditional obligation sentences. In the above example, suppose there are general guidelines for student advising. One is “A student who majors in philosophy ought to take Philosophy 2211.” Another is, “A student who has taken Math 1101 should not take Philosophy 2211.” A student who majors in philosophy and has taken Math 1101 is not someone who both should and should not take Philosophy 2211.

Conditional obligation sentences, are obligations that a conditional be true and true antecedents yield categorical obligations. Thus the “must” analogs of the above “ought”-sentences, “A student who majors in philosophy, must take Philosophy 2211,” and “A student who has taken Math 1101, must not take Philosophy 2211,” forbid someone who has taken Math 1101 to major in philosophy.

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As Davidson\(^8\) observes, “ought”-sentences behave in much the way that conditional probability sentences do. Briefly, conditional probabilities with true antecedents do not yield categorical probabilities. The truths “Anyone against gay marriage is probably a Republican” and “Anyone who voted for Obama is probably not a Republican” do not jointly warrant the conclusion that Fred, who is against gay marriage and who voted for Obama, is probably both a Republican and not a Republican.\(^9\)

The “probably” in a conditional probability sentence characterizes the support the antecedent gives to the consequent relative to some background considerations. Plausibly, the “ought” in a conditional “ought”-sentence likewise characterizes some kind of support the antecedent gives to the consequent, relative to some considerations. “Antecedent” and “consequent” are misleading. David Lewis\(^10\) proved that conditional probability cannot be the categorical probability of any conditional. If “ought”-sentence have an analogous logic, the “antecedents” of conditional “ought” sentences describe the bearing of the consideration in the antecedent on the consequent. What that bearing might be I discuss below.

c) Anankastic “ought” and “obligation” sentences

Conditional “ought”-sentences with an agent’s desire described in the antecedent make recommendations whereas such conditional “must”-sentences state requirements. “If you want a hamburger, you ought to try Joe’s Grill” makes a recommendation which is not a requirement. On the other hand, “If you want a Big Mac, you must go to MacDonald’s,” on most readings, describe what is required in order to satisfy your desire.

As several have noted,\(^11\) the anankastic conditionals with “ought” have multiple understandings. Both “If you want heroin, you should contact Fred” and “If you want heroin, you


should enter a drug rehabilitation program” can be understood as truths. The possibility of multiple readings suggests that “ought”-sentences are relative to kinds of considerations.

c) Peculiarities of “must”

“Must,” although often inter-changeable with “is obliged to” applies much more widely than “is obliged to.” In particular, it applies to non-agents, as in the cliché “What goes up must come down,” and similar remarks. “Must,” although it seems akin to “is necessary” is actually sometimes weaker than “is.” “Must” characterizes an inference from something. When we are looking for Spring Street, and we cross an unmarked intersection, I say “This must be Spring Street,” based on the instructions from the guy at the gas station. “This is Spring Street” would convey a greater degree of confidence. “You must be the young man I’ve heard so much about” not only does not claim that the fellow is necessarily that young man, it expresses less confidence than “So you are the young man I’ve heard so much about.”

d) Prima facie obligations

Many ethicists explain some of the differences between “ought” and “obligation” by appeal to the concept of “prima facie obligation”12 (Ross 1930). The idea is that many “ought”-principles are ceteris paribus principles, but still principle of obligation. This idea is inadequate. First, it applies only to “ought”s which involve agency. Defeasible weather-principles need some other account. Second, the resemblance of “ought”-sentences to conditional probability sentences suggests that the relationship between the antecedents of “ought” sentences and the consequents is quite unlike that between antecedents and consequents of “must” and “is obligated to” sentences. Third, there is no plausible way to treat normal anankastic “ought”-sentences as obligations of any sort.

“Prima facie obligation” needs replacement by an account that respects the linguistic and logical differences between “ought” and “is obligated.” The next section presents the outlines of such an account.

III Theories of “ought,” “must,” and “is obligated”

a) Preliminary: Consideration-bases

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12 Ross, W. D. (1930). *The Right and the Good.* (Oxford University Press.)
A consideration-base\textsuperscript{13} for a modality is a set of propositions. “Ought”, “must,” and “is obligated to” are two-place relations between such bases and the proposition in the content clause. What set of propositions an utterer has in mind is guided by, but not determined by, context. “Ought” and “must” both have consideration-bases, but these bases are quite different. What the modals say about the relationship of a given base and the content clause is also different.

Consideration-bases are usually referred to without being listed and without the speaker having a criterion for whether a given proposition is in the set. So, “sharia law,” “Fred’s self-interest,” “Connecticut statutes,” “how things are,” “morality” and “the laws of nature” all name sets of propositions. We can have these sets in mind under such descriptions. We rarely have them in mind as lists.

This is most obvious with consideration-bases associated for “must” that are uncontroversially sets of sentences. For “You must not turn left at red lights” the consideration-base is traffic laws. But few can quote the relevant statute. Most of us, for some propositions, could not say whether that proposition is in the set or not.\textsuperscript{14}

Consideration-bases for true “ought” sentences are sets of truths--the data relative to which the proposition following “ought” is evaluated. There are different consideration-bases for a given “ought”-sentence, and different truth-values relative to those different consideration-bases. The relation between a consideration-base and the proposition following “ought” is “idealized conditional probability.” I explicate this notion, which is derived from and akin to conditional probability, below. Conditional “ought” sentences add the proposition in the antecedent to the consideration-base and evaluate the support that that enlarged base would give to the proposition following the “ought.”

Consideration-bases for “must” and “is obligated” sentences are also sets of propositions, but they need not be truths. Distinct consideration-bases can be law codes, rules of chess,

\textsuperscript{13} I use “consideration-base” rather than “modal base” because the concept is somewhat different from that used by Angelika Kratzer (2012) \textit{Modals and Conditionals}. (Oxford University Press) and others. Consideration-bases are sets of propositions.

\textsuperscript{14} For “would,” as Nelson Goodman (1955) \textit{Fact, Fiction, and Forecast} (Harvard University Press) and Angelica Kratzer (2012), \textit{Modals and Conditionals} (Oxford University Press), Ch. 5) show, producing a criterion for membership in the consideration-base is challenging. How the present approach would handle counterfactuals is a topic for another paper.
information from tour schedules, and laws of nature, along with information about particular circumstances. Many of these consideration-bases may be expressed as imperatives. Their content, though, is a sentence with a truth-value. So, “Thou shalt not kill,” as a component of a consideration-base, is a universally quantified description of the behavior of those to whom it applies. None of them kill. Sadly, that is in fact false. The relation between a given consideration-base and the “must” sentence is “deductive consequence.” Conditional “must” sentences thus can be treated indifferently either as conditionals that are consequences of the consideration-base, or as adding the antecedent of the conditional to the consideration-base.

There are several possible consideration-bases for any given “must” or “ought” sentence. We understand a modal utterance by assigning a consideration-base. We select among consideration-bases by interpreting the person’s utterance. That interpretation is guided, but not infallibly, by context and plausibility. The speaker’s intention fixes the consideration-base when it is fixed.

Unusual and unlikely bases may be intended, just as improbable readings may be correct. Consider the sentence, “My daughter goes to an attractive little girls’ school.” One of the syntactically possible readings implies that there are special schools for attractive little girls. Maximizing agreement with the other, and thinking that such schools are unlikely, we are unlikely to assign that reading. However, we might be mistaken. A speaker could mean that. In the same way, an utterance of “You must not kill people” has several possible consideration-bases. Impressed by Fred’s timid demeanor, I remark to him that he must not kill people. He’s not that kind of person. A speaker can have a base in mind whether or not context makes it salient. A speaker who wants to communicate will try to be aware of the expectations of the audience, and will use one of the adverbs that accompany modal predicates, such as “logically,” “morally,” “physically,” “for his own sake,” “as an academic” and the like to make the intended consideration-base clear.

The requirements for being understood means that not just any set of propositions can be a consideration-base. Given that language use is primarily communication, only a consideration-base that another can grasp is a possible consideration-base. Given the necessity that we refer to consideration-bases in common with other people, their precise contents are vague. There is no determinate list corresponding to “how things are” in “Given how things are, we should sign up early.” Vagueness in consideration-bases yields vagueness in “ought”-sentences.
b) “Ought” and “should”

If the same modal applies to non-agents and agents, there must be something about non-agent attributions that also applies to agent attributions. The obvious feature of non-agent “ought” is that, relative to the consideration-base, the content clause is to be reasonably expected. What the weather should be tomorrow and how far the flood waters ought to have progressed describe what can be reasonably expected, that is, what is probable given the facts, i.e. the consideration-base.

For conditional probability to provide the link between non-agent “ought” and “ought”s that apply to agents, “ought” and “probably” have to be connected and conditional probabilities of an appropriate kind about agents have to be found. I propose that “ought” holds between a consideration-base and a proposition just in case there is a chain of conditional probabilities from elements of the set to the proposition. I propose further that interpreting entities as rational agents is applying conditional probabilistic principles.

b1) “ought” as a chain of conditional probabilities

For the first part of the link, I explicate “ought” as an idealization of “probably,” or “can be reasonably expected to.” By an idealization, I mean a chain of reasonably expected outcomes. An example: A normally competent sixth grader can be reasonably expected to get the right answer when multiplying or adding two one-digit numbers. The algorithm for multiplying pairs of seven-digit numbers is a sequence of multiplications and additions of one-digit numbers. However, we cannot reasonably expect that she will get the result she ought to get for a seven-digit multiplication problem. Normally competent sixth graders make mistakes enough of the time so that she will probably not get the right answer. The result she ought to get, the right answer, is the result she would get if every calculation that she could be reasonably expected to get right, that is all of the one-digit operations, were what she actually got. So, the result she ought to come up with is the result she would come up with if at every step she actually did what she can reasonably be expected to do. This “calculational ought” is a clear case, with a determinate and simple consideration base.

\[15\] Finlay, Stephen. (2009). Oughts and Ends. *Philosophical Studies* 143:315-340 also take probability to be the ground of “ought”-sentences. The idea of idealization is not part of his account.
More generally, an idealization of “can be reasonably expected to,” relative to a consideration-base, is what would result from a sequence of events if what could reasonably be expected to happen at each stage in the sequence happened at every stage. If the chain is very short, as with so-called “epistemic” uses of “ought,” such as “If you turn the key, the car ought to start,” “ought” and “probably” amount to the same thing.

The difference between “ought” and conditional probability is that an idealization can involve very long chains of steps, so that, by the multiplicative rules of probability, what ought to be may differ greatly from what is probable. In application to agents’ actions and beliefs, the consideration-bases are much more complex and vague.

b2) conditional probabilities as rationality

We have many reasonable expectations about agents’ actions and beliefs. Just in virtue of an entity’s being an agent, we can reasonably expect that entity to be aware of objects in its environment, to reason as we do, and want things we want. These elementary reasonable expectations of agents are, for instance, part of Davidson’s account of interpretation. In Davidson’s phrase, we must interpret agents’ behavior by making them maximally “believers of the true and seekers of the good.”

Maximization principles of interpretation are thus general conditional probabilities with the antecedent “is an agent.” Some applications of these principles are more probable than others. Basic, obvious truths, such as that there are physical objects, and basic desires, such as aversion to pain, are ascribed to others with such a high probability that it is very difficult not to ascribe them to an entity, given that it is a rational agent. Some desires, such as a preference for contract bridge over chess, are not so central. Likewise, we can understand why some of our beliefs are not shared by another agent. But, other things equal, what I believe and want is probabilistically assigned to the other agent. Thus, even though we do not expect another agent to know what we know, there is a consideration-base, namely what we take to be the truths, together with our beliefs and desires, from which a chain of conditional probabilities yields “She ought to flee,” because the flood waters are coming, even though she has no way of knowing that. That consideration-base rests on the (slight) conditional probability that, relative just to being a fellow agent, she probably believes what we believe.

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Sometimes we take particular situations and desires into account. What Fred ought to do, may be relative to a consideration-base which includes preferences peculiar to Fred. The “ought”-sentence with that base may differ from what Fred morally or even prudentially ought to do. The consideration-base ignoring Fred’s special interests, and just including what Fred can be expected to want just given that he is a rational agent, provides starting points for a chain whose last element is a candidate for what Fred morally ought to do.

The reasonableness of “reasonable expectation” thus comes from the concept of agency. To interpret an entity as an agent is to maximize true beliefs and reasonable desires. Other things being equal, an agent’s wants are probably for goods and an agent’s beliefs are probably true in virtue of her being an agent. The concept of agency provides the conditional probabilities of e beliefs, desires, and inference-patterns that are elements in the chains that “ought”-sentences claim to hold between a consideration-base and what a person ought to believe or do.

The concept of rationality constrains contents of desires as well as the structure of practical inference. Interpretation of action is only possible given such content constraints. If an agent might equally likely want just anything, we could not interpret speech or other actions. If all desires were equally rational, then any behavior would have an optimal interpretation as an intentional action that reflected perfectly correct beliefs. For instance, if a person drops a large rock on her foot, the interpretation that she wanted pain and knew that rocks landing on feet produce pain would be as acceptable as supposing the event to be accidental. Irrational, improbable desires can be attributed to a rational agent only on the basis of having attributed other desires we share and so can understand.

b3) “ought” and consideration-bases

Even in the simple non-agent attributions of “ought” and “should,” the same “ought”-sentence may have different truth-values with different consideration-bases. From a consideration-base consisting of general truths about small gasoline engines it is unreasonable to expect that my mower will start will one pull of the starting cord. However, given that it is a Honda, that is, adding “This is a Honda” to the consideration-base, it should start with one pull.
Conditional probability was proven by Lewis\textsuperscript{17} not to be a probability applying to a conditional. Thus, an idealization of “if p, it can be reasonably expected that q,” that is, “if p, then ought q,” likewise cannot be an “ought” applied to a conditional. The bearing of the consideration-base on an “ought”-sentence is an idealization of inductive support.

The antecedent of a conditional “ought”-sentence supplements the consideration-base with another proposition, and the “ought” is evaluated relative to that expanded set. So, “If George wants a hamburger, he should go to Joe’s Grill” appraises the idealized support “George goes to Joe’s Grill” gets relative to a consideration-base which just includes George’s situation with respect to hamburger vendors and interpretive maxims about the connection between desires and action, supplemented by the supposition that George wants a hamburger. Relative to another consideration-base which includes George’s long-term self-interest, his heart condition and the effects of saturated fat, “If George wants a hamburger, he should have some carrot sticks instead” might be true.

The focus of most thinking about “ought” is on what agents ought to do. Reasonable expectations about what a person will do rest not just on their information, but also on what they want. The links of a chain of reasonable expectations making a prudential “ought” true are reasonable expectations about what an agent will probably, believe and want. The prudential “ought” is thus an idealization of someone with good information and reasonable desires. An anankastic “ought” has an antecedent adding a particular desire, and the “ought” sentence recommends an action optimal for a person with reasonable desires, correct beliefs, and the desire mentioned in the antecedent, in the circumstances. As noted different consideration-bases yield different results.

“Ought”-sentences about an agent’s action can be several ways ambiguous, depending on the consideration-base. Suppose Phil is playing chess with Nero and there is a mate in two starting with a bishop sacrifice on f7. Here are some of the different possibilities:

First, if the consideration-base is just chess goals, then Phil ought to go bishop to f7 check. The “chessic” “ought,” perhaps.

Second, relative to a consideration-base that includes Phil’s welfare, bishop to f7 check is not what he ought to do. Nero takes losing very badly.

Third, perhaps Nero needs to learn humility, losing quickly to Phil may humble him, and the improvement of life in the Empire that would result from having a humbler emperor, for Phil and everyone else, makes bishop to f7 check worth the risk. In this last case, the consideration-base abstracts from Phil’s partiality to himself. I very briefly discuss this moral consideration-base below.

Other “ought”-sentences resting on still further considerations may be true. Fred, following the game, but learning of moves some time after they occur, may truly say “Phil ought to have gone bishop to f7 check by now,” calling on personal knowledge of Phil, for whom it is a point of honor to play chess to win no matter what. While Fred thinks this attitude on Phil’s part should be overcome (relative to a prudential consideration-base), Fred also reasonably expects that Phil will follow this suicidal path. Many other “ought”s may be true. “Phil ought to be under considerable stress at this point” one observer says truly to another, assuming a consideration-base including information about how people in such dangerous situations feel. None of these “ought”s are plausibly construed as obligations.

To summarize: There are different kinds of bases for reasonable expectations, and so for the “ought”s that are their idealizations. In the above case, the aims of chess, the over-all aims of self-preserving humans, the interests of humans generally, and special expectations about particular individuals yield various truth-values for the same “ought”-sentence. Given the position on the board, whether Phil ought to go bishop f7 check depends on what consideration-base is intended.

One could object that this account of “ought” is not “oughty.” By this account, “ought”s derive from our expectations about what a rational agent can reasonably be expected to do. Why should this motivate the agent herself?

First, only “ought”s based on consideration-bases including what it is to be a rational agent motivate. “Ought”s based on other than rational-agent consideration-bases do not motivate. Bill the exam-taker has no motivation to be nervous just because he ought to be, given his personality.

Second, “ought”s resting on consideration-bases that include expectations about intentional behavior and intentional states should motivate. Since an agent has to conceive of herself as an agent, that any agent in these circumstances can reasonably be expected to act in a certain way is relevant to an agent’s decision-making. If you expect anyone in your
circumstances to do a given action, you do so by interpreting the person, that is, by maximizing the agreement between you and the other. So, you ascribe to the other your beliefs, inference-patterns, and desires, other things being equal. So, to be aware that taking an action would be reasonably expected in virtue of being a rational agent is to be motivated. That’s you. These expectations reflect norms.

On the Davidsonian perspective this essay takes, normativity is derived from rational agency. The content of the concept of rational agency is embedded in our practices of interpreting each other’s actions, whether speech actions or not. The maxims of interpretation are reasonable expectations, but they are also both conditional probabilities, given that the entity being interpreted is an agent, and normative in expressing rationality. The Davidsonian idea thus follows Kant—the normative is grounded in the very idea of acting for a reason. A difference is that for a Davidsonian, the very idea of agency is probabilistic, since the maxims are probabilistic maximization maxims.

The prospects for understanding the moral “ought” on this basis are the prospects for giving a rational basis for, for instance, taking other people’s interests into account and keeping promises. We briefly discuss this topic.

c) “Must”

“Must” is a predicate of a proposition that applies if the proposition is a consequence of a consideration-base. If the sentences in the consideration-base are true, “must” amounts to necessitation. If the sentences in the consideration-base are not true, the proposition may or may not be true.

Part of the consideration-base of “What goes up must come down” are “the laws of nature,” and are true. As discussed above, the consideration-base, while it consists of propositions, can be referred to by name. When we say “You must not shoplift” we appeal to a modal base, the laws of our region, but very few of us can state even one of those laws. We refer to our modal base as “the law.” Similarly, while we do not pretend to know what the laws of nature are, we suppose that there are such, and that they are designated by the phrase “laws of nature.”

The consideration-base implicit in “You must report all income to the IRS” is the tax code, and as descriptions of actual behavior, not true. So, while it is true that Scarface must report all income to the IRS, he will not.
The consideration-bases of which a “must” sentence is a deductive consequence have a role similar to that of “ought”-sentences. Hammurabi’s Law code, rules of chess, laws of nature, and the like are typical consideration-bases for “must.” “Must”’s relation to a consideration-base differs from that of “ought” a consideration-base in two ways: First, rather than being a matter of idealized probabilistic inductive support, “must”’s are deductive consequences of a consideration-base. Second, the elements of the consideration-bases for true “must” sentences need not be true. We assume that law-codes are not true. “You do not understate your income” does not describe the behavior of all of those who must not understate their income.

One may object that treating modal bases as true or false ignores the imperative force of law codes and the like. Also, the actual law codes may be expressed modally, in terms of what person must and must not do. How could those codes be taking themselves as their modal base?

First, an account of “must” must cover all the kinds of “must”’s. So, the laws of nature and the travel schedule and the information I have when I say “This must be Spring Street,” none of which are imperative, are modal bases and descriptive. A modal base is the content of commands, exhortations, and the like—something which can have logical consequences. Second, there is nothing obviously wrong with an expression of the laws appealing to its own content as a modal base. Any sentence is a consequence of itself.

“Must”-sentences are relative to consideration-bases in much the same way that “ought” sentences are. There are “must”’s true of Phil’s chess game with Nero. Phil must move his pieces at less than the speed of light. Since this “must” is supported by truths about the world, Phil will so move his pieces. Phil must move his bishop only along a diagonal, since that is a consequence of the rules of chess. Players usually do so move their pieces. But Phil might decide to move his bishop as if it were a knight.

That the consideration-bases of “must”-sentences need not be true explains why “must” sentences are sometimes weaker than “is.” When the tourist says, “Since it’s Tuesday, this must be Belgium” the “must” is grounded in the tour schedule. The tour schedule, though, might be optimistic, and the bus may still be in Holland. Likewise, in looking for Spring Street, following the instructions at the gas station, “This must be Spring Street” is weaker than “This is Spring Street,” since the guy at the gas station may have given the wrong directions out of misanthropy.

Since contents of “must” sentences are deductive consequences of consideration-bases, conditional “must”-sentences are conditionals that are consequences of sets of sentences. A
conditional “must” sentence is indifferently a relation of a consideration-base to a conditional or a relation of a consideration-base, supplemented by the antecedent, to the consequent. Therefore given that “If a taxpayer earns more than $100,000, a long form must be submitted” and “Fred earns more than $100,000” are both true, “Fred must submit a long form” is also true. Conditional “must”-sentence support detachment of the consequent given the truth of the antecedent, unlike conditional “ought”-sentences.

IV) Moral “ought” and moral obligation

A detailed treatment of what this account of “ought,” “must,” and “is obligated” would suggest about ethics and meta-ethics is beyond the scope of this essay. This brief last section suggests a few consequences of this account of these modals.

a) Moral “ought”

The above account of “ought” and “must” suggests some features of a correct moral theory. Most importantly, if “ought” is the central ethical notion, ethical reasoning is akin to induction rather than to deduction. This means that ethical reasoning to a conclusion A can, with further information, become reasoning to not-A. Unlike deduction, inductive arguments can be weakened by additional premises.

The question of objectivity of moral judgment is the question whether there is a consideration-base that yields something recognizable as morality. Showing that there is such a base and discerning what its elements are is the traditional project of ethicists. A candidate consideration-base would be those desires that agents can be expected to have just relative to being agents, together with true beliefs about a situation. That candidate for the moral “ought” abstracts from de se desires, and claims that the consequent is connected to the consideration-base by a chain of reasonable expectations.

c2) Moral “ought”s without agents

“There ought to be world peace” and other such apparently moral “ought”s are not about particular agents. What ought to be, morally or for everyone’s welfare is roughly what would be desirable. A consideration-base whose elements might have probable consequences whose

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18 This would validate Carol Gilligan’s (1982). In a Different Voice, Harvard University Press. Gilligan’s (1982) account of women’s ethical judgments. “Moral dilemmas” and forced choice between principles presuppose a hierarchy of principles. If ethical reasoning is inductive, limited information (“This would be theft and this would save a life”) may not show what one should do.
idealization would yield the content of such an “ought”-sentence would include facts about agents collectively.

“Ought to be” sentences can only be true of what agents can bring about. “People ought to live to three hundred” is not in the power of any human agent or group of agents and is false, even though that might be a good thing. We have reasonable expectations that people generally want what is desirable. Given that a person is in a position to act on a desire, it is reasonable to expect that the person will do so. On Davidsonian interpretive grounds, other things being equal, when something would be a good thing, people in a position to do it, ought to do it. So, for things under the power of people collectively, or of some subset of people collectively, some of those things ought to be the case. The moral “ought to be” is just the moral “ought” without specificity about agency. What ought to be is what some unspecified agents ought to do or have done. 19

c3) Moral obligation

“Is obliged to” is the special case of the modal relation “must” which is strictly true only of agents. Obligations are deductive consequences of consideration-bases which include truths about circumstances. I have an obligation to report all of my income. If I am a slave, I have an obligation to obey my master. If I am playing chess, I have an obligation to move my king if it is in check.

Among the consideration-bases of “obligation” sentences are those that deal with human relations. Bases containing propositions such as “People do not lie” and “People keep promises” yield obligations for which there are good reasons to think that, by and large, they coincide with what a person ought to do. Those reasons are reasons that appeal to rationality—why it is that a person would, behind the veil of ignorance, choose such restrictions, or why it is that a person cannot thoroughly conceive of herself as a rational actor while ignoring the ends of other agents.

Obligations deriving from such consideration-bases would coincide with what a person ought to do, relative just to being an agent, to the extent that there was a rational ground for expecting that, by and large, people should not lie, should keep promises, and so forth. The

19 The present theory thus agrees with Matthew Chrisman (2011) “Ought” and Control. Australasian Journal of Philosophy. 1-19 and Stephen Finlay and Justin Snedegar, Justin. (forthcoming) One Ought Too Many. Philosophy and Phenomenological Research, in rejecting the claim that “ought” is ambiguous between a relational and a propositional sense. “Bill ought to kiss Lucy” and “Lucy ought to be kissed by Bill” use the same “ought.” The differences between “Bill ought to kiss Lucy” and “Lucy ought to be kissed by Bill” are pragmatic rather than semantic. That debate is a topic for another essay.
justification of the approximate truth of such principles would be the demonstration that these principles were rational. If that could be done, then the principles of moral obligation would be part of the rationality that we attribute probabilistically to rational agents.

There may be chains of consequences from consideration-bases for “must” that always conform to what a rational agent ought to do, all things considered. For instance, Kant’s argument that it is irrational to favor one’s own interests and not take into consideration those of other agents could be something that any rational agent ought to accept, given that the agent is a rational agent, as interpretation supposes. Likewise, Nagel’s argument that a person motivated by her own future interests is irrational not to take other agents’ interests as relevant to her decisions might be sound. In that case, moral principles, in the strict sense, would be consequences of rationality. Then a few moral obligations would in fact be universal moral “ought”s—the guidelines governing the interpretation of rational agents would turn out to have these consequences. Moral principles, that directly determine particular actions, though, such as “Do not lie” and “Keep your promises” would be rules of thumb. Their application would be mostly true in actual cases, and mostly true for good reasons about human interaction.

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