Deontic modals

Modality, as it is usually understood in contemporary philosophy, has to do with necessities and possibilities. Deontic modality is a kind of modality which has to do with what is necessary or possible according to various rules, such as the norms of morality, the principles of practical rationality, or the laws of some country. Deontic modality can be contrasted with alethic modality and epistemic modality. The former has to do with what propositions are necessarily or possibly true given various metaphysical, logical, or nomological laws. The latter has to do with what propositions are necessarily or possibly true given various bodies of evidence or information.

Words commonly thought to express deontic modalities include the auxiliary verbs ‘must’, ‘have to’, ‘may’, ‘can’, ‘should’ and ‘ought to’, but also the adjectives ‘obligatory’, ‘permissible’, and ‘impermissible’. The meanings of such deontic modals are studied by semanticists and philosophers of language interested in developing general theories of the content of modal language and concepts. The logical relations between deontic modal concepts are studied by deontic logicians interested in developing a formal language suitable for representing these relations in a logical system. The distinctive nature of deontic modals, their role in normative thought, and their relations to other normative and evaluative concepts, such as reason, value, virtue, and rationality are studied by ethical theorists, especially metaethicists. All of these projects are deeply interconnected.

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2 Two refinements to the standard semantics
3 The comparative weakness of ‘ought’
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1 The standard semantics for deontic necessity and possibility

Deontic modals have alethic and epistemic counterparts that are often expressed with the same words. For example, we use ‘must’ in a deontic way when we say, ‘You must not park here.’ But we use it in an alethic way when we say, ‘Triangles must have three sides.’ And we use it in an epistemic way when we say, ‘They must have already left.’ We might think that this shows the word ‘must’ to be ambiguous like the word ‘bank. But this is a cross-linguistically robust phenomenon (which it is not in the case of ‘bank’), which encourages interpreting modals like ‘must’ and ‘may’ within a unified semantic framework.

The standard framework for doing this derives from ‘Kripke models’ for modal logic (see Semantics, Possible Worlds, Modal Logic, History, and Portner 2009 for useful discussion). The core idea is to construe the notions of necessity, symbolized with a ‘□’, and possibility, symbolized with a ‘◊’, as operations on a ‘prejacent’ proposition p, i.e. the proposition embedded under the modal operator (see Modal operators, Monadic connectives). Then we interpret ‘□p’ as saying that p is true in all of a particular set of possible worlds, while we interpret ‘◊p’ as saying that p is true in some of a particular set of possible worlds. A major attraction of Kripke models is that they allow us to construe the logic of modal operators in
terms of the logic of quantifiers. The particular set of possible worlds relevant for interpreting a specific modal claim is determined by an ‘accessibility relation’, and herein lies the framework’s primary explanatory power.

Accessibility relations relate the world where a modal claim is evaluated to different sets of possible worlds; different accessibility relations do this in different ways. The study of the ways accessibility relations do this and the resulting logic of various modal systems has been a very fruitful avenue of research in modal logic. But accessibility relations are most relevant for the semantics of modals because they can be used to distinguish various ‘flavors’ of modality within a unified system, thus avoiding the posit of ambiguity. For example, to distinguish the alethic ‘must’ from the epistemic ‘must’ in the examples given above, we just need to define two different accessibility relations, such as (approximately):

R-alethic = The relation which holds between two worlds \( w \) and \( w' \) iff every alethic law in \( w \) also holds in \( w' \).

R-epistemic = The relation which holds between two worlds \( w \) and \( w' \) iff everything is supported by some body of evidence \( e \) in \( w \) is true in \( w' \).

Then our example of an alethic modal claim above, ‘Triangles must have three sides’, can be interpreted as saying that in all worlds accessible via R-alethic from the actual world triangles have three sides. Then, in contrast, our example of an epistemic modal claim above, ‘They must have left already’, can be interpreted as saying that, in all worlds accessible via R-epistemic from the world where we have evidence \( e \), they have left already.

Crucially, we use the same basic formula for interpreting the two sentences; all that changes is the accessibility relation. We can then apply the same basic formula again for interpreting the deontic ‘must’-claim. To do so, we define a new accessibility relation, such as (approximately):

R-deontic = The relation which holds between two worlds \( w \) and \( w' \) iff every rule in force in \( w \) is obeyed in \( w' \).

This allows us to interpret the claim ‘You must not park here’ as saying that in all worlds accessible from the actual world via R-deontic you do not park here. (See Deontic Logic.)

These are rough examples; we could continue to define and refine our accessibility relations to obtain the best intuitive fit with the meaning of the relevant sentences. The core attraction of the framework is that a necessity modal is always interpreted in terms of its prejacent proposition being true in all of a particular set of ‘accessible’ worlds, whereas a possibility modal is always interpreted in terms of its prejacent proposition’s being true in some of a particular set of ‘accessible’ worlds. This explains the cross-linguistic robustness of the phenomenon of various flavors of modality expressed with one and the same words, which means that it avoids positing implausible lexical ambiguities in words like ‘must’ and ‘may’. Moreover, this framework allows us to situate deontic modality as a recognizable species of modality more generally.
2 Two refinements to the standard semantics

As an account of the meaning of natural language words like ‘must’ and ‘may’ the semantics sketched so far merits two important refinements. These are important both for making the account better as a semantics of deontic modals in natural language and for understanding the nature of normative thought expressible with such language.

First, the Kripke semantics for modal logic is intended as a tool for representing all of the logical relations between various modal propositions in a formal language perspicuous enough to prove various theorems. (See McNamara 2010 for helpful discussion of the project and its challenges.) As such, someone using it can just stipulate what kind of modality is at issue in a modal proposition for the purposes of exploring its place in the logical system; they do so by stipulatively defining the relevant accessibility relation. By contrast, when we develop semantics for fragments of natural languages that contain modal words like ‘must’, ‘may’, ‘ought’, etc. we need to provide some account of how the relevant accessibility relation is fixed for any particular claim. Natural language modals don’t usually make their flavor explicit. Nevertheless, when we process a modal claim in natural language, we typically have no trouble understanding the flavor of modality is at issue – what is the linguistic mechanism that fixes the flavor of the modality?

The basic answer pursued by Kratzer (1977, 1981) and others is that this is often hinted at in the sentence itself, but its full determination depends on the conversational context in which the sentence is used. So, for example, we might explicitly say something like ‘In light of the rules of this school, …’ thereby indicating a deontic accessibility relation. But more often this is left implicit because it is obvious in the conversational context.

Second, the standard semantics sketched so far generates odd results in cases where the actual world is non-ideal in the relevant respects. For example, consider the sentence ‘You must help someone who has been attacked even if it is inconvenient.’ Intuitively, this could be a true claim of morality. However, on the standard semantics, with an accessibility relation like

\[
\text{R-moral} = \text{The relation which holds between two worlds } w\text{ and } w' \text{ iff the moral norms in } w\text{ are obeyed in } w',
\]

this sentence appears to come out false. This is because all of the worlds where the moral norms are obeyed are worlds where – we might presume – no one is attacked, which means that they are not worlds where the prejacent proposition (viz., that you help someone who has been attacked) is true. (This is known as the Good Samaritan Puzzle in Deontic Logic; see Prior 1958, Åqvist 1967.)

Since most of the real world cases where we make deontic modal claims are like this, this is a serious defect of the semantics. There are several possible answers to this problem, including complicating deontic logic by introducing dyadic operators. But the basic answer pursued by Kratzer (1981) and others is again to appeal to the context in which modal sentences are used. This is said to fix a set of background circumstances, which can be thought of as
providing an initial delimitation of the set of possible worlds. It is only within this delimited set that some of these worlds are then considered ‘accessible’ by the relevant accessibility relation. Hence, in the case above, we might semantically interpret the sentence by first restricting attention to the set of possible worlds where someone has been attacked and you can help; the sentence is then understood as saying that in the subset of these which are accessible via R-moral – i.e. the morally ideal worlds given the background conditions – you help the attacked person.

Hence, the standard semantics for deontic modals appeals to context of use in at least two different ways: to determine the accessibility relation and to determine the background circumstances of the claim. (Kratzer 1977, 1981 pursues further influential refinements.) In what follows we shall explore three further challenges. Proponents of the standard semantics view these as calls for more refinement; opponents view these as sources of deep problems with the standard framework.

3 The comparative weakness of ‘ought’

So far, we have focused on deontic necessity claims expressed with a ‘must’. Much of what we have learned can be applied to deontic uses of ‘have to’ as well, and deontic uses of ‘may’ and ‘can’ are treated as possibility modals in a very similar fashion. Interestingly, however, the deontic word most commonly used in ethical theory to state general ethical principles and specific practical conclusions is none of these words. It is the word ‘ought’. Moreover, the important notion of normativity is often explained in terms of ‘ought’ (see Ethics, Ethics and Metaethics; Normativity, Normative Judgment). The challenge this generates for the standard semantics of deontic modals is that ‘ought’ appears to be weaker than ‘must’ or ‘have to’. For instance, it seems to make perfect sense to say ‘Morally speaking, you ought to give more to charity, but I suppose you don’t have to’ or ‘To get home, you ought to turn left here, but you don’t have to’ (see Supererogation) Yet it is still most natural within the standard framework to treat ‘ought’ as a necessity modal. Hence, no account of the meaning of deontic modals, considered as kinds of necessity and possibility, will be satisfactory without explaining the relative weakness of ‘ought’ compared to ‘must’. (See Wertheimer 1972, McNamara 1996a, 1996b.)

This is a topic of active current research in semantics and metaethics. Two initial analogies for thinking about the ‘ought’/‘must’ contrast within the standard possible worlds semantics are the ‘most’/‘every’ contrast (see Horn 1972) and the ‘best’/‘only’ contrast (see Sloman 1970, Williams 1981). If a ‘must’-sentence is interpretable in terms of a prejacent proposition’s being true in every possible world in some contextually delimited set, then an ‘ought’-sentence would be logically weaker if it were interpretable in terms of the same prejacent proposition being true in most of the same set of worlds. Maybe, to return to the first example above, not all of the morally ideal worlds are worlds where you give more to charity, but most of them are. Alternatively, we might think that when a prejacent proposition must be true given some relevant norm, that is the only way things could be in light of that norm, but when the prejacent proposition ought to be true given that norm, that means that it is true in the best but not all of the ‘accessible’ worlds. This accords more with the second example above, which seems to say that turning left here is the best way to get home, but not the only way.

However we formally capture the relative weakness of ‘ought’ compared to ‘must’, we will also want to explain why appeal to this weaker notion is so pervasive in ethics. But we will want to
do so in a way that is sensitive to the fact that the comparative weakness of ‘ought’ shows up in non-ethical uses of ‘ought’ as well.

4 The intelligibility of deontic dilemmas

It is highly controversial in ethical theory whether there can be true moral dilemmas (see Moral Dilemmas). These would be cases where, in one and the same situation, it is both true that one morally ought to φ and true that one morally ought not to φ. However, even if it is controversial whether morality could demand the impossible, it seems obvious that there are possible norms that, in light of the contingencies of human life, make incompatible demands of single individuals.

The challenge such cases generate for the standard semantics for deontic modals is that it seems to render all dilemmas trivially impossible. This is because, as long as we’re holding the background circumstances and accessibility relation fixed, there simply cannot be a possible world where two incompatible prejacent propositions are both true. That means, on the standard semantics, that it’s trivially impossible for there to be a situation where it both is the case that someone ought to φ and is not the case that they ought to φ (where the sense of ‘ought’ remains constant). This is a highly counterintuitive result; it shouldn’t be a trivial consequence of our semantics that dilemmas are unintelligible. Perhaps a full theory of morality will explain that genuinely moral dilemmas are impossible, but this is a substantive claim about morality rather than a trivial claim about semantics; and, moreover, even if there are no genuine moral dilemmas, there might still be non-moral dilemmas.

In light of the apparent intelligibility of dilemmas, it may be tempting to reject the idea that ‘ought’ is a modal at all. Before we do that, however, we would need an equally plausible alternative account of the cross-linguistically robust phenomenon of various flavors of words like ‘must’, ‘may’, and ‘ought’. One initial avenue for responding to this challenge is to design a semantics for ‘ought’ that articulates the truth-conditions of ‘ought’-sentences not in terms of sets of accessible worlds but in terms of sets of imperatives that are in force (van Fraassen 1973). Alternatively, we might try to purpose fit our account of the comparative weakness of ‘ought’ so that it allows for pairs of true ‘ought’-claims with incompatible prejacent by interpreting each in terms of different subsets of the accessible worlds. (See Swanson 2011 for an attempt at this.) Finally, we might seek some principled way to appeal not only to possible worlds but also impossible worlds in the standard semantics.

5 To be vs. to do

As we have seen, the standard account of deontic modals situates them in a more general account encompassing both aethic and epistemic modals by assuming that all of these are operations on a prejacent proposition. However, in the case of deontic modals this may obscure an important distinction between what someone must, may, can, ought, etc. to do and what must, may, can, ought, etc. to be the case. (See Sellars 1969, Humberstone 1971.)

Harman (1973) introduced a compelling case by contrasting the sentence ‘Bill ought to kiss Lucy’ with the sentence ‘Lucy ought to be kissed by Bill’. For both sentences, the most obvious candidate for a prejacent proposition is the proposition that Bill kisses Lucy. If that is the prejacent proposition, however, then on the standard semantics the truth-values of these sentences stand and fall together. This is because every ‘accessible’ possible world where Bill kisses Lucy is a world where Lucy is kissed by Bill. And yet the truth-values of these sentences do not seem to stand and fall together. The former seems to call on Bill to exercise his agency to do something, whereas the latter seems to merely evaluate a possible situation
(where it is indeterminate whether Bill’s agency is involved in bringing it about). That is, the
former seems to be agentive in that it says what someone ought to do while the latter is
situational in that it says merely what ought to be the case.

It was because of this that Geach (1982) argued that deontic ‘ought’ is not an operation on a
prejacent proposition (e.g. that Bill kisses Lucy) to form a deontic proposition (e.g. that it
ought to be the case that Bill kisses Lucy) but rather an operation on a predicate (e.g. x
kisses Lucy) to form a deontic predicate (e.g. x ought to kiss Lucy). This is incompatible with
the core idea of the standard semantics that all modals are interpretable in terms of what is
true in all or some of a specific set of possible worlds. So it raises two interrelated questions
for anyone trying to work out Geach’s suggestion into a novel semantics for deontic modals.
First, what should we think about ought-sentences where the propositional operator view was
most plausible? There are broadly evaluative cases such as ‘Lucy ought to be kissed’ where
we do not presume that any particular agent ought to do something; and there are epistemic
‘ought’s such as ‘It ought to be dry by morning’. Do these force us to accept a fundamental
ambiguity in the word ‘ought’, in spite of the cross-linguistic evidence to the contrary? Second,
should we extend Geach’s idea to all deontic modals? Is it plausible that there’s a
fundamental ‘to be’ vs. ‘to do’ ambiguity in all words like ‘must’, ‘may’, ‘can’, ‘should’, etc.?

One idea for avoiding this and capturing the difference between agentive and situational
deontic modal claims within the standard semantics is to invoke what is known in deontic
logic as the ‘Meinong-Chisholm reduction’ (see Chisholm 1964). The core idea is to treat a
claim of the form ‘A must/ought-to/may φ’ as reducible to a claim of the form ‘It must/ought-
to/may be the case that A φs’. So A’s agency is meant to be captured in the situation where A
φs.

However, we might reasonably worry that sometimes when A φs, A exercises A’s agency,
and other times this is not the case. For example, if Suzy trips on the stair, she may do so
accidentally or on purpose. This is why some have proposed to distinguish merely situational
propositions of the form that A φs from their agentive counterparts by inserting a ‘sees to it
that’ to generate a proposition of the form that A sees to it that A φs. For instance, we might
contrast ‘Suzy trips’ and ‘Suzy sees to it that she trips’. This so-called stil (short for ‘sees to it
that’) semantics for agentive prejackets might provide a way to combine the idea that deontic
modals are propositional operators with a recognition of an important distinction between their
agentive and situational applications. (In modal logic, this idea traces back at least to Kanger
1957; Belnap, Perloff & Xu 2001 and Horty 2001 for further discussion and references.)

This move is premised on the idea that agency is captured by substituting sentences like
‘Suzy trips’ with a ‘stil’ sentence like ‘Suzy sees to it that she trips’. We might worry, however,
that even the second sentence is ambiguous between agentive and situational readings, and
if so the problem will just reappear. It is for reasons like these that Casteñada (1975, 1981)
sought to develop a deontic logic and semantics that treats deontic modals not as operations
on propositions but rather on what he termed ‘practices’. These are conceived of as
analogous to propositions in being full thought-contents but different in involving a different
kind of predication which is distinctive of action representation. Unlike Geach’s suggestion,
this doesn’t suggest any fundamental ambiguity in modal words like ‘must’, ‘may’, ‘can’,
‘ought’, etc. But it does require making independent sense of the different kind of predication
which is supposed to be distinctive of action representation.
6 Metaethical issues

One of the central concerns of metaethics is the nature of ethical or more generally normative thought. Is it constituted by cognitive attitudes like belief about the way the world might be – as cognitivists maintain – or by conative attitudes like desire or preferences towards ways the world might be – as expressivists maintain? Or is it some interesting combination of these, or something entirely different? Is normative thought premised on the existence of normative properties, and, if so, are they natural properties or something else? Or does normative thought’s distinctive role in planning what to do mean that it is not in the business of representing properties of things in reality?

Metaethicists typically pursue answers to questions like these by focusing on normative claims, such as ‘Murder is wrong’ or ‘Pleasure is good’, and asking whether accepting them amounts to acquiring a cognitive or conative attitude towards killing or representing pleasure as having the property of goodness. This is then tied up with what we then think about the supposed nature and possible existence of properties like wrongness and goodness. Notably, however, these claims are simple in their logical form: they are subject + one-place predicate sentences. The sorts of deontic modal claims that we have been concerned with here are clearly not so simple. This is important for two related reasons.

First, if – as many philosophers have suggested – the hallmark of the normative is its connection to what one ought to do, we might be misled in our metaethical theorizing by emphasizing simple subject-predicate sentences rather than more complex deontic modal claims. For example, if ‘ought’ is a propositional operator rather than the head of a one-place predicate, then the question of whether ought-thoughts are cognitive, conative, or something else becomes more subtle. For example, comparison to the case of epistemic modals encourages investigation of the idea that some ought-thoughts might be information relative. Moreover, comparison to the case of alethic modals encourages investigation of the idea that ‘ought’ and other deontic modals may constitute the linguistic articulation of distinct modes of thought rather than representational thought about distinctive ways reality might be. This can put some pressure on the supposedly exclusive distinction between cognitive and conative attitudes, and thereby on the traditional distinction between cognitivist and expressivist metaethical theories.

Second, insofar as deontic modal claims are thought to be a species of a larger genus of modal claims, we should expect interesting parallels between our theorizing about the nature of normative thought expressible with a deontic modal and our theorizing about the nature of other kinds of modal thought expressible with alethic and epistemic modals. Logically, the standard semantics treats deontic, epistemic, and alethic modals as propositional operators rather than predicates, which raises the broader question of how we should think about the ontological commitment involved in using a propositional operator – do they commit us to the existence of distinctively modal properties or are they ontologically neutral logical operations? And this in turn might force us to think about the ontological commitment involved in accepting ought-sentences in an entirely different fashion from the ontological commitment involved in accepting simpler subject-predicate sentences.
See also
Deontic Logic
Ethics, Ethics and Metaethics
Normativity, Normative Judgment
Modal Operators

References and further reading

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