

Normative Requirements and Contrary-to-Duty Obligations¹

1. Introduction

Assume that a proposition p obviously entails another proposition q . Consider then the following principle:

Closure: If you believe that p , then you ought to believe that q .

Closure is an example of what Broome called a “normative requirement.”² There are others:

If you believe that you ought to ϕ , then you ought to (intend to) ϕ .

If you intend to ϕ , and believe that in order to ϕ you must ψ , then you ought to (intend to) ψ .

If you believe that there is sufficient evidence for p , then you ought to believe that p .

If you believe that p , then you ought not to believe that not- p .

On the most straightforward interpretation, normative requirements are conditionals. We will soon see that there are reasons to doubt this straightforward interpretation, but let us stick with it for a moment in order to introduce the puzzle to be discussed.

If normative requirements are conditionals, then their antecedents are about beliefs or intentions—for instance, the proposition that you believe that you ought to ϕ , or the proposition

that you intend to ϕ . Their consequents, however, are all deontically modified propositions—propositions to the effect that you ought to intend to do something or you ought to believe some proposition. For each normative requirement, there is a parallel principle which is just like it except that its antecedent is deontically modified too. For instance, if we modify the antecedent of Closure in that way, the result is a version of the principle of epistemic closure that is widely discussed in the literature:³

Epistemic Closure: If you ought to believe that p , then you ought to believe that q .

To illustrate the difference between Closure and Epistemic Closure, suppose that we both believe that it is raining on a certain occasion, but whereas you believe it because you can see that it is raining, I believe it out of a gloomy disposition (I haven't yet opened my eyes this morning, say). Now consider the proposition that it is precipitating, which (I will take it) is obviously entailed by the proposition that it is raining. Whereas Epistemic Closure applies only to you, Closure applies to both of us, and so has as a consequence that our belief that it is raining requires us to believe that it is precipitating. But although this consequence might well be the correct one in your case, I should arguably recognize that I ought not to believe that it is raining and so abandon that belief, instead of adding insult to injury and believe in addition that it is precipitating. And yet, we do feel the pressure to say that if, contrary to reason, I insist on believing that it is raining, then at least I ought also believe the obvious consequence of that proposition, that it is precipitating. A particularly vivid way of bringing out this pressure is to consider two subjects who, just like me, believe that it is raining when they have no business doing so. One of them, Mary, believes in

addition that it is precipitating, whereas the other one, John, does not. Whereas we would fault both Mary and John for believing that it is raining, we cut Mary some slack for at least being consistent and also believing that it is precipitating. Analogous points can be made about the other examples of normative requirements.

That is the tension that I want to explore in this paper: on the one hand, we think that normative requirements cannot do any epistemic heavy lifting of their own (whether I ought to believe that it is precipitating depends on whether I ought to believe that it is raining, not merely on whether I do in fact believe it); on the other hand, however, we think that they do have some epistemic import (if you are going to believe that it is raining despite the evidence, then at least you ought to believe that it is precipitating). In this paper I defend two main theses. First, the problem of interpreting normative requirements so as to explain this tension is intimately related to an older problem in deontic logic, the problem of contrary-to-duty (ctd) obligations. Second, the solution to both problems involves thinking of conditionals in a way that will be surprising to philosophers, but not at all to linguists.

I begin by clarifying what the problem of interpreting normative requirements consists in. To do so, I take a look at what Broome, who introduced the terminology of “normative requirements,” has to say about them.

2. Broome’s Interpretation of Normative Requirements

As I said, perhaps the most straightforward interpretation of Closure is as a conditional with a deontically modified consequent. So, where ‘B’ is a belief operator to be interpreted as ‘believes

that...’ and ‘O’ a deontic operator to be interpreted as ‘ought to make it the case that...’, that interpretation of Closure can be rendered thusly:

$$\text{Closure-N: } B(p) \rightarrow O(B(q)).$$

I call it ‘Closure-N’ because the deontic operator takes narrow scope over the consequent of the conditional. Broome has argued against narrow scope interpretations of normative requirements in general. Suppose, first, that the conditional in question in Closure-N obeys Modus Ponens. This means that, according to Closure-N, simply believing (no matter for what reason) that it is raining entails that you ought to believe that it is precipitating. But this leads to nasty bootstrapping problems. For suppose that you ought not believe that it is raining but you (irrationally) believe it nonetheless. In that case, Closure-N entails that you ought to believe that it is raining (given that p obviously entails p). Even if you ought not to believe a proposition, the mere fact that you do believe it entails that you ought to do it. This is an absurd form of bootstrapping. If the conditional in question is the material conditional, there are additional problems for interpreting Closure as Closure-N. For suppose that you do not believe that it is raining. That entails, according to this interpretation of Closure, that believing that it is raining requires you to believe any arbitrary proposition (a material conditional is entailed by the negation of its antecedent).

In response, Broome argued that normative requirements are to be interpreted by having the deontic operator take wide scope over some conditional:

$$\text{Closure-W: } O(B(p) \rightarrow B(q)).$$

Closure-W is not a conditional, and so it does not have the bootstrapping problem of Closure-N. But Closure certainly looks like a conditional, and so it would be preferable to have an interpretation according to which that is what it is. But even if we waive this constraint there are problems with Closure-W. What kind of conditional is embedded in Closure-W? It cannot be a material conditional. Suppose, to begin with, that 'O' is closed under logical implication. In that case, the mere fact that you ought not to believe a proposition will entail that your believing that proposition normatively requires you to believe any other proposition, and the mere fact that you ought to believe a proposition will entail that your believing any other proposition normatively requires you to believe the first one. Although Broome does not consider this objection, he does consider a closely related one based on the assumption that logically equivalent propositions can be substituted within the scope of 'O'. In that case, if you ought to believe a proposition p , then you have a normative requirement to believe p if a tautology is true. Thus, for instance, if you ought to believe that you have hands, then that either snow is white or snow is not white normatively requires you to believe that you have hands. Broome then concludes that the conditional embedded in Closure-W is not a material conditional, but a material conditional "with determination added, from left to right"⁴. Broome does not say much more than this about the conditional involved in normative requirements. I will come back to this idea later.

Other authors, such as Kolodny,⁵ have complained that wide-scope interpretations of normative requirements do not capture the "directionality" of those requirements. For instance, you can satisfy Closure-W just as well by ceasing to believe that p as you can by believing that q . But, according to Kolodny, requirements such as Closure can only be satisfied by reasoning from

the content of one attitude to another. If this is so, then Closure cannot be satisfied by ceasing to believe that p when one does not believe that q . For when one does not believe that q , there is no attitude (and, therefore, no content of an attitude) that one can reason from. Of course, one can reason from the fact that one does not believe that q to the conclusion that one should give up one's belief that p . But one need not believe that one does not believe that q when one does not, and so this content is not guaranteed to be available whenever one believes that p but fails to believe that q . It might be argued that Kolodny's complaint misses the point that, according to Broome, the conditional embedded in Closure-W has "determination added, from left to right." In any case, whether within a wide-scope framework or outside of it, it seems clear that normative requirements should also satisfy this directionality requirement.

At a sufficiently general level, then, the puzzle of normative requirements is the challenge of finding an interpretation of normative requirements that satisfies all of the following constraints: (a) it avoids bootstrapping problems; (b) it respects their conditionality; and (c) it respects their directionality. Notice that, to satisfy (a), an interpretation must have it that detachment fails for normative requirements (i.e., that we cannot conclude that its consequent is true on the basis of the truth of its antecedent), whereas to satisfy (b) it must have it that normative requirements are conditionals. It follows that an interpretation satisfies both (a) and (b) only if it is an interpretation according to which detachment fails for conditionals—that is to say, an interpretation according to which Modus Ponens has counterexamples. I argue that there is an interpretation that satisfies all of the constraints, and I embrace the consequence that Modus Ponens has counterexamples. Moreover, my rejection of Modus Ponens is more radical—but better

justified, I will argue—than recent similar rejections by, for instance, Dowell and MacFarlane and Kolodny.⁶

3. Chisholm’s Puzzle of Contrary-to-Duty Obligations

In 1963, *Analysis* published a revolutionary short paper that spawned a decades-long discussion and whose influence can still be felt today. I am referring, of course, to Roderick Chisholm’s “Contrary-to-Duty Imperatives and Deontic Logic.”⁷ The literature generated by that paper is rich in logical sophistication and philosophical insight. I will argue that there is an intimate, but so far unnoticed, connection between the puzzle of normative requirements and Chisholm’s puzzle of ctd obligations. Indeed, the key to finding an interpretation of normative requirements that satisfies (a) through (c) is to be found in an examination of Chisholm’s puzzle.

Chisholm’s puzzle of ctd obligations has to do with deontic logic, so I offer here a brief presentation of it. To the language of propositional logic we add the propositional operator O from the previous section. The result is the language D of deontic logic. We can then give a Kripke-style possible world semantics for D . A model for D will include a set of possible worlds W . In the usual presentation, models will also have a relation R over W , which is then informally interpreted as giving us, for each world $w \in W$, the set of world that are “accessible from” w (the set $\{w' \in W \mid wRw'\}$). We can then define a necessary truth at a world w as one which is true in every world accessible from w . But I will use an alternative presentation.⁸ According to this alternative presentation, in addition to the set W , models have a world-relative order \leq_w . It is generally assumed that \leq_w is reflexive, transitive and connected in W . The idea is that, for any

world $w \in W$, \leq_w ranks all the possible worlds according to how closely they match the ideal set by w —how good they are according to w (if $w' \leq_w w''$, then w' is closer to the ideal established by w than w'' is). Of course, w itself need not match that ideal particularly well, as it surely does not for the actual world (as we will see later, this is captured in the claim that deontic orders need not satisfy what Lewis called the “centering” assumption). The difference with the more usual presentation is that, instead of taking the set of accessible worlds as primitive, we construct them out of this order: the worlds accessible from a world w are those that are closest to w according to \leq_w (i.e., the set $\{w' \in W \mid \text{for no } w'' \in W \text{ } w'' \leq_w w'\}$). We can then say that a proposition of the form $O(\phi)$ is true at a world w if and only if ϕ is true in all the best (i.e., accessible) possible worlds according to \leq_w . We are interested here in truth simpliciter, truth relative to the actual world. Thus, a proposition of the form $O(\phi)$ is true just in case ϕ is true in every possible world that matches the actual ideal (those are what I will call “perfect worlds”). This alternative presentation of the semantics for deontic logic will prove useful later in modeling the interaction of conditionals with modals.

In “Contrary-to-Duty Conditionals,” Chisholm presented the following kind of scenario as a problem for D so interpreted. Suppose that:

1. You ought to take the trash out.

And suppose also that:

2. It ought to be that if you take the trash out, then you tell your spouse that you will do it.

But:

3. If you do not take the trash out, then you ought not to tell your spouse that you will do it.

Regrettably:

4. You do not take the trash out.

3 is what can be called a ctd conditional. Chisholm's puzzle starts from the idea that even if we neglect certain of our duties we still have obligations, for not all ways of violating one's duties are equally wrong. One feature that makes Chisholm's puzzle particularly interesting is that telling your spouse is obviously incompatible with not telling your spouse, and yet there seem to be good arguments that you have an obligation to do each (more on this below).

Chisholm's challenge is to find a formalization of 1 through 4 that preserves their mutual independence and consistency. 1 and 4 should be formalized in D as follows (where 't' stands for the proposition that you take the trash out):

1'. $O(t)$.

4'. $\neg t$.

Still within D, 2 and 3 can be formalized as either material conditionals with a deontically modified consequent or as deontically modified material conditionals (where 's' stands for the proposition that you tell your spouse):

$$2'. t \rightarrow O(s).$$

$$2''. O(t \rightarrow s).$$

$$3'. \neg t \rightarrow O(\neg s).$$

$$3''. O(\neg t \rightarrow \neg s).$$

The grammar of 2 and 3 suggests that they should be interpreted as 2'' and 3', but we need to consider all four possible formalizations of 1 through 4:

A	B	C	D
1'. O(t)	1'. O(t)	1'. O(t)	1'. O(t)
2'. $t \rightarrow O(s)$.	2''. $O(t \rightarrow s)$.	2''. $O(t \rightarrow s)$.	2'. $t \rightarrow O(s)$.
3'. $\neg t \rightarrow O(\neg s)$.	3''. $O(\neg t \rightarrow \neg s)$.	3'. $\neg t \rightarrow O(\neg s)$.	3''. $O(\neg t \rightarrow \neg s)$.
4'. $\neg t$	4'. $\neg t$	4'. $\neg t$	4'. $\neg t$

The problem is that all four formalizations run afoul of Chisholm's requirements. Formalization A violates the independence constraint, for 4' entails 2' (this reflects one of the problems that we mentioned for interpreting Closure as Closure-N). Formalization B also violates

the independence constraint, for 1' entails 3'': if in every perfect world t is true, then it follows that in every perfect world either $\neg t$ is false or w is false (this reflects one of the problems that we mentioned for interpreting Closure as Closure-W). Formalization C violates the consistency requirement. Notice that 3' and 4' entail $O(\neg s)$, but 1' and 2'' entail $O(s)$ (if in every perfect world t is true and in every perfect world either t is false or s is true, then in every perfect world, s is true). But $O(\phi) \rightarrow \neg O(\neg(\phi))$ is a theorem-schema of deontic logic (and is, in any case, something that we think is true). Finally, formalization D inherits the problems of both A and B. Therefore, there is no formalization of 1 through 4 in D which respects both the consistency and the independence constraint. Moreover, notice that all formalizations except A make at least one of 2 and 3 turn out not to be a conditional.

It is interesting to note that different authors have insisted on imposing additional constraints beyond the independence and consistency of 1 through 4. Some authors⁹ require that sentences like 1 and 2 entail a sentence like:

5. $O(s)$.

Some other authors¹⁰ require that sentences like 3 and 4 entail a sentence like:

6. $O(\neg s)$.

6 is what can be called a ctd obligation. Following Greenspan,¹¹ let us call the first constraint the requirement of "deontic detachment" and the second one the requirement of "factual

detachment.” Notice that an interpretation better not satisfy both deontic and factual detachment, for that would render 1 through 4 inconsistent given that incompatible obligations are impossible. The argument for deontic detachment is clear and convincing: you ought to take the trash out and so tell your spouse, and the mere fact that you will not take the trash out does not make these obligations disappear. The argument for factual detachment turns essentially on the claim that not all ways of sinning are equally bad. Fans of factual detachment assume that we can capture this obvious truth only by claiming that sinners do not have the same obligations as non-sinners. I argue in section 7 that, on the contrary, we can distinguish better and worse ways of sinning without claiming that sinning changes what obligations you have. If that argument works, then we can hold on to deontic detachment without doing violence to the grain of truth behind factual detachment.

But although deontic detachment is incompatible with factual detachment, some proponents of deontic detachment have sought to capture a different kind of factual detachment—“strong factual detachment”.¹² Strong factual detachment allows us to conclude 6 not from 3 and 4, but rather from 3 and a strengthening of 4 according to which it is not only the case that you will violate your obligations, but it is somehow “settled” that you will do so.¹³ One kind of argument for strong factual detachment is that it is supposed to enshrine some kind of “ought implies can” principle, for if it is settled that you will not fulfill your unconditional obligation, then allegedly you cannot fulfill it and so it is not the case that you ought to fulfill it, which allows the ctd obligation to “kick in.” I discuss whether we should adopt strong factual detachment in addition to deontic detachment in section 7.

Some authors¹⁴ have thought that paying close attention to the times at which the obligations are had is crucial for solving the problem. But this solution can't work in general, because the time of the ctd obligation can be the same as the time of the unconditional obligation.¹⁵

Finally, there is the question of whether 2 and 3 should receive the same interpretation (as in A and B) or different ones (as in C and D). The only substantive difference between 2 and 3 is whether there is an obligation to bring about their antecedents, which is a difference that is not intrinsic to 2 and 3 themselves. Therefore, I adopt the requirement that 2 and 3 be given the same interpretation.

A solution to Chisholm's puzzle of ctd conditional obligations, then, must satisfy the following requirements: (1) it must render propositions such as 1 through 4 mutually compatible and independent, and (2) it must make them satisfy deontic detachment. The language of D just doesn't have enough resources to satisfy the first of these requirements.

4. A solution to Chisholm's puzzle

It is by now commonly accepted that Chisholm was right that standard deontic logic cannot capture the kind of conditional obligation at issue in his puzzle. There is no agreement, however, on how to modify standard deontic logic in order to capture those kinds of conditional obligations. Some authors suggest that such obligations must be understood in terms of a non-material conditional, whereas others advocate the introduction of a primitive dyadic operator. In

this section I briefly consider both strategies and side with those who favor the introduction of a dyadic operator.

As an instance of the first approach to the problem, some authors¹⁶ propose to augment the language of D with a counterfactual conditional (for which we will use ' $\Box\rightarrow$ '), and claim that 2 and 3 are to be interpreted in terms of counterfactuals. Let us call the resulting language DC. Semantics for counterfactuals also use Kripke models. Formally, a semantics for counterfactuals along the lines of Stalnaker and Lewis is very similar to the semantics for D that we discussed in the previous section. Still, there are two important differences. First, the order relevant to the interpretation of counterfactuals is not supposed to be deontically based, but rather based on a relation of overall similarity. Second, whereas a deontically modified proposition is semantically analyzed as a universal quantification over all the perfect worlds, a counterfactual is analyzed as a universal quantification over the most similar worlds where the scope of the quantifier is restricted by the antecedent. A counterfactual proposition, $(\phi \Box\rightarrow \psi)$, is true if and only if there is some world x where the antecedent and the consequent are both true, and x is closer (according to the overall similarity ordering) to the actual world than any world y where the antecedent is true and the consequent is false. So, whereas models for D have a single deontic order over the set of possible worlds, models for DC have two orders: a deontic one and one based on a relation of overall similarity.

Could we use DC to solve Chisholm's puzzle? The language now allows us to interpret conditional obligations in these two new ways:

$$7. \phi \Box\rightarrow O(\psi)$$

8. $O(\phi \Box \rightarrow \psi)$

Take 7 first. Interpreting conditional obligations as counterfactuals with a deontically modified consequent does not have all the same problems as interpreting them as material conditionals with a deontically modified consequent. For instance, as far as satisfying Chisholm's requirements of consistency and independence goes, taking conditional obligations to have the form of 7 does solve the puzzle. However, it is easy to see that if we do this then we will have satisfied factual detachment and violated deontic detachment. Counterfactuals obey Modus Ponens (we explain why in the next section), and so the interpretation has the consequence that if the antecedent of a conditional obligation is true then the consequent must be true. Thus, interpreting conditional obligations as in 7 will not do.

How about interpreting them as in 8? That interpretation also satisfies the consistency and independence requirement. Moreover, the interpretation satisfies deontic detachment. As far as the formal constraints go, then, that interpretation is perfect. Unfortunately, it won't do either.

To begin with, notice that counterfactuals are usually taken to entail the corresponding material conditional. Therefore, some of the objections that we leveled against Closure-W apply to interpreting conditional obligations as in 7. For instance, for any ϕ such that we have an unconditional obligation to ϕ , the counterfactual that if T (an arbitrary tautology) were true then we ought to ϕ is true. That is to say, if we interpret conditionals obligations as in 7, then for any unconditional obligation ϕ we have a conditional obligation to ϕ if a tautology is true.

Maybe some will not find that consequence unpalatable. But it gets worse. A deontic proposition is true just in case the proposition that it modifies is true in all the perfect worlds, and

a counterfactual proposition is true just in case there is a world where both the antecedent and the consequent are true that is closer to the actual world than any world where the antecedent is true but the consequent is false. So, taken together, these clauses tell us how to determine whether a deontically modified counterfactual is true. We can think of it as a two-stage process. First, isolate the set of perfect worlds, a set determined by the deontic ordering. Second, for every one of those worlds w , figure out whether some world where both the antecedent and the consequent of the counterfactual are true is closer (according to the overall similarity ordering) to w than any world where the antecedent is true but the consequent is false.

The problem for the interpretation of conditional obligations as deontically modified counterfactuals is that the deontic and the overall similarity ordering need not intersect each other in the way that is required to satisfy our intuitions about which propositions are true. That is to say, it may well be that a world where things are very bad is overall more similar to a perfect world than every world where things are somewhat bad, in which case an intuitively true conditional obligation will turn out to be false.¹⁷

Let us take as our example of a conditional obligation the proposition that if you sin you ought to repent. Now, according to the interpretation under consideration, this proposition should be read as: it ought to be the case that if you were to sin you would repent. In every perfect world, you do not sin, of course. Here are two crucial questions. First, is it true that in every perfect world you have the disposition to repent if you sin? Second, is it true that every world where you have the same dispositions as in w is closer to w than any world where you don't? I will argue that if the answer to either of these questions is "No," then we cannot interpret conditional

obligations as deontically modified counterfactuals, and that there are good reasons to think that the answer to both questions is “No.”

Take the first question first. Some people may think that in every perfect world not only do you not sin, but, moreover, you have a stable disposition to repent if you sin. I have my doubts about this. It may well be that if you have a stable disposition not to sin but no disposition to repent (perhaps you don't even have the capacity to repent) then everything is as it should be as far as you are concerned, even if you would not repent were you (very improbably) to sin. Suppose, then, that there are at least some perfect worlds where you do not have the disposition to repent if you sin. In at least some of those worlds, then, the counterfactual that if you were to sin you would repent is false. For, in at least some of those worlds, a world where you sin but retain your dispositions (and so you do not repent) will be closer to that perfect world than any world where you sin and do not retain your dispositions.

But suppose that it is true that in every perfect world you have the disposition to repent if you sin. Still, for the conditional obligation to repent if you sin to be true according to the interpretation under consideration, it has to be the case that for every perfect world w , a world where you sin and retain your dispositions (and so repent) is closer to w than a world where you sin but do not repent (and so do not retain your dispositions). But surely in at least some perfect world this is not true. For consider the fact that in at least some perfect worlds you are a saint: not only do you not sin and have the disposition to repent if you sin, but it would be extremely hard for you to sin. In particular, it may be the case that you would sin only if you were a very different person, with very different dispositions. Therefore, if (unthinkably) you were to sin, you would not

repent. But then, obviously, the counterfactual that if you were to sin then you would repent is false.

I conclude, then, that even though introducing counterfactuals allows us to solve Chisholm's puzzle in the sense that it allows us to give interpretations of 1 through 4 that makes them come out as consistent and independent of each other, those interpretations are not satisfactory for other reasons. First, interpreting 2 and 3 as counterfactuals with deontically modified consequents means that 2 and 3 satisfy factual detachment, and so that they do not satisfy deontic detachment. Interpreting them as deontically modified counterfactuals fares better in this regard, for under that interpretation 2 and 3 satisfy deontic detachment and violate factual detachment. But the truth-conditions of deontically modified counterfactuals need not coincide with the truth conditions of propositions like 2 and 3.

I turn now to consideration of the approach that favors introducing a primitive dyadic operator.¹⁸ According to this approach, instead of adding a monadic deontic operator to the language of propositional logic, we add a dyadic deontic operator: $O(-|-)$. We can then define a monadic operator as follows:

$$O(\phi) \text{ iff } O(\phi | T)$$

where 'T' is any tautology. Instead of having two orders over \mathbb{W} , like the models for DC, models for dyadic deontic logic have only the deontic one. A conditional obligation proposition $O(\phi | \psi)$ is true just in case ϕ is true in all the best worlds where ψ is true. Notice that, formally, dyadic conditional obligations have exactly the same semantics as counterfactuals.¹⁹ Thus, whereas

unconditional deontic propositions are analyzed as universal quantifiers over perfect worlds (in both monadic and dyadic deontic logic), conditional deontic propositions are analyzed in dyadic deontic logic as universal quantifiers over the best possible worlds where the scope of the quantifier is restricted by the “antecedent,” just like counterfactuals.

Still, there are of course important differences between counterfactuals and dyadic conditional obligations. The order for counterfactuals is based on a relation of overall similarity instead of being deontic, for instance. Moreover, the overall similarity ordering relevant for the analysis of counterfactuals satisfies the centering assumption,

Centering: For every world w , no world is more similar to w than w itself is,

whereas, as we remarked above, the deontic ordering does not, in general, satisfy centering—many worlds are not perfect, of course, and many of them are not perfect even according to themselves. Interestingly, the fact that the ordering relevant to the analysis of counterfactuals satisfies centering is responsible for the fact that counterfactuals entail the corresponding material conditional, which in turn is responsible for the fact (already alluded to) that they validate Modus Ponens. From a syntactic point of view, dyadic conditional obligations are no more conditionals than statements of conditional probability are conditionals. Still, we may wonder whether dyadic conditional obligations validate Modus Ponens in the following sense: is ϕ guaranteed to be true at a world w whenever both ψ and $O(\phi|\psi)$ are true at w ? The answer is that, given that the deontic ordering does not satisfy centering, dyadic conditional obligation does not validate Modus Ponens in this sense. Thus, for instance, whereas all the perfect worlds where you sin are worlds where you

repent, all the perfect worlds are worlds where you do not sin (and so do not repent), even if you actually do sin. In general, the best ϕ -worlds need not be the same as the best worlds according to every ϕ -world. For instance, the best worlds where you sin are not at all like the best worlds according to worlds where you sin. The best worlds where you sin are worlds where you repent, but the best worlds are worlds where you do not sin and so do not repent, and this is so even according to worlds where you do sin. Dyadic conditional obligations do satisfy deontic detachment, though. For suppose (for reductio) that $O(\psi)$ and $O(\phi | \psi)$, but not $O(\phi)$. Then, by the first and third assumptions, there is some perfect world where ψ is true but ϕ is false. But then it is not true that every perfect world where ψ is true is one where ϕ is also true, which contradicts the second assumption.

Interpreting conditional obligations as dyadic conditional obligations, then, satisfies Chisholm's requirements of independence and consistency. In addition, conditional obligations so interpreted satisfy deontic detachment and do not satisfy factual detachment. Moreover, because only a deontic ordering is at issue in the models for dyadic deontic logic, there is no danger that that order will not accord with our judgments about which propositions are true. If need be, we can just change the order to suit our judgments (more on this in the next section).

I conclude, then, that dyadic deontic logic, with its primitive notion of conditional obligation, gives us a satisfactory solution to the problem of ctd conditional obligations.

5. Normative Requirements Revisited

Now let us return to the problem of how to interpret Closure and other normative requirements. Recall that interpreting it as Closure-N led to the problem of bootstrapping (among others), and interpreting it as Closure-W led to the problem of lack of directionality (among others). We can now apply to that problem the lessons learned in examining Chisholm's puzzle.

First, it will not do to interpret Closure in either of these ways:

Closure-CN: If it were the case that you believe that p , then it would be the case that you ought to believe q .

Closure-CW: It ought to be that: if it were the case that you believe that p , then it would be the case that you believe q .

The problem with Closure-CN is that counterfactuals validate Modus Ponens, and so Closure-CN leads to the bootstrapping problem as much as Closure-N does. Thus, just because you irrationally believe that it is raining when you have absolutely no evidence for that proposition, Closure-CN has it that you ought to believe that it is raining. But could it be that the problem comes from focusing on counterfactuals, and some other kind of conditional will work? Indeed, I will argue that this is so. But bear in mind that, as long as the conditional in question satisfies Modus Ponens, the interpretation will have the bootstrapping problem.

What about Closure-CW? Notice, first, that Closure-CW does not satisfy constraint (b). According to this interpretation, 2 and 3 turn out not to be conditionals. Moreover, notice that, using our same example, Closure-CW entails the following:

9. It ought to be that, if you were to believe that it is raining, then you would believe that it is precipitating.

Is 9 true? It's not clear. We have to first consider all those worlds that are epistemically perfect (and that are not otherwise gratuitously different from this world). In none of those worlds do you believe that it is raining. Is it true that, for every one of those worlds w , if there is a world w' where you believe that it is raining but do not believe that it is precipitating, then there is another world w'' where you believe both propositions and w'' is closer to w than w' is? I don't see why we should believe that. It may be that worlds where you believe that it is raining are so different from epistemically perfect worlds that in those you do not believe it is precipitating. And it may be that, although you do not believe that it is raining and have a strong disposition not to believe it, if you were to believe it then you would be such a different person that you would not believe that it is precipitating.

But what about alternative wide-scope interpretations? Maybe taking normative requirements to be obligations with wide-scope over a counterfactual does not work, but changing the kind of conditional in question does? This is, remember, Broome's strategy. He holds that normative requirements are obligations with wide-scope over a conditional that is like a material conditional but "with determination added from left to right." But I do not think that the kind of conditional matters in this case. I will argue that the kind of conditional does matter for Closure-N, but the problem for Closure-W stems fundamentally from the fact that the semantics for the conditional, of whatever kind, is not guaranteed to march in lockstep with the semantics for

deontic propositions. Changing the kind of conditional may change the kind of conflict that arises, but we have no good reason to think that the conflict will be avoided. By contrast, as we shall see, we do have a very important reason to think that the conflict is avoided when the obligation takes narrow scope over the conditional.

But we have not run out of possible interpretations. What about a dyadic interpretation of normative requirements? According to this interpretation, we rank all the possible worlds according to how epistemically good they are, and a sentence like:

10. $O(B(\text{it is precipitating}) | B(\text{it is raining}))$

is true if and only if all the epistemically perfect worlds where you believe that it is raining are worlds where you believe that it is precipitating.

Broome himself called attention to the notion of conditional obligation, but only to dismiss it as an interpretation of normative requirements. His reason for the dismissal, however, is puzzling. Here is what Broome says:

Deontic logic contains a notion of conditional obligation (...), which could serve as a model for normative requirements. (...) But deontic logic will not give us much help because the analysis of conditional obligation remains unsettled.²⁰

I am not sure what Broome means when he says that “the analysis of conditional obligation remains unsettled.” He might be referring to the problem of how to account for conditional

obligations. In that case, although it is true that there are interpretations of ctd conditional obligations that are competitors to the dyadic interpretation, I argued against them in section 4. But he might also be referring to the interpretation of the notion of conditional obligation in dyadic deontic logic itself. Although such a notion has a standard semantics, Broome may be hinting that the standard semantics is not up to the philosophical task of yielding an interpretation of normative requirements (or conditional obligations in general). In any case, whether this is Broome's worry or not, I now turn to it.

The worry can be put starkly in these terms: what does epistemic goodness, on the basis of which the worlds are ranked, consist in? It is not clear that, presented with a description of two worlds, we can make sense of the question of which one of them is epistemically better. Are we being asked in which world more propositions are known? Or in which world more propositions are rationally believed? Or which world contains more epistemic virtue? Insofar as the semantics itself doesn't answer this question, it is useless as a philosophical interpretation of conditional obligation. But although this worry is natural, it is misguided.

Consider a similar worry that has been raised against the Lewis-Stalnaker possible-worlds semantics for counterfactuals. As we have seen, according to that semantics a counterfactual is true at a world w just in case (roughly) its consequent is true in the closest world to w where the antecedent is also true. Thus, the semantics for counterfactuals includes an ordering of possible worlds in terms of a relation of overall similarity. Now Kit Fine has worried that this relation of overall similarity will not track our judgments about which counterfactuals are true.²¹ Thus, to take Fine's example, a world where Nixon presses the button but the bomb doesn't go off is surely more similar to the actual world than a world where the bomb does go off and a nuclear war ensues.

But, still, we think that if Nixon had pressed the button the bomb would have gone off. Therefore, the objection goes, the possible-worlds semantics for counterfactuals fails.

Notice, first, that my objection to understanding normative requirements in terms of counterfactuals (or any other conditional) does not mirror Fine's objection to the semantics of counterfactuals themselves. My objection is simply that the truth-values of those conditionals are not guaranteed to correspond to the truth-values of normative requirements (for instance, I plausibly have a normative requirement to believe that it is precipitating given that I believe that it is raining, but it is arguably false that it ought to be the case that if I were to believe that it is raining then I would believe it is precipitating).

It is a good thing that my objection does not mirror Fine's, because I think that it is misguided. In answering this objection, Lewis wrote:

The thing to do is not to start by deciding, once and for all, what we think about similarity of worlds, so that we can afterwards use these decisions to test [the analysis]. . . . Rather, we must use what we know about the truth and falsity of counterfactuals to see if we can find some sort of similarity relation—not necessarily the first one that springs to mind—that combines with [the analysis] to yield the proper truth conditions.²²

Lewis's idea here is that a semantics is not a heuristic. The similarity order that we impose over the set of possible worlds is not an independent yardstick that issues verdicts about the truth-values of counterfactuals that we can then compare with our own unaided verdicts. Rather, we can (and

should) use our knowledge of which counterfactuals are true and which ones false to answer questions about which worlds are closer to which.

Analogously, the semantics for conditional obligations is not a heuristic either. The ranking of worlds according to how good they are is not an independent yardstick that issues verdicts about the truth-values of normative requirements that we can compare with our own unaided verdicts. A world where you believe both that it is raining and that it is precipitating is epistemically better than a world where you believe the former but not the latter if and only if there is a normative requirement to believe that it is precipitating given that you believe that it is raining. But, importantly, questions about the left-hand side of this biconditional are to be answered in terms of its right-hand side, and not vice-versa.

This does not mean, however, that the semantics is idle, anymore than it means that the possible-world semantics for counterfactuals is idle. On the contrary, as we shall soon see, interpreting normative requirements as conditional obligations has important and interesting consequences for the logic of normative requirements, and opens up the possibility of resolving the issues that beset other interpretations.

How does this interpretation, then, fare with respect to our constraints? It satisfies constraint (a): it avoids bootstrapping problems. It does so in virtue of failing to satisfy factual detachment. But isn't this a problem? If normative requirements do not satisfy factual detachment, in what sense are they normative? They do not entail that we have any unconditional obligation, not even when their antecedent is satisfied. If a requirement says that we should believe a certain proposition under certain conditions and those conditions are satisfied, shouldn't it follow that we ought to believe the proposition in question?

My reply is that we should take to heart the lessons learned in considering Chisholm's puzzle. Normative requirements are conditional obligations, and conditional obligations satisfy deontic detachment. Moreover, nothing can satisfy both deontic and factual detachment. Therefore, normative requirements cannot satisfy factual detachment—which means that they cannot entail unconditional obligations even when their antecedent is satisfied. Does this mean that normative requirements are not, after all, normative? If a requirement is normative only if it entails unconditional obligations when its antecedent is satisfied, then the answer is, obviously, that normative requirements are not normative. This result, however, shouldn't be seen as an objection to the account of normative requirements I propose. It is, rather, an indication that normative requirements are ill-named—which is, in turn, an indication that the proper nature of those requirements is ill-understood in the literature.

What about the other two requirements? Does the interpretation of normative requirements in terms of dyadic conditional obligations respect the conditionality of normative requirements (constraint (b))? Does it respect their directionality (constraint (c))? Let us start with directionality.

The obvious unpacking of the metaphor of directionality is that the normative requirement to B given that you A may only be satisfied in one way: by making B true. Now in "Why Be Rational", Kolodny seems to think that to respect the directionality intuition one must give an interpretation of normative requirements that satisfies factual detachment. But if this is what he thinks, he is wrong about that, for the directionality intuition is not about the truth-conditions of normative requirements, but rather about their satisfaction conditions (and the same goes, of course, for conditional obligations in general). Thus, the interesting question is not whether the

interpretation of normative requirements as dyadic conditional obligations itself satisfies the directionality intuition, but rather whether it is compatible with an account of their satisfaction conditions which respects that intuition.

Let us say that if you have a normative requirement to B given that you A, then you satisfy that requirement only if you B and you violate it if you A but don't B. Now, satisfying a normative requirement does not entail that you will discharge any obligations you have—indeed, given that some normative requirements have ctd obligations in their “consequent,” satisfying a normative requirement may entail that you fail to discharge obligations you have. So, for instance, since you have a normative requirement to believe that it is precipitating given that you believe that it is raining, you satisfy that requirement only if you believe that it is precipitating. But suppose that you ought not believe either that it is raining or that it is precipitating. We seem, then, to have a conflict. If you don't believe that it is precipitating, then you do not satisfy the normative requirement, but if you do then you don't satisfy your unconditional obligations. But there is no real conflict, because there are two ways of not satisfying a dyadic conditional obligation (and so a normative requirement, under the interpretation that we are considering): you may violate it, but you may also cancel it.

Compare dyadic conditional obligations with conditional bets.²³ Suppose that you think that if you win the lottery you will be happy. I think that you are wrong: winning the lottery will actually make you unhappy. It will not be wise of me to bet against the material conditional, which is equivalent to the following proposition: either you do not win the lottery or you are happy. That proposition is extremely likely to be true, just because it is extremely likely that you will not win the lottery. But it may be wise of me to propose a conditional bet: a bet on whether you are happy,

conditional on your winning the lottery. If you win the lottery and you are happy, I lose the bet. If you win the lottery and you are unhappy, I win the bet. In the most likely case where you do not win the lottery, the bet is off: neither one of us owes the other anything.

Similarly, nothing stops us from conceiving of the satisfaction conditions of dyadic conditional obligations in the same way. If you A and B, you satisfy your conditional obligation. If you A but don't B, you violate your conditional obligation. But if you don't A, then you neither satisfy nor violate your conditional obligation. Your conditional obligation is simply cancelled. You can avoid violating conditional obligations of this kind in two ways: by satisfying them and by canceling them. And when the conditional obligation is ctd, you can only discharge your unconditional obligations by canceling the conditional one.

This account of the satisfaction conditions of conditional obligations is compatible with their interpretation as dyadic conditional obligations. Therefore, satisfying the directionality condition does not mean that normative requirements satisfy factual detachment. On the contrary, they satisfy deontic detachment. So, if you believe that it is raining without believing that it is precipitating, then you violate a normative requirement. That does not mean that you ought to believe that it is precipitating. You ought not to believe that it is raining, and, given your other obligations, you ought not to believe that it is precipitating. So, what ought you to do (from an epistemic point of view) in that situation? You ought not to believe either proposition, thus satisfying all your unconditional obligations and avoiding violating any conditional obligation. It is still true, however, that the only way to satisfy your conditional obligation is by believing that it is precipitating as well as that it is raining.

Even if the interpretation of normative requirements as dyadic conditional obligations has all the advantages that I have claimed for it, there is still the question whether it satisfies constraint (b). Are dyadic conditional obligations conditionals? There are two related reasons to worry that they are not. First, they do not satisfy factual detachment, which is to say that Modus Ponens is not valid for them. But what are conditionals good for if not for detachment? Second, if the dyadic conditional obligation interpretation is correct, then the ‘if’-clauses in 2 and 3 are idioms, because the meaning of 2 and 3 cannot be captured by the separate components ‘if’ and ‘ought’. In “Ifs and Oughts,” MacFarlane and Kolodny argue against the dyadic approach to conditional obligations precisely along the lines of this second objection. They then go on to present an alternative picture—an assessment-relative account of deontic (and epistemic) modals married to a view of conditionals as restrictors. In the next section I defend the dyadic approach to conditional obligations from MacFarlane and Kolodny’s objections, and in section 7 I criticize their own alternative account.²⁴

6. The Restrictor View of Conditionals

MacFarlane and Kolodny’s main objection to the dyadic approach is that it makes ‘if ... ought’ constructions come out as idioms: their meaning is not compositionally determined by the meaning of ‘if’ together with the meaning of ‘ought’.

In response, I straightaway concede that, from a syntactic point of view, there is no separate “if” component in the dyadic treatment of conditional obligation. But, semantically, there is no difference between dyadic conditional obligations and the standard Stalnaker-Lewis account of

counterfactuals as variably strict conditionals. True, counterfactuals obey Modus Ponens and dyadic conditional obligations do not, but this is due to the fact that the ordering based on overall similarity is usually taken to satisfy centering, whereas a deontic ordering usually does not.

But it's not just that the objection would prove too much. The semantics of the dyadic conditional obligation interpretation, far from failing to respect the conditionality of conditionals, fits perfectly with the received view of conditionals among linguists (the view which MacFarlane and Kolodny themselves adopt). Lewis considered sentences like the following:²⁵

11. Usually, if Mary is happy, John is glad.

For our purposes, we can think of 'usually' as a quantifier over times or situations, and so we can treat both 'Mary is happy' and 'John is glad' as being true or false relative to these times or situations. But what contribution does 'if' make to the meaning of 11? We might think that it is some kind of connective joining together the two sentences 'Mary is happy' and 'John is glad' to produce another complex sentence which is itself true or false relative to times or situations. But Lewis argued that this is not the case. To take just one simple example, suppose that we take the conditional in 11 to be the material conditional. Suppose now that Mary is usually unhappy, but in those rare occasions where she is happy, John is not glad. In that case, 11 would turn out to be true—but this is the wrong result. Rather, Lewis argued, the entire 'if'-clause acts as a restrictor on the quantifier. That is to say, according to Lewis, we can paraphrase 11 as follows:

12. Most situations in which Mary is happy are situations where John is glad.

Kratzer argued that Lewis's analysis of 11 can be extended to cases where conditionals interact with modals, as in the following examples:²⁶

13. Necessarily, if Mary is happy, John is glad.

14. If Mary is happy, John must be glad.

15. If Mary is happy, John might be glad.

According to Kratzer, those sentences can be interpreted (roughly) as follows:

16. All possible situations where Mary is happy are situations where John is glad.

17. All situations compatible with what we know where Mary is happy are situations where John is glad.

18. Some situations compatible with what we know where Mary is happy are situations where John is glad.

Moreover, Kratzer argued, even in the case of "bare conditionals," where the 'if'-clause doesn't explicitly interact with any modal, the sentences do contain an implicit modal operator. Thus, the unadorned

19. If Mary is happy, John is glad

is to be interpreted as 14, which in turns is to be interpreted as 17. Thus, Kratzer concludes,

The history of the conditional is the story of a syntactic mistake. There is no two-place “if ... then” connective in the logical forms for natural language. “If”-clauses are devices for restricting the domains of various operators.²⁷

It is fair to say that the restrictor view is the received view in linguistics.²⁸ And notice that, according to this view, 2 and 3 should be interpreted as follows:

20. All perfect worlds where you take the trash out are worlds where you tell your spouse.

21. All perfect worlds where you do not take the trash out are worlds where you do not tell your spouse.

But 20 and 21 are just the clauses for the interpretation of dyadic conditional obligation propositions! Therefore, from a semantic point of view, the dyadic conditional obligation interpretation just is the mainstream interpretation of conditional obligations in linguistics. MacFarlane and Kolodny complain that “nobody to our knowledge has proposed a dyadic analysis of ‘If it is raining, then the streets must be wet’—but isn’t this what Kratzer has done? Of course, syntactically conditionals are not dyadic operators, but from a purely semantic point of view there is no interesting difference between the restrictor view of conditionals and the dyadic interpretation.”²⁹

7. Modus Ponens and strong factual detachment

I laid down as a constraint on a solution to Chisholm's puzzle of ctd conditional obligations that they satisfy deontic detachment—and so not satisfy factual detachment. Similarly, I laid down as constraints on interpretations of normative requirements that they be conditionals that do not detach (on pain of leading to bootstrapping problems), and so that they violate Modus Ponens. I will now make good on my promise to argue that these consequences are as they should be.

The motivation for requiring factual detachment arises from the idea that not all ways of sinning are the same. It is one thing, for instance, to not take the trash out when it is your turn, but if in addition you told your spouse that you did, you are only adding insult to injury. I said before that we need not accept factual detachment in order to capture this motivation, and I am now in a position to explain why. We can capture the motivation by noticing that saying that you have a conditional obligation not to tell your spouse if you do not take the trash out entails that not taking the trash out and telling your spouse that you did is worse than not taking the trash out and not telling your spouse. That is how we can have cues for sinners without having factual detachment. If you don't take the trash out, you are still obligated to do it and tell your spouse. But if you don't take the trash out and tell your spouse, then you are actualizing a worse world than if you don't take the trash out and don't tell your spouse.

Similarly, I argued above, the fact that you irrationally believe that it is raining does not entail that you ought to believe that it is precipitating, not even if it is true that if you believe that it is raining then you ought to believe that it is precipitating. At the level of pre-theoretic judgments, that you in fact believe that it is raining does not change the fact that you ought not

believe it. Now suppose that, in fact, rain is the only kind of precipitation in your area (and you know this). Then, the fact that you ought not to believe that it is raining does entail that you ought not to believe that it is precipitating. Given that you cannot have contradictory obligations, that you ought not to believe that it is raining entails that you ought not to believe that it is precipitating. At the level of the formal semantics, these judgments are captured in the fact that the deontic ordering is not centered—we do not require every world to consider itself among the perfect ones. If we now interpret normative requirements (and, more generally, conditional obligations) as dyadic conditional obligations—or, equivalently as far as the semantics goes, as conditionals whose antecedent have the job of restricting universal quantification over perfect worlds—then the failure of factual detachment follows. For, in interpreting normative requirements as dyadic conditional obligations, we interpret, for instance, the claim that believing that it is raining normatively requires you to believe that it is precipitating as saying that the best worlds where you believe that it is raining are worlds where you believe that it is precipitating. But this does not mean that the best worlds according to worlds where you believe that it is raining are worlds where you believe that it is precipitating. On the contrary, the best worlds according to worlds where you irrationally believe that it is raining (and where you know that rain is the only kind of precipitation in your area) are worlds where you do not believe that it is precipitating.

Some authors think that merely pointing out that a world where you believe both that it is raining and that it is precipitating is better than a world where you believe that it is raining without believing that it is precipitating is not enough. One motivation for saying this is the already examined claim that this robs normative requirements of their normativity. After giving a

semantics in line with the one presented here, for instance, John Cantwell goes on to say the following (Cantwell is considering a case where Smith steals from John):

But do we get the right answer? I do not know. On the one hand I think that as Smith steals from John, he ought to be punished; on the other hand, it ought to be the case that this is a world where Smith is not punished (as this ought to be a world where he does not steal).³⁰

Cantwell himself doesn't provide a way for us to have our cake and eat it too, but other authors have done so. I consider here the proposals of MacFarlane and Kolodny and Janice Dowell.

In MacFarlane and Kolodny's semantics for deontic and epistemic modals, sentences are evaluated at possible world-states and information states pairs, $\langle w, i \rangle$, where a possible world-state is an assignment of extensions to all the basic (i.e., non-deontic or epistemic) predicates and terms of the language, and an information state is a set of possible world-states. For sentences without deontic or epistemic predicates, i is irrelevant to their truth. But $O(\phi)$ is true at $\langle w, i \rangle$ iff for all w' $\mathcal{E}d(i)$, ϕ is true in $\langle w', i \rangle$, and $E(\phi)$ (it (epistemically) must be the case that ϕ) is true at $\langle w, i \rangle$ iff for all w' $\mathcal{E}f(i)$, ϕ is true in $\langle w', i \rangle$ —where d is the deontic selection function and e is the epistemic selection function. MacFarlane and Kolodny take the epistemic selection function to be the identity function. For the deontic selection function, they impose the constraint that it be realistic: $d(i)$ must be a subset of i . Informally, $e(i)$ returns the worlds that (epistemically) must be true at $\langle w, i \rangle$, and $d(i)$ returns the ideal worlds at $\langle w, i \rangle$. MacFarlane and Kolodny also hold that d can be seriously information-dependent: a world that is ideal relative to i need not be ideal relative to

every subset of i .³¹ As for the conditional, MacFarlane and Kolodny adopt Kratzer's restrictor picture (already presented).

Dowell follows Kratzer not only on conditionals, but also on the semantics of modal statements. On this view, modal statements are evaluated with respect to a modal base (the set of possible worlds on which the statement is to be evaluated) and a ranking of those worlds. Both the modal base and the ranking can be explicit in linguistic material or contextually provided by the speaker's intentions.

For Dowell as well as for MacFarlane and Kolodny, conditionals do not obey Modus Ponens either. In this, of course, I agree. But whereas their semantics invalidates Modus Ponens, it validates it in the special case where the premises are epistemically necessary—that is to say, their semantics satisfies what we earlier called strong factual detachment. However, the very same cases that motivate rejection of factual detachment also motivate rejection of strong factual detachment. It is not only true that if you do not take out the trash, then you ought not to tell your spouse that you did it—it is, we may assume, epistemically necessary that this is so (we know that it is true). And it is not only true that you will not take out the trash—it is also epistemically necessary. That these premises are epistemically necessary (for us) means that the information state i with respect to which we evaluate them includes only world-states where they are true—and this will be so whenever we evaluate those sentences with respect to information states that capture what we know. But then, it follows that you ought not to tell your spouse that you will take the trash out. That is to say, both Dowell's and MacFarlane and Kolodny's picture satisfy factual detachment for the special case where the premises are epistemically necessary.³²

This result is unacceptable. The four sentences in Chisholm's puzzle are jointly satisfiable in their semantics,³³ but not with respect to an information set that presupposes the truth of the sentences in the set.³⁴ Thus, their semantics cannot solve Chisholm's puzzle if we assume that we are evaluating the sentences involved in the puzzle with respect to an information set that presupposes the truth of those sentences. I conclude, then, that Dowell's and MacFarlane and Kolodny's picture have serious problems, and cannot adequately treat Chisholm's puzzle.

8. Conclusion

I have argued for two main claims. First, there is much to learn about normative requirements from an examination of Chisholm's puzzle of ctd obligations and related issues in deontic logic. Second, given that the solution to those puzzles involves interpreting conditional obligations as in dyadic deontic logic, so too the correct interpretation of normative requirements is as in dyadic deontic logic. I hasten to add that I take the argument for the first claim to be stronger than the argument for the second one. Maybe I'm wrong and dyadic deontic logic does not provide the solution to Chisholm's puzzle. Even so, the structural analogies between Chisholm's puzzle and the issues that arise for normative requirements are so strong and clear that it would be surprising indeed if the correct treatment of the one did not illuminate the others.

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Notes

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² John Broome, “Normative Requirements,” *Ratio* 12 (1999), pp. 398-419.

³ The version of epistemic closure discussed in the epistemology literature is formulated most often with respect to knowledge or justification. How close the version I am about to formulate is to that one will depend, among other things, on how closely related one thinks “ought” statements are to justification.

⁴ Broome, “Normative Requirements,” p. 402.

⁵ Niko Kolodny, “Why be rational,” *Mind* 114, 455 (2005), pp. 509-63.

⁶ John MacFarlane and Niko Kolodny, “Ifs and Oughts,” *this Journal*, CVII, 3 (March 2010), pp. 115-43; Janice Dowell, “Contextualist Solutions to Three Puzzles about Practical Conditionals,” in Shaffer-Landau (ed.), *Oxford Studies in Metaethics*, vol. 7, Oxford University Press (2012), pp. 271-303.

⁷ Roderick Chisholm, “Contrary-to-Duty Imperatives and Deontic Logic,” *Analysis* 24, 2 (1963), pp. 33-6.

⁸ I follow the example of Angelika Kratzer, “Modality,” in Stechow and D. Wunderlich (eds.): *Handbuch Semantik/Handbook Semantics* (de Gruyter: 1991), pp. 639-650, who is in turn generalizing an idea that can be found in David Lewis, *Counterfactuals* (Cambridge, Mass: Harvard University Press, 1973).

⁹ For instance, Judith Wagner DeCew, “Conditional Obligation and Counterfactuals,” *Journal of Philosophical Logic* 10 (1981), pp. 55-72, and David Lewis, “Semantic Analyses for Dyadic Deontic Logics,” in Soeren Stenlund (ed.), *Logical Theory and Semantic Analysis* (Dordrecht: Reidel, 1974), pp. 1-14.

¹⁰ For instance, Peter L. Mott, “On Chisholm’s Paradox,” *Journal of Philosophical Logic* 2 (1973), pp. 197-210; Brian F. Chellas, “Conditional Obligation,” in Soeren Stenlund (ed.), *Logical Theory*; Azizah al-Hibri, *Deontic Logic: A Comprehensive Appraisal and a New Proposal* (Washington, DC: University Press of America, 1978).

¹¹ Patricia Greenspan, “Conditional Oughts and Hypothetical Imperatives,” this *Journal*, 72 (1975), pp. 259-76.

¹² See, for instance, Barry Loewer and Marvin Belzer, “Dyadic Deontic Detachment,” *Synthese* 54 (1983), pp. 295-318; Henry Prakket and Marek Sergot, “Dyadic Deontic Logic and Contrary-to-Duty Obligations,” in Donald Nute (ed.), *Defeasible Deontic Logic* (Dordrecht: Kluwer Academic, 1997), pp. 223-62; John MacFarlane and Niko Kolodny, “Ifs and Oughts”.

¹³ For MacFarlane and Kolodny, for instance, 4 has to be known—or, more precisely, it has to be part of the informational set relative to which deontic sentences are evaluated—in order for 6 to follow.

¹⁴ See, for instance, Greenspan, “Conditional Oughts”, and Loewer and Belzer, “Dyadic Deontic Detachment”.

¹⁵ As in the gentle murder paradox of James William Forrester, “Gentle Murder, or the Adverbial Samaritan,” this *Journal* 81 (1984), pp. 193-6, and, more importantly for my purposes, the case of normative requirements.

¹⁶ Like Mott, “On Chisholm’s Paradox”, Chellas, “Conditional Obligation” and al-Hibri, *Deontic Logic*.

¹⁷ I think that something like this objection is what DeCew, “Conditional Obligation” has in mind, but what follows is my own development of the idea.

¹⁸ This approach was pioneered by George Henrik von Wright, “A Note on Deontic Logic and Derived Obligation”, *Mind* 65 (1956), pp. 507-9, who developed it in response to Arthur Prior, “The Paradoxes of Derived Obligation”, *Mind* 63 (1954), pp. 64-5. Examples of authors who think that this approach provides the best response to Chisholm’s puzzle include Sven Danielsson, *Preference and Obligation: Studies in the Logic of Ethics* (Upsala: Filosofiska föreningen, 1968), Bengt Hansson, “An Analysis of some Deontic Logics,” *Noûs* 3 (1969), pp. 373-98, and Lewis, *Counterfactuals*.

¹⁹ For details, see for instance Lewis, “Semantic Analyses.”

²⁰ Broome, “Normative Requirements,” p. 403 n.3.

²¹ Kit Fine, review of Lewis, *Counterfactuals*, *Mind* 84 (1975), pp. 341-4.

²² David Lewis, “Counterfactual Dependence and Time’s Arrow,” *Noûs* 13 (1979), pp. 455-76, p. 43.

²³ See Michael Dummett, “Truth,” *Proceedings of the Aristotelian Society*, LIX, 1959, reprinted in *Truth and Other Enigmas* (London: Duckworth, 1978), p. 8 on conditional bets, and also Willard van Quine, *Methods of Logic* (Cambridge: Harvard University Press, 1950) on conditional assertions. See also Kris McDaniel and Ben Bradley, “Desires,” *Mind*, Vol. 177, 2008, pp. 267-302.

²⁴ MacFarlane and Kolodny's target is neither Chisholm's puzzle nor the problem of interpreting normative requirements, but rather the miner's puzzle that Parfit takes from Ronald Reagan, *Utilitarianism and Cooperation* (New York, Oxford, 1980), p. 265 n. 1.

²⁵ David Lewis, "Adverbs of Quantification," in Edward L. Keenan (ed.), *Formal Semantics of Natural Language* (Cambridge: University Press, 1975), pp. 178-88.

²⁶ Angelika Kratzer, "Conditionals," in Anne M. Farley, Peter Farley and Karl E. McCollough (eds.), *Papers from the Parasession on Pragmatics and Grammatical Theory* (Chicago: Chicago Linguistics Society, 1991).

²⁷ Kratzer, "Conditionals", p. 11.

²⁸ Kai von Fintel, for instance, calls it "the dominant approach to semantics in linguistics" in his "Subjunctive Conditionals," in Gillian Russell and Delia Graff Fara (eds.), *The Routledge Companion to Philosophy of Language* (New York: Routledge, 2012), pp. 466-77.

²⁹ A peculiar consequence of both dyadic deontic logic and the restrictor view of conditionals is that a conditional of the form "If p, then it ought to be the case that p" comes out true. Good thing, then, that Modus Ponens fails on those semantics.

³⁰ John Cantwell, "Changing the Modal Context," *Theoria* 74 (2008), pp. 331-51, p. 348.

³¹ MacFarlane and Kolodny introduce complications to their semantics in order to deal with modals in the antecedent of a conditional, but I ignore this complication because it is orthogonal to the issues I am interested in.

³² Dowell thinks that the conclusion (in our case, "You ought not to tell your spouse") does not express a normative requirement (in the intuitive sense of "normative requirement", not the

technical sense explored in this paper)—see Bronfman and Dowell, “The Language of Reasons and ‘Ought’”, in Daniel Star (ed.), *Oxford Handbook of Reasons and Normativity* (forthcoming).

³³ I illustrate with MacFarlane and Kolodny’s semantics. Consider, for instance, the following model:

$w = C$
 $i = \{A, B, C, D\}$
 ‘t’ is true at A and B and false at C and D
 ‘s’ is true at A and C and false at B and D
 $d(\{A, B, C, D\}) = \{A\}$
 $d(\{A, B\}) = \{A\}$
 $d(\{C, D\}) = \{D\}$

It is easy to verify that all these four sentences come out true in MacFarlane and Kolodny’s semantics (where ‘[If ϕ] ψ ’ is the conditional ‘If ϕ then ψ ’ interpreted á la Kratzer):

1’ O(t)
 2’’ [If t] O(s)
 3’’ [If \neg t] O(\neg s)
 4’ \neg t

³⁴ If the truth of 4’ is presupposed in i , then ‘O(\neg t)’ is true in $\langle w, i \rangle$, and so 1’ cannot be true in $\langle w, i \rangle$.