

# “Ought” and Intensionality

Junhyo Lee

University of Southern California

Forthcoming in *Synthese*

This paper concerns a debate on the syntactic structures of deontic “ought”s. There are two debates on this topic. The first concerns whether epistemic and deontic “ought”s are associated with different syntactic structures. The second concerns whether two different senses of deontic “ought”s – “ought-to-do”s and “ought-to-be”s – are associated with different syntactic constructions.<sup>1</sup> This paper focuses on the second debate. Some philosophers and linguists have embraced what has been called *the ambiguity view*, according to which deontic “ought”s are ambiguous between a propositional operator and a relation between an agent and an action/proposition.<sup>2</sup> The main goal of this paper is to present some new negative evidence – what I call *the intensionality test* – against the ambiguity view.

## 1. Introduction

Moral philosophers have been interested in the nature of obligations and practical deliberations. Since “ought” traditionally has been used to express moral obligations and

---

<sup>1</sup> For the “ought to do”/“ought to be” distinction, see Chisholm (1964), Geach (1982), Jackson (1985), Feldman (1986), Brennan (1993), and Bhatt (1998). Different theories have used different terminology for this distinction. For example, this distinction corresponds to Humberstone’s (1971) agent-implicating and situational “ought”s, Wedgwood’s (2006) practical and political “ought”s, Price’s (2008) agential and situational “ought”s, and Schroeder’s (2011) deliberative and evaluative “ought”s, etc.

<sup>2</sup> See Harman (1973), Geach (1982), Brennan (1993), Price (2008), Schroeder (2011), Broome (2013), and Wedgwood (2006).

practical deliberations, we might be able to get some insight about the nature of obligations and practical deliberations if we get a clearer understanding of the exact meaning of “ought.” Moral philosophers have, at least tacitly, assumed that at least some sense of “ought” is closely connected to moral obligations and practical deliberations. However, there is one potential problem with this approach. That is, “ought” can be used to express a wide range of interpretations. So, we need to first settle what sense of “ought” is the one that matters to moral philosophers. For example, Schroeder (2011) distinguishes between deliberative (= “ought-to-do”) and evaluative (= “ought-to-be”) senses of “ought” and claims that the deliberative sense of “ought” is the one that is intimately related to practical deliberations and obligations. Following Harman (1973), Chrisman (2012) introduces a more fine-grained distinction among normative senses of “ought” (i.e., evaluative, prudential, and ethical “ought”s) and claims that prudential and ethical “ought”s are particularly important to the projects of moral philosophers.

The following sentences can be used to illustrate the different flavors of modality that “ought” can apparently contribute (Chrisman 2012; Harman 1973; Schroeder 2011):

(1) a. Epistemic (or pseudo-epistemic): John ought to be home by now.<sup>3</sup>

b. Bouletic: John ought to come to the party (because I like him).

c. Teleological: In order to go to Santa Monica, John ought to take Train A.

d. Evaluative: There ought to be world peace.

e. Prudential: John ought to stop smoking.

f. Ethical: John ought not to kill innocent people.

---

<sup>3</sup> “Ought” is generally thought to take a true epistemic reading. But Yalcin (2016) challenges this commonly-held view. He argues that the seemingly epistemic “ought” expresses a normality reading and calls this reading a *pseudo-epistemic* reading.

I'll treat (1a–c) as non-normative. I'll focus on (1d–f), which express clearly normative readings of “ought.” The prudential “ought” roughly means that it is best for the agent’s interest that s/he performs some action, so (1e) can be paraphrased as “It is best for John’s interest that he stops smoking.” The ethical “ought” roughly means that the agent is obliged, or has most reason, to do some action. (1f) can be paraphrased as “John is obliged not to kill innocent people.” The evaluative “ought” roughly means that it would be good for a certain event to happen (or for a certain state to obtain). (1d) conveys something on a par with the claim that it would be good for there to be world peace. (1d) can be true even if it is practically impossible to obtain world peace. Among these readings, (1e–f) seems particularly important to moral philosophers. This is because (1e–f) are agential in the sense that they describe some action that the agent *ought to do*. On the other hand, (1d) is non-agential or situational in the sense that it just expresses a desirable state of affairs that *ought to be* the case.

More specifically, Schroeder (2011) suggests five hallmarks of deliberative “ought”s (= “ought-to-do”s) and each reading can be examined in light of these hallmarks: (i) deliberative “ought”s matter directly for advice (MacFarlane & Kolodny 2010). When someone comes to you with the question of what to do, if you know what s/he deliberatively ought to do, you know what is advisable for him/her. (ii) Deliberative “ought”s close practical deliberation (Ross 2010). If you know what one deliberatively ought to do, then that settles the question of what to do. (iii) Deliberative “ought”s are closely related to the notion of accountability (Broome 2013). If an agent S deliberatively ought to do some action X, S is accountable if S fails to perform X. (iv) The deliberative “ought” implies

“can.” (Moore 1922; Humberstone 1971; Wedgwood 2007) and (v) Deliberative “ought”s are closely related to the notion of obligation.

The ethical “ought” satisfies all of the five hallmarks. (1f) is appropriate for advice for John, settles John’s deliberative question, implies that John is accountable if he kills innocent people, implies that John has an ability to not kill innocent people, and can convey something on a par with the claim that John has an obligation to not kill innocent people. The prudential “ought” does not express an agent’s obligation, so it does not satisfy (v). (1e) has nothing to do with John’s moral obligations. But the prudential “ought” still satisfies (i)–(iv) and seems closely connected to practical deliberations. (1e) can be given as advice to John, settles John’s deliberative question, implies that John is accountable if he does not stop smoking, implies that John has an ability to stop smoking. In this paper, following Chrisman (2012), I will classify prudential and ethical “ought”s as deliberative “ought”s. Perhaps, Hallmarks (i)–(iv) that both prudential and ethical “ought”s share are more probative of deliberative “ought”s than Hallmark (v). If so, (i)–(iv) are hallmarks of deliberative “ought”s and (v) is just a hallmark of the ethical “ought.”

On the most straightforward interpretation of Kratzer’s modal semantics (Kratzer 1977, 1981, 1991, 2012), which is a dominant paradigm in the semantics of modality, the deliberative–evaluative distinction is not lexically encoded. “Ought” is treated as a propositional operator.<sup>4</sup> Various flavors of “ought” are derived via what Kratzer calls

---

<sup>4</sup> However, this doesn’t mean that the Kratzerian account is not extendable to control modal verbs. That is, even if “ought-to-do” modals turn out to be control verbs, there is a way to accommodate the control sense of “ought” in the Kratzerian framework (Fintel & Heim 2011; Kaufmann 2012). If “ought-to-do” modals are control verbs, they can be treated like propositional attitude verbs such as “want” and “believe.” Let B be the set of worlds compatible with what the subject x believes at the world w. Given (1), the lexical entry for “believe” can be defined like (2).

(1)  $B = \lambda x_e. \lambda w_s. \{w' : w' \text{ is compatible with what } x \text{ believes in } w\}$

(2)  $\llbracket \text{“believe”} \rrbracket = \lambda p_{\langle s, t \rangle}. \lambda x_e. \lambda w_s. \forall w \in B(w)(x) [p(w) = 1]$

*conversational backgrounds*. The basic idea is that necessity operators like “ought: p” can be glossed as “In view of x, it is necessary that p.” Here the conversational background is implicit, and its value should be supplied by context. In this approach, each sentence in (1) can be glossed as follows, where the content of x in the “in view of”-phrase gives descriptive content to the intended modal flavor:

- (2) a. Epistemic: In view of what is known, it is necessary that John is home.  
 b. Bouletic: In view of what is desired, it is necessary that John comes to the party.  
 c. Teleological: In view of what is aimed at, it is necessary that John takes Train A.  
 d. Evaluative: In view of what is good, it is necessary that there is world peace.  
 e. Prudential: In view of what is good for John, it is necessary that he stops smoking.  
 f. Ethical: In view of what is moral, it is necessary that John does not kill innocent people.

On this picture, “ought” is considered uniformly raising. It would be useful for understanding the debate, then, to mention some linguistic background on the control–raising distinction (Jackendoff 1972; Bach 1979; Postal 1970, 1974; Chomsky 1981, 1982; Carnie 2013). Raising verbs express propositional operators and so take only

---

According to (2), “x believes that p” is true at w iff p is true at all worlds compatible with x’s beliefs at w. Similarly, let f be the set of worlds compatible with the subject x’s obligations/desires/purposes at w. Given (3), the lexical entry for the control “ought” can be defined like (4).

- (3) a.  $f_{\text{deontic}} = \lambda x_e. \lambda w_s. \{w': w' \text{ is compatible with } x\text{'s obligations in } w\}$   
 b.  $f_{\text{bouletic}} = \lambda x_e. \lambda w_s. \{w': w' \text{ is compatible with } x\text{'s desires in } w\}$   
 c.  $f_{\text{teleological}} = \lambda x_e. \lambda w_s. \{w': w' \text{ is compatible with } x\text{'s goals in } w\}$

(4)  $\llbracket \text{“ought}_{\text{control}} \text{”} \rrbracket = \lambda f_{\langle e, \langle s, \langle s, t \rangle \rangle \rangle}. \lambda p_{\langle s, t \rangle}. \lambda x_e. \lambda w_s. \forall w \in f(w)(x) [p(w) = 1]$

(4) is a simplified lexical entry for the control “ought” in the sense that it’s not doubly relativized. But it shouldn’t be difficult to implement this idea in doubly-relative modal semantics. The main difference between (2) and (4) is whether the domain accessible from the base world w is context-sensitive or not. Also, while the domain for the raising “ought” is a function of a world, the domain for the control “ought” is a function of an individual and a world. Compare (4) with (5), which is a simplified lexical entry for the raising “ought.”

(5)  $\llbracket \text{“ought}_{\text{raising}} \text{”} \rrbracket = \lambda f_{\langle s, \langle s, t \rangle \rangle \rangle}. \lambda p_{\langle s, t \rangle}. \lambda w_s. \forall w \in f(w) [p(w) = 1]$

one propositional argument. On the other hand, control verbs<sup>5</sup> express relations between an agent and a proposition/property and so take two arguments: one for agents/experiencers and the other for propositions/properties. Here are some examples of control and raising verbs, along with sketches of their underlying syntactic structures (LFs) that are evocative of their distinct argument-taking properties:

(3) a. John seems to/is likely to dance. (Raising)

b. Seem/likely [John to dance]. (LF for (3a))

(4) a. John wants to/tries to dance. (Control)

b. John<sub>i</sub> wants/tries [PRO<sub>i</sub> to dance] (LF for (4a))

“Seem” and “likely” are typical examples of raising verbs. “Want” and “try” are typical examples of control verbs. Raising and control constructions may look superficially similar, but they are structurally different. The subject in a raising construction is not the subject of a raising verb. They appear as the subject of the embedded verb and move up to a higher position. For example, “John” in (3a) is base-generated as the subject of “dance” and then *moves up* from the subject position of “dance” (= the specifier (Spec) of a verbal phrase (VP)) to the subject position of the tensed “seem” (= the specifier of a tense phrase (TP)) for syntactic reasons.<sup>6</sup> That is, all clauses must have grammatical subjects (in Spec TP) (= Chomsky’s (1982) Extended Projection Principle). On the other hand, the subject

---

<sup>5</sup> More specifically, we are interested in whether the deliberative “ought” is a subject control verb. There are two kinds of control verbs: subject control and object control verbs. Subject control verbs (e.g., “want,” “try,” “expect,” etc.) express two-place relations between an external agent and a property/proposition. Object control verbs (e.g., “advise,” “order,” “tell,” etc.) express three-place relations between an external agent, an internal theme, and a property/proposition.

<sup>6</sup> Strictly speaking, (3a) involves at least two movements. “John” begins in Spec VP where it receives the external theta-role of “dance.” And then it moves up through the embedded Spec TP to the matrix Spec TP.

(Raising) [<sub>TP</sub> John<sub>i</sub> seems [<sub>TP</sub> t<sub>i</sub> to [<sub>VP</sub> t<sub>i</sub> dance]]].

in a control construction is the subject of a control verb. In (4a), “John” is base-generated as the subject of “want,” not as the subject of “dance.” The subject of “dance” is saturated by an implicit pronoun called PRO, and “John” *determines* what this pronoun refers to. This is why “John” in (4a) is interpreted as both the subject of “want” and the subject of “dance.”<sup>7</sup>

As can be seen from (2), the orthodox view is that “ought” does not carry any argument for agents and so is uniformly raising. But Schroeder challenges this orthodox view. He argues that the deliberative “ought” has a control syntax while the evaluative “ought” has a raising syntax.<sup>8</sup> However, Chrisman (2012) provides some evidence against the ambiguity view of “ought” and argues that it is uniformly raising. He proposes two linguistic tests to examine the ambiguity view and shows that it fails the tests.

If there is a control sense of “ought,” then this means that the control “ought” carries an external argument.<sup>9</sup> The arguments of a verb can be divided into two types. The first is called *the external argument*, and it is the argument place for subjects. The second is called

---

<sup>7</sup> On the traditional account of control constructions, control constructions involve an implicit pronoun PRO. In this paper, I’ll present my arguments within the traditional framework that posits PRO. But on some alternative approach, which is usually called *the movement theory of control* (e.g., Hornstein 1999; Manzini & Roussou 2000), PRO doesn’t exist and control constructions are explained in terms of movement. However, even on this approach, there is a control-raising distinction. In control constructions, the subject receives two theta-roles: one from the main verb (e.g., “want” in (4)) and one from the embedded verb (e.g., “dance” in (4)). In raising constructions, the subject receives only one theta-role. That is, one from the embedded verb (e.g., “dance” in (3)).  
<sup>8</sup> This paper mainly concerns arguments against the ambiguity view. But Schroeder provides some positive arguments for the ambiguity view. These arguments will be briefly discussed later in this paper.

<sup>9</sup> According to the traditional lexicalist approach to argument structures (Chomsky 1981; Baker 1988, 1997; Dowty 1989, 1990; Levin & Rappaport Hovav 1995), the information about the argument structure of a verb such as how many arguments and what kinds of arguments a verb has is encoded in the lexical meaning of a verb. In this paper, I formulate my arguments within this traditional framework. But it should be possible to re-formulate them in other frameworks as long as they make sense of the argument-modifier distinction. For some alternative approaches to argument structures, see Hale & Keyser (2002), Harley (1995), Borer (2005), and Ramchand (2008).

*the internal argument* and is the argument place for direct and indirect objects.<sup>10</sup> The existence of the external argument makes some interesting predictions. As Chrisman (2012) noted, control verbs usually allow for 1) “er”-nominalization (e.g. “trier,” “wanter”), and 2) passivization (e.g. “it was tried,” “it was wanted”).<sup>11</sup> Thus, if there is a control sense of “ought,” it is expected to allow for these two linguistic processes. However, “ought” does not admit of either “er”-nominalization or passivization. That is, both “er”-nominalization (i.e. \**“oughter”*) and passivization (i.e. \**“it is oughted”*) lead to ungrammaticality.

In response to Chrisman’s tests, proponents of the ambiguity view might appeal to an etymological explanation for this data. It is often mentioned that “ought” was derived from the past form of “own” (von Fintel & Iatridou 2008; Finlay & Snedegar 2014). The base form of “own” is subject to both “er”-nominalization and passivization (e.g., “owner,” “owned”). However, the past form of “own” is not subject to either “er”-nominalization or passivization (e.g., \**“owned-er,”* \**“owned-ed”*). The etymological explanation is also consistent with the fact that “ought” cannot be tensed (e.g., \**“oughted”*). Since the past forms of control verbs can still have external arguments while they are not subject to “er”-nominalization and passivization, one might claim that Chrisman’s observation that “ought” does not allow for “er”-nominalization and passivization should not be considered decisive evidence against the ambiguity view.<sup>12</sup> The etymological explanation might provide an

---

<sup>10</sup> Alternatively, one can say that the external argument is not an argument of a verb, but an argument of another functional projection (Marantz 1984; Kratzer 1996). For how the external argument can be represented in LFs, see fn.15.

<sup>11</sup> “-er” can be thought of as picking out the external argument of a verb. Also, the passive morpheme “-en” is generally thought of as transforming the argument structure of a verb by deleting/absorbing the external agent theta role of an active verb (Baker, Johnson and Roberts 1989, Carnie 2006, Chomsky 1981, Jaeggli 1986).

<sup>12</sup> It has often been pointed out (Chrisman 2012; Finlay and Snedegar 2014, ft.39) that the deliberative-evaluative distinction can be found not merely in “ought”-sentences but in all deontic modals including “should” and “have to.” If this is the case, the ambiguity view will need to be



easy way out for the ambiguity view, but it doesn't help to avoid the result of the tests that I'll propose in the next section.

## 2. The Intensionality Test

In this section, I propose a new linguistic test to verify the control sense of "ought." If there is a control sense of "ought," then it should carry an external argument. The external argument of a control verb is expected to be extensional. The external arguments (i.e., the subject positions) of control verbs (e.g., "want," "believe," etc.) are extensional in the sense that the existential commitments of names, pronouns, and existential quantifiers are active.<sup>13,14</sup> For example, let's suppose that "Newman" is the descriptive name for the first-born baby in the 22<sup>nd</sup> century. Consider the following:

(5) Obama wants to meet Newman.

(6) #Newman wants to meet Obama.

(5) can be true depending on Obama's desires. But (6) is semantically anomalous because (6) is committed to the existence of Newman but Newman does not exist relative to the present time (or the utterance time).<sup>15</sup>

---

committed to the ambiguity in other deontic modals as well. However, it is not clear how the etymological explanation can generalize to other deontic modals such as "should" and "have to." The base form of "should" is "shall," but "shall" does not allow for *er*-nominalization (i.e., \*"shaller") and passivization (i.e., \*"shalled"). If the base form "shall" does not carry any argument for agents, "should" also does not carry any argument for agents. Furthermore, since "have to" is simply not past-tensed, the etymological explanation cannot be applied to "have to."

<sup>13</sup> What I mean by this is the extension of "exist." "Exist" can be tensed (e.g., "existed," "exists," "will exist," etc.), and the extension of "exist" varies depending on time. For example, (5) is present-tensed, so if (5) is true this implies that Obama exists at the present time.

<sup>14</sup> Quine (1960) proposes another test for extensionality. That is, if a linguistic context is extensional, two co-referential terms can be substituted without change in truth-value. I'll come back to this test in Section 3.

<sup>15</sup> One possible explanation of this phenomenon is that the external argument is not an argument of the main verb, but an argument of another projection (Marantz 1984; Kratzer 1996). In this view, control verbs do not carry external arguments. Nonetheless, control verbs impose certain

Now, let's see if the deliberative "ought" patterns like "want." Let's stipulate that "Newman C" refers to the baby that will be first-born in China in the 22<sup>nd</sup> century and "Newman A" refers to the baby that will be first born in the U.S in the 22<sup>nd</sup> century. Let's consider the following examples:

- (7) a. President Xi: Newman C ought to join the Communist Party of China (in order to get a good job in China). (Prudential "Ought")
- b. President Xi: Newman C ought to protect and serve the Communist Party of China. (Ethical "Ought")
- c. #Newman C wants/tries/expects/attempts/is reluctant/is eager to protect and serve the Communist Party of China.
- (8) a. President Trump: Newman A ought to stay at Trump Hotel for vacation (because I'll give him a special discount). (Prudential "Ought")
- b. President Trump: Newman A ought to make America great again. (Ethical "Ought")
- c. #Newman A wants/tries/expects/attempts/is reluctant/is eager to make America great again.

While (7c) is anomalous, (7a) and (7b) are fine. (7a) and (7b) seem to express deliberative readings. (7a), as a prudential "ought," satisfies hallmarks (i)–(iv). If someone comes to

---

requirements on the argument structure of the clauses they appear in, so they can appear only in the structure in which the external argument is projected. In this view, the logical forms for (5) and (6) can be represented as follows:

(5\*)  $\exists e$  [Ag/Exp(e)=Obama<sub>i</sub> & Want(e, PRO<sub>i</sub> meets Newman)]

(6\*)  $\exists e$  [Ag/Exp(e)=Newman<sub>i</sub> & Want(e, PRO<sub>i</sub> meets Obama)]

(5\*) can be read as "there is some event e such that the agent/experiencer of e is Obama and e is the event of wanting to meet Newman." (6\*) can be read as "there is some event e such that the agent/experiencer of e is Newman and e is the event of wanting to meet Obama." In (5\*), "Newman" appears in the scope of the intensional operator "want." On the other hand, in (6\*), "Newman" appears outside of the scope of "want."

President Xi with the question of what Newman C ought to do (to get a good job in China), he can give (7a) as advice and it will settle the issue of what Newman C (prudentially) ought to do. Newman C will be accountable if s/he doesn't act according to Xi's advice. Xi's utterance presupposes that Newman C will have an ability to act according to his advice. If not, Xi's utterance will count as meaningless or false. Furthermore, (7b) that expresses an ethical "ought" has all the five hallmarks of the deliberative "ought." If someone comes to Xi with the question of what Newman C (morally) ought to do, he can give (7b) as advice and it will settle the issue of what to do. Newman C will be accountable if s/he doesn't act according to Xi's advice. Xi's utterance presupposes that Newman C will have an ability to act according to his advice. By uttering (7b), Xi can express what he thinks Newman C is morally required to do as Chinese. If deliberative "ought"s are control, the subject positions of (7a) and (7b) are predicted to be extensional, and so (7a) and (7b) should pattern like (6) and (7c). But they do not.<sup>16</sup>

In a similar vein, (8a) and (8b) can be interpreted as expressing prudential and ethical "ought"s. If President Trump is asked to give advice on what Newman A ought to do on his vacation, Trump can give (8a) as advice and it will settle the issue of what Newman A (prudentially) ought to do. Newman A will be accountable if s/he doesn't act according to Trump's advice. Trump's utterance presupposes that Newman A will have an

---

<sup>16</sup> One might present the following as a potential counterexample to the intensionality test. Suppose I am watching a group of schoolchildren and they all want to eat ice cream. Let "Fast" denote whichever of the children will first finish their assignment. It seems that "Fast wants to eat ice cream" sounds fine. Everyone wants to eat ice cream, so Fast (whoever s/he might be) wants to eat ice cream. However, the main reason this inference sounds fine is that it is presupposed that Fast exists now but we don't know yet who s/he is. Suppose that "Newman" denotes the first-born baby in the 22<sup>nd</sup> century, so s/he doesn't exist now. Compare the above inference with the following: Everyone wants to eat ice cream, so #/?Newman wants to eat ice cream. This inference does not sound as good as the first one. This is because it is not presupposed that Newman exists now and so Newman cannot be included in the domain of "everyone."

ability to act according to his advice. Furthermore, (8b) seems to express an ethical “ought.” If someone comes to Trump with the question of what Newman A (morally) ought to do, he can give (8b) as advice and it will settle the issue of what to do. Newman A will be accountable if s/he doesn’t act according to Trump’s advice. Trump’s utterance presupposes that Newman A will have an ability to act according to his advice. By uttering (8b), Trump can express what he thinks Newman A is morally required to do as American. Thus, (8a) and (8b) express deliberative “ought”s. If deliberative “ought”s have the control syntax, the subject positions of (8a) and (8b) should be extensional and so (8a) and (8b) are expected to behave like (6) and (8c). But they do not.

### **3. A Challenge to the Intensionality Test**

In Section 2, I argued that deliberative “ought”s are not control because their subject positions are not extensional. I appealed to the fact that even when deliberative “ought”s are true, this doesn’t imply that their subjects exist at the present time (or the utterance time). One might challenge the validity of this test by claiming that there is an additional test for intensionality (= non-extensionality) according to which the subject positions of deliberative “ought”s are extensional.<sup>17</sup> One might claim that if a linguistic context is intensional, there must be two co-referential terms “S<sub>1</sub>” and “S<sub>2</sub>” such that “S<sub>1</sub> ought to do  $\phi$ ” and “S<sub>2</sub> ought to do  $\phi$ ” have distinct truth-values (Quine 1960). But we cannot find such co-referential terms. Therefore, the subject positions of “ought” are extensional. Let me call this *the substitution test*. In this section, I consider the substitution test and argue

---

<sup>17</sup> I thank an anonymous referee for bringing this objection to my attention.

that since deliberative “ought”s pattern like intensional operators such as “necessary” and “possible” with respect to this test, deliberative “ought”s are intensional as well.

The substitution test can be divided into two cases: one in which co-referential terms are rigid designators and one in which co-referential terms are non-rigid designators. When co-referential terms are rigid designators, the substitution test is not just a test for intensionality. Consider the following:

(9) a. Lois Lane believes that Superman is Superman. (T)

b. Lois Lane believes that Superman is Clark Kent. (F)

(10) a. It is necessary that Superman is Superman. (T)

b. It is necessary that Superman is Clark Kent. (T)

I believe that there is no dispute that “necessary” is intensional. But there is still a contrast between (9) and (10). When two co-referential terms are rigid designators (e.g., “Superman” and “Clark Kent”), these two terms can be substituted without change in truth-value in (10), but not in (9). Philosophers have tried to capture this by saying “believe” is hyper-intensional and “necessary” is merely intensional. If an operator is hyper-intensional, it is intensional, but not *vice versa*. Thus, the contrast between (9) and (10) suggests that “believe” is stronger than “necessary” in that while “believe” is hyper-intensional, “necessary” is merely intensional.

The considerations in Section 2 suggest that the deliberative “ought” is at least intensional. But this leaves open the question whether it is intensional or hyper-intensional.

I'll remain neutral on this issue. But if the following examples sound plausible, this might suggest that "ought" is hyper-intensional.

(11) a. Superman ought to reveal his true identity. (T)

b. Clark Kent ought to reveal his true identity. (?)

(12) a. Superman can fly. (T)

b. Clark Kent can fly. (?)

However, even if (11) and (12) are not plausible, that doesn't mean that the deliberative "ought" is extensional. This is because when co-referential terms are rigid designators, the substitution test is not just a test for intensionality but for hyper-intensionality.

Let's now consider the cases in which co-referential terms are non-rigid designators. When two co-referential terms are non-rigid designators, "necessary" passes the substitution test. Given that Socrates is the greatest teacher of Plato, (13) is true but (14) is not.

(13) It is necessary that Socrates is Socrates. (T)

(14) It is necessary that Socrates is the greatest teacher of Plato. (F)

"Ought" patterns like "necessary" in this respect. Suppose that Lois Lane met Superman at the Daily Planet yesterday and he happened to be the tallest man she met at that place.

(15) Superman ought to fly and stop Lex Luthor from destroying the world.

(16) The tallest man who Lois Lane met yesterday at the Daily Planet ought to fly and stop Lex Luthor from destroying the world.

(16) has at least two readings: (i) one in which “the” takes scope over “ought” and (ii) one in which “ought” takes scope over “the.” Each one can be paraphrased as follows:

(i) The > Ought: The tallest man who Lois Lane met yesterday at the Daily Planet at the actual world @ is such that for all deontically ideal worlds  $w'$  that is accessible from @, he flies and stops Lex Luthor from destroying the world at  $w'$ .

(ii) Ought > The: For all deontically ideal worlds  $w'$  accessible from @, the tallest man who Lois Lane met yesterday at the Daily Planet at  $w'$  flies and stops Lex Luthor from destroying the world at  $w'$ .

On the first reading, it is the tallest man Lois Lane met at the actual world who has an obligation to stop Lex Luthor. On the second reading, it is the tallest man Lois Lane met at the ideal worlds who has an obligation to stop Lex Luthor. We are interested in the second reading. Since (16) is false on the second reading, this shows that “ought” and “necessary” pattern alike with respect to the substitution test. If “necessary” is intensional, “ought” should be intensional, too.

#### **4. Resistance Strategies**

In the previous section, I considered a potential challenge to the intensionality test. In this

section, given that the intensionality test is a legitimate test for intensionality, I consider three possible ways to respond to the intensionality test and argue that none of them save the ambiguity view from the intensionality test. The first says that what the intensionality test shows is that a certain version of eternalism is true. The second says that “ought” comes with an independent operator functioning like “will” or “would.” The last says that “ought” itself consists of two intensional operators.<sup>18</sup>

#### *4.1. Eternalism*

Let’s start with the first response. One might claim that what (7) and (8) show is that a certain version of eternalism is true, according to which “Newman C” (or “Newman A”) does refer to a presently existing entity. That is, this view bites the bullet and accepts that Newman C (or Newman A) exists at the present time (or the utterance time). According to this view, Newman C (or Newman A) is now non-concrete and only in the 22nd century will be concrete. On this view, the contrast between “ought” and “want” might be explained as follows: (7c) (or (8c)) sounds bad because Newman C (or Newman A) is non-concrete, so s/he lacks desires. However, (7a) and (7b) (or (8a) and (8b)) sound fine because Newman C (or Newman A) as a non-concrete entity still can have obligations.

I’d like to point out three things about this particular version of eternalism. First, eternalism seems clearly not appropriate to capture our linguistic judgments about sentences like the following:

(17) Everything always exists. (F)

---

<sup>18</sup> An anonymous referee mentioned the first strategy. And I developed the last two ideas in conversation with Schroeder (p.c.), though he is not officially committed to any of them.



(18) Newman C exists now. (F)

(19) Dodos (or Socrates) once existed but no longer exist. (T)

(20) People are concrete objects. (T)

(17) and (18) are intuitively false, but eternalism should say that they are true. (19) sounds true, but eternalism should say that it is false because its second part is false. (20) sounds almost analytically true, but eternalism should say that it is false because people can exist as non-concrete objects.

Secondly, there is a more general worry. It seems reasonable to think that an individual exists at some possible worlds but not at other worlds. Similarly, it seems reasonable to think that an individual exists at some times but not at other times. If one says every object exists at all possible worlds, it will collapse the contingency/necessity distinction. Similarly, eternalism seems to collapse the temporal contingency/temporal necessity distinction.

Lastly, it seems that eternalism doesn't fare well with the ethical principle that "ought" in the sense of practical deliberation/obligation implies "can" in the sense of ability. If Newman as a non-concrete object has an obligation to join the communist party, this principle will imply that Newman as a non-concrete object has an ability to join the communist party. But this seems clearly false, because non-concrete objects don't have an ability to join the communist party. Thus, eternalism is not compatible with the principle that "ought" implies "can."

#### *4.2. Implicit Modal Operators*

Let's move on to the next response, according to which "ought" comes with the implicit "will" or "would." This is motivated by the consideration that "ought" sentences can express either a future-tense thought that makes sense only when it is evaluated relative to a particular future time ("will"), or a hypothetical thought that makes sense only under a certain hypothesis ("would"). In this view, "ought" and "will" (or "would") are base-generated in the same syntactic position, but "will" moves up to a higher position to take scope over the "ought"-sentence. On this view, the logical forms of (7a, b) and (8a, b) can be given as follows:

- (21) a. Will/Would: Newman C ought to join the Communist Party of China.  
b. Will/Would: Newman C ought to protect and serve the Communist Party of China.  
c. Will/Would: Newman A ought to stay at Trump Hotel for vacation.  
d. Will/Would: Newman A ought to make America great again.

In (21), the descriptive names "Newman C" and "Newman A" appear in the intensional context, because they are under the scope of the phonologically null "will" or "would."

This response is based on the assumption that "ought" and "will" can appear in the same syntactic structure. However, it is simply syntactically impossible for "ought" and "will" to appear in sequence, because they are in complementary distribution (Carnie 2013). Two words are in complementary distribution when they never appear in the same linguistic context. This is evidenced by the fact that the sequences of "will" (or "would") and "ought" lead to ungrammaticality (i.e., \*"will ought," \*"ought will"). In generative syntax, if two words are in complementary distribution, this is taken as suggesting that they belong to the same syntactic category and so they compete for the same syntactic position.

One might try to avoid this objection by re-interpreting the hidden "will" or "would"

as a text-level operator such as Heim’s existential closure. According to Heim (1982), definite and indefinite descriptions are merely variables, but they get their quantificational force from the text-level existential quantifier binding all free variables in its scope. Similarly, one might posit a text level modal operator that functions like “will” or “would.” In this view, “will” or “would” does not compete for the same syntactic position with “ought,” so it avoids the objection raised above.

However, even if there is such a text-level modal operator, it still fails to explain the asymmetry between “ought”-sentences and other control constructions. Let’s compare (7a, b) and (7c) again.<sup>19</sup>

- (7) a. President Xi: Newman C ought to join the Communist Party of China (in order to get a good job in China). (Prudential “Ought”)
- b. President Xi: Newman C ought to protect and serve the Communist Party of China. (Ethical “Ought”)
- c. #Newman C wants/tries/expects/attempts/is reluctant/is eager to protect and serve the Communist Party of China.

Whereas (7a, b) sound fine, (7c) does not. If there is a modal closure for control constructions, the operation must be able to save (7c) from semantic anomaly. In order to explain the asymmetry between “ought”-sentences and other control constructions, one would need a modal closure only for “ought”-sentences. However, with no independent motivation, positing a modal closure operating only on “ought” sentences would be simply ad-hoc.

---

<sup>19</sup> We can make the same point with (8a, b) and (8c)

### 4.3. *Implicit Subjunctive Morpheme*

The last response is that “ought” itself consists of two intensional operators. It seems that the best way to implement this idea is to appeal to the compositional semantics of weak necessity modals. In many languages, a weak necessity modal is composed by combining a strong necessity modal with a subjunctive (or counterfactual) morphology that appears in the consequent of a subjunctive conditional. That is, a weak necessity modal is just a strong necessity modal with a subjunctive marker (von Stechow and Iatridou 2008). On this picture, “ought” consists of two parts: the strong necessity modal MUST/HAVE TO and the subjunctive morpheme  $\emptyset_{\text{sub}}$ . When the strong necessity modal is used alone, it is phonologically realized as “must” or “have to.” When it is combined with the subjunctive morpheme  $\emptyset_{\text{sub}}$ , it is phonologically realized as “ought” or “should.” If this is the case with English, then the logical forms of (7a, b) and (8a, b) may be understood as the following:

- (22) a.  $\emptyset_{\text{sub}}$  [Newman C MUST/HAS TO join the Communist Party of China]  
b.  $\emptyset_{\text{sub}}$  [Newman C MUST/HAS TO protect and serve the Communist Party of China]  
c.  $\emptyset_{\text{sub}}$  [Newman A MUST/HAS TO stay at Trump Hotel for vacation]  
d.  $\emptyset_{\text{sub}}$  [Newman A MUST/HAS TO make America great again]

On this view, “Newman C” and “Newman A” are under the scope of “ $\emptyset_{\text{sub}}$ ,” so they appear in the intensional context. Also, the asymmetry between (7a, b) and (7c) can be explained by the availability of the subjunctive morpheme  $\emptyset_{\text{sub}}$ . The control “ought” is distinguished from other control verbs in the respect that it always carries the subjunctive morpheme “ $\emptyset_{\text{sub}}$ ,” and this element is what is responsible for the intensionality of the subject position of the control “ought.”

This response may provide an explanation of the asymmetry between (7a, b) and (7c) without being committed to an ad-hoc semantic operation. However, it makes some incorrect predictions. First, since it is the subjunctive morphology part which is responsible for the intensionality of the external argument of the control “ought” and strong necessity modals do not carry any subjunctive morphology, it predicts that the external argument of a strong necessity modal is extensional. That is, it predicts that (23) should pattern like (7c) and (8c). But they do not.<sup>20</sup>

(23) a. Newman C must/has to join the Communist Party of China.

b. Newman C must/has to protect and serve the Communist Party of China.

c. Newman A must/has to stay at Trump Hotel for vacation.

d. Newman A must/has to make America great again.

Second, this response conflicts with Chrisman’s tests. On this view, strong necessity modals such as “must” and “have to” are syntactically ambiguous in the sense that they can be associated with either a control or raising construction. Then, strong necessity modals are expected to pass Chrisman’s tests. That is, they should allow for “er”-nominalization and passivization. But they do not pass these tests. If we add “-er” or “-ed” to “must” or “have to,” they lead to ungrammaticality (i.e. \**“must-er,”* \**“have-er,”* \**“have to-er”* (“er”-nominalization), \**“must-ed,”* \**“be had to”* (passivization)).<sup>21</sup>

---

<sup>20</sup> According to the response, the deliberative reading is due to the control construction of “ought”, and it is the strong necessity part that gives rise to the control construction. So, it predicts that strong necessity modals are ambiguous between raising and control constructions and thus they have deliberative readings.

<sup>21</sup> One might wonder if the etymological explanation for “ought” is also available for strong necessity modals. It might work for “must” but not for “have to”. “Have to” is a strong necessity modal, but it is clearly not past-tensed in itself. It can take the past-tense morpheme (i.e., “had to”).

## 5. Implications

In this section, I explore three philosophical implications that the intensionality test has on the debate. The first two have to do with the propositional view on “ought.” The last has to do with the relation between “ought” and “reason.”

### 5.1. “Ought” and Propositions

First, the intensionality of the subject position of “ought” undermines any relational view of the deliberative “ought.” There are broadly three types of explanations for the deliberative “ought.” The first is that the deliberative “ought” expresses a relation of an agent and a property (Schroeder 2011). The second is that the deliberative “ought” expresses a relation of an agent and a proposition (Wedgwood 2006<sup>22</sup>). The last is that the deliberative “ought” expresses a propositional operator with no agentic argument (Chrisman 2015; Finlay & Snedegar 2014; Horty 2001; Horty & Belnap 1995). The intensionality of the subject position of “ought” is evidence against the first two views (namely, the relational views), because they are both committed to the existence of an external argument, and external arguments are extensional unless they are under the scope of an intensional operator.

Wedgwood (2006) himself presents his view as a kind of a propositional operator view. He claims that while the evaluative “ought” (or the political “ought” in Wedgwood’s terms) is not indexed, the deliberative “ought” (or the practical “ought” in his terms) is

---

<sup>22</sup> Wedgwood himself claims that his view is a propositional operator view. But I argue that there is a discrepancy between what he says and what he has to say. I argue that his view collapses into a relational view, so he has to say that his view is relational.

implicitly indexed.<sup>23</sup> That is, the deliberative “ought” carries an index for agents. According to Wedgwood (2006), the logical form of the deliberative “ought” is like “ $O_{\langle A \rangle}(p)$ ,” where “O” is a one-place propositional operator that takes propositions as its argument and “A” is an index for agents.

However, I have two worries about the status of this agent index. First, in generative grammar, indices are generally attached to only (broadly construed) nominal expressions such as proper names, pronouns, and common nouns. This has to do with the historical fact that indices were first introduced in the binding theory in order to explain the phenomenon of syntactic binding (Baker 2003, p.96). It is not clear how indexation can extend to other categories such as modal verbs and whether there is any independent motivation for such an extension.

Second, Wedgwood (2006) claims that the agent index can stand in the binding relationship to a quantifier. That is, the agent index can be bound by a higher quantifier. Thus, “ $\exists x O_{\langle x \rangle}(Px)$ ” is a well-formed and interpretable formula in Wedgwood (2006). However, in the generative grammar tradition, this formula is not legitimate. If the agent index is a genuine index, it does not take its own syntactic node. If the agent index does not take its own syntactic node, it is not visible to any syntactic mechanisms and thus cannot be in the binding relationship to a quantifier (Collins 2007).<sup>24,25</sup> Thus, if Wedgwood

---

<sup>23</sup> In his original suggestion, “ought” carries two types of indices: the agent and time indexes. But in this paper, I will ignore the time index.

<sup>24</sup> I am assuming that binding is essentially a syntactic phenomenon, or at least requires some kind of syntactic mechanism.

<sup>25</sup> It might be worth noting that Heim and Kratzer (1998) posit an index as a node as a result of quantifier raising. In their semantic theory, the movement of a quantifier phrase has two effects: (i) it leaves a trace  $t$  with an index  $i$  and (ii) it introduces an index  $i$  right below the moved phrase, which functions as a variable binder that binds the trace  $t_i$ . It seems mysterious how an index alone can take a node and function as a variable binder. In response to this problem, Heim and Kratzer might claim that quantifier-raising (i) leaves a trace  $t_i$  and (ii) introduces a variable binder  $OP_i$  that

needs a place for agents in his theory, it should appear as an *argument* of “ought.” If so, his view collapses into a relational view, and the logical form of an “ought” sentence should be like “O(S, p).”<sup>26</sup>

Both Finlay and Snedegar (2014) and Chrisman (2015) can be taken as a kind of a propositional/sentential operator view. Finlay and Snedegar (2014) argue that “ought” is a two place propositional operator: one argument is for propositions and the other is for sets of alternative propositions. Chrisman (2015) argues that “ought” is a sentential operator, but it can take either a propositional or imperatival content. He tries to capture evaluative readings with the former and deliberative readings with the latter. Since both views are not committed to the external argument of “ought,” they are compatible with the intensionality test. They can argue that the subject position of “ought” is intensional, because “ought” takes scope over the whole content which the subject is part of.

The stit view (Horty 2001; Horty & Belnap 1995), according to which there is an implicit agency operator stit (= “see to it that”) in the prejacent and this is what is responsible for the deliberative “ought,” also is compatible with the intensionality test. On the stit view, given that the prejacent is the proposition that Bill kisses Lucy, the evaluative reading of “ought” can be represented as “Ought: Bill kisses Lucy,” and the deliberative reading of “ought” can be represented as “Ought: Bill sees to it that he kisses Lucy.” Since “ought” functions as a propositional operator in either reading, the stit view doesn’t have

---

binds the trace  $t_i$ . However, the strategy of positing an empty operator has been questioned by Collins (2017) and Pietroski (2018).

<sup>26</sup> Wedgwood’s view might be revised as follows: On Kratzer’s account, conversational backgrounds are functions of possible worlds (i.e., “f(w)”). One alternative to this is to say that conversational backgrounds are functions of individuals and times (e.g., “f(x, t)”). If his view is revised this way, it can remain as a propositional operator view, because individuals are treated as an argument of conversational backgrounds of “ought,” not “ought” itself.



to posit any external argument for agents. As long as it doesn't posit any external argument for agents, it is compatible with the intensionality test.

The second implication is that the considerations discussed so far undermine some view on weak necessity modals. For example, one might want to combine the compositional account of weak necessity modals with the control constructions of strong necessity modals. However, as has been discussed in Section 4.3., this view wrongly predicts that the subject position of a strong necessity modal is extensional.

## 5.2. "Ought" and "Reason"

The last implication of the intensionality test that I'll discuss concerns the relation between "ought" and "reason." The notions of ought and reason seem to be intimately connected. For example, many philosophers paraphrase the deliberative "ought" as "has most reason to." Schroeder tries to capture this intuition by saying that "ought" and "reason" take the same type of entity as their argument. He says:

It is plausible to suppose that whatever the deliberative "ought" relates agents to is the same sort of thing as whatever *reasons* relate agents to. If "ought" relates agents to actions, then reasons count in favor of actions. If "ought" relates agents to propositions, then it is natural to think that, strictly speaking, reasons will count in favor of propositions." (Schroeder 2011, p.36).

If "ought" is a propositional operator, it does not relate an agent to anything. Still, Schroeder's remark on the relationship between "ought" and "reason" can be understood as saying that the object of the deliberative "ought" is the same sort of thing as whatever reasons count in favor of. Thus, if we accept his conjecture, it suggests that what reasons

count in favor of is a proposition, because the intensionality test suggests that the object of the deliberative “ought” is a proposition.

The intensionality test, together with Schroeder’s conjecture, implies that reasons count in favor of propositions, not actions. Let’s call this *the propositional view*. But Schroeder (2007) presents some objections against the propositional view. His main contention is that the propositional view has no plausible propositional candidate for agent-neutral reason ascriptions. Schroeder introduces the distinction between agent-neutral and agent relational reasons and calls sentences like (12) in which the agent of an action is not explicit *agent-neutral reason ascriptions* and sentences like (13) in which the agent of an action is explicit *agent-relational reason ascriptions*.<sup>27</sup>

(24) a. The fact that Katie needs help is a reason to help Katie.

b. There is a reason to help Katie.

(25) a. The fact that there will be dancing at the party is a reason *for Ronnie* to go to the party.

b. There is a reason *for Ronnie* to go to the party.<sup>28</sup>

Schroeder focuses on (24b) and considers two propositional candidates for the propositional view. The first candidate is the proposition that *everyone* helps Katie. If the reason operator takes this proposition as its argument, (24b) should express something

---

<sup>27</sup> These examples are from Schroeder (2007).

<sup>28</sup> On Schroeder’s account, reasons count in favor of actions/properties, rather than propositions and “reason” is ambiguous between a triadic relation between a fact, an agent, and an action (for agent-relative readings) and a dyadic relation between a fact and an action (for agent-neutral readings). On his account, the logical forms for (24) and (25) can be represented as follows:

(24a\*) Reason (p,  $\Phi$ ), where p is a fact and  $\Phi$  is an action/property.

(24b\*)  $\exists p$  Reason (p,  $\Phi$ ), where  $\Phi$  is an action/property.

(25a\*) Reason (p, S,  $\Phi$ ), where p is a fact, S is an agent, and  $\Phi$  is an action/property.

(25b\*)  $\exists p$  Reason (p, S,  $\Phi$ ), where S is an agent,  $\Phi$  is an action/property.

equivalent to “there is a reason for everyone to help Katie.” The problem with this is that there can be an agent-neutral reason to help Katie even if there is no reason for everyone to help Katie. After all, in general, if someone needs help, s/he doesn’t need a help from *everyone*. S/he would just need *enough* help. The second candidate that Schroeder considers is the proposition that *someone* helps Katie. If this is right, (24b) is equivalent to “there is a reason for someone to help Katie.” However, the problem with this is that it fails to validate the following entailment:

(26) a. There is a reason to help Katie.

b. There is a reason for you to help Katie.

Schroeder argues that if there is an agent-neutral reason to help Katie, it entails that there is a reason for *each* person to help Katie. In particular, (26a) seems to entail that there is a reason for *you* to help Katie. But the second candidate does not provide any clear explanation for this inference.

Schroeder’s objection to the propositional view may look devastating, and he claims that the propositional view is clearly the worst of the available views. I agree with Schroeder in that neither candidate he considers is a plausible option for the propositional view. However, this doesn’t mean that the propositional view is wrong. This is because the propositional view actually has an appropriate propositional candidate for agent-neutral reasons.

I propose that agent-neutral reason ascriptions take the proposition that *one* helps Katie. On this view, (24b) is equivalent to “there is a reason for one to help Katie.” More specifically, the logical form of (24b) can be represented as follows:

(27) There is a reason  $\text{PRO}_{\text{arb}}$  to help Katie.<sup>29</sup>

“ $\text{PRO}_{\text{arb}}$ ” is an unpronounced pronoun for arbitrary objects (Bhatt and Pancheva 2017; Carnie 2006; Epstein 1984). There are broadly two views on the interpretation of “ $\text{PRO}_{\text{arb}}$ .” The first says that “ $\text{PRO}_{\text{arb}}$ ” refers to an arbitrary object (Fine 1985; King 1991). This requires us to introduce a new type of objects into our ontology. But what is important for the purposes of this paper is that, in this approach, the following inference counts as valid (Fine 1985; King 1991):

P1. Fa, where “a” refers to an arbitrary object.

C.  $\forall x Fx$

If the above inference is valid, the inference from (28a) to (28b) is valid. Since the inference from (28b) to (28c) is valid by universal instantiation, the inference from (28a) to (28c) is valid.

(28) a. There is a reason  $\text{PRO}_{\text{arb}}$  to help Katie.

b. For every x, there is a reason for x to help Katie.

c. There is a reason for you to help Katie.

The second approach is that “ $\text{PRO}_{\text{arb}}$ ” is interpreted as a free variable and it should be bound by a higher operator (Epstein 1984; Moltmann 2006, 2010; Bhatt and Pancheva 2017; Lebeaux 2009). Epstein (1984) posits a default universal quantifier and argues that  $\text{PRO}_{\text{arb}}$  is bound by this universal quantifier. Moltmann (2006, 2010) and Bhatt and Pancheva (2017) suggest that the arbitrary interpretation of  $\text{PRO}_{\text{arb}}$  comes from the presence of a generic operator, which at least sometimes can express a universal

---

<sup>29</sup> I remain neutral on whether “reason” expresses a triadic relation or a dyadic relation. Still, the view developed here is distinguished from Schroeder’s view in that (i) reasons count in favor of propositions, rather than actions, and (ii) agent-neutral reason ascriptions are special cases of agent-relative reason ascriptions so that reason ascriptions are not syntactically ambiguous.

quantificational force or something equivalent.<sup>30</sup> On this view, the logical form of (26a) is like (28b), and thus it entails (28c). In either approach, the inference in question is validated and thus this proposal satisfies Schroeder’s desideratum.

Furthermore, the proposal presented here avoids the problem that the first candidate faces. That is, (27) doesn’t entail that there is a reason for *everyone* to help Katie. This would be best explained in terms of scope ambiguity. While “everyone” is embedded under the reason operator in “there is a reason for everyone to help Katie,” the quantifier “every” takes scope over the reason operator in (28b). So, (28b) does not induce the collective reading that there is a reason for *everyone* to help Katie. A similar phenomenon can be found in the following construction:

(29) a. It is fun to play basketball.

b. It is fun [PRO<sub>arb</sub> to play basketball].

(30) a.  $\forall x$  It is fun [for x to play basketball]

( $\approx$  For everyone it is the case that if they play basketball, it is fun for them.)

b. It is fun  $\forall x$  [x to play basketball]

( $\approx$  If everyone plays basketball, it is fun.)

Epstein (1984) analyzes the logical form of (29a) as (29b) and notes that the interpretation of (29b) is (30a), not (30b). In the same vein, the interpretation of (27) is (31a), not (31b).

(31) a.  $\forall x$  there is a reason for x to help Katie.

b. There is a reason  $\forall x$  [x to help Katie].<sup>31</sup>

---

<sup>30</sup> Lebeaux (2009) also posits an implicit operator that binds PRO<sub>arb</sub> but is not committed to what this operator is.

<sup>31</sup> The difference between (31a) and (31b) may be captured by the following logical forms:

(31a\*)  $\forall x \exists p$  Reason (p, x helps Katie) (LF for individual readings)

(31b\*)  $\exists p$  Reason (p,  $\forall x$ [x helps Katie]) (LF for collective readings)

Lastly, I'd like to mention some syntactic evidence for the proposal. Let's consider the following sentences:

- (32) a. There is a reason to love oneself.  
b. There is a reason PRO<sub>arb</sub> to love oneself.
- (33) a. There is a reason to love \*himself/\*themselves.  
b. There is a reason for everyone to love himself/themselves.  
c. There is a reason for someone to love himself/themselves.

Reflexive pronouns like “oneself”, “himself” must be bound by an antecedent in its local domain (i.e., Chomsky's (1981) Binding Condition A). Otherwise, the whole sentence containing the reflexive pronoun results in ungrammaticality. For example, an imperative sentence “Love yourself!” is considered carrying an unpronounced antecedent functioning like “you” and it binds the reflexive pronoun “yourself.” If the standard binding theory is right, (32a) suggests that there is an unpronounced pronoun PRO<sub>arb</sub> which functions like “one.”<sup>32</sup>

Also, (33a) provides evidence against Schroeder's first and second candidates. If a quantifier such as “everyone” or “someone” can appear as the antecedent, (33a) should be grammatical. But it is not. This suggests that quantifiers like “everyone” and “someone” never appear in the subject position of an agent-neutral reason ascription. I have presented an appropriate propositional candidate for the propositional view. Thus, Schroeder's objections are not decisive evidence against the propositional view.

---

<sup>32</sup> One might wonder whether PRO is mandatory or optional. On the traditional account of control constructions that posits PRO, PRO seems to be mandatory. This is because syntactic theories such as the theta theory and the Extended Projection Principle (EPP) require the subject position of a clause to be always occupied.

## 6. Conclusion

Schroeder (2011) claims that the deontic “ought” is syntactically ambiguous between control and raising constructions. However, Schroeder’s account fails to pass the tests proposed by Chrisman (2012) and me. These tests all test for the presence of an external argument. “-er” can be thought of as picking out the external argument of a control verb. The passive morpheme “-en” can be thought of as transforming the argument structure of a control verb by deleting/absorbing the external argument. Also, it seems that the external argument is extensional because it appears outside the scope of an intensional operator.

Of course, Schroeder provides some positive arguments for the ambiguity view. For example, “Bill ought to kiss Lucy” seems to express both deliberative and evaluative readings, whereas “It ought to be that Bill kisses Lucy” seems to express only an evaluative reading. This presents a *prima facie* challenge to the uniformity view.

In response to this argument, Finlay and Snedegar (2014) develops a pragmatic account based on the contrastive semantics, according to which “ought”-sentences are evaluated relative to a set of alternatives. “Ought”-sentences carry a default presumption that they are relativized to agential alternative sets, which gives rise to deliberative readings. Sentences like “It ought to be that Bill kisses Lucy” resist deliberative readings, because the speaker violates Grice’s Efficiency Maxim (i.e., “Avoid unnecessary prolixity”) by using inefficient sentences and thus indicates that the speaker’s intended reading is not the default one. Chrisman (2015) also defends the uniformity view by arguing that “ought” can take either a propositional or imperatival content. If it takes a propositional content, it has an evaluative reading. If it takes an imperatival content, it has a deliberative reading.

“Ought” in “Bill ought to kiss Lucy” can take either a propositional or an imperatival content, so this sentence has both evaluative and deliberative readings. On the other hand, since “that Bill kisses Lucy” denotes a propositional content, “ought” in “It ought to be that Bill kisses Lucy” can take only a propositional content, so this sentence expresses only an evaluative reading.

Given that there are at least some alternative explanations of the positive arguments, the negative evidence proposed here suggests that the uniformity view is more empirically adequate than the ambiguity view. At the very least, the negative evidence does put pressure on the proponents of the ambiguity view to explain why the purported control “ought” behaves differently with control verbs.<sup>33</sup>

## References

- Bach, E. (1979). Control in Montague grammar. *Linguistic Inquiry*, 10, 515–31.
- Baker, M. (1988). *Incorporation: A theory of grammatical function changing*.  
Chicago: University of Chicago Press.
- Baker, M. (1997). Thematic roles and syntactic structure. In L. Haegeman, (Ed.), *The elements of grammar* (pp. 73–137). Dordrecht: Kluwer.
- Baker, M. (2003). *Lexical categories: Verbs, nouns, and adjectives*. Cambridge  
University Press.
- Baker, M., Johnson, K., & Roberts, I. (1989). Passive arguments raised. *Linguistic*

---

<sup>33</sup> Many thanks to Elli Neufeld, Frank Hong, Anthony Nguyen, David Boylan, Barry Schein, Alexis Wellwood, Deniz Rudin, Fabrizio Cariani, Mark Schroeder, Steve Finlay, Ralph Wedgwood, and audiences at the American Philosophical Association (APA) Eastern Division meeting, 2020 for very helpful discussions. Further thanks to two anonymous referees for this journal for very thorough and insightful comments.



- Inquiry*, 20, 219–51.
- Bhatt, R. (1998). Obligation and possession. In H. Harley (Ed.), *Proceedings of the UPenn/MIT Workshop on argument structure and aspect* (pp. 21–40). MITWPL.
- Bhatt, R., & Pancheva, R. (2017). Implicit arguments. In M. Everaert, & H. C. van Riemsdijk (Ed.), *The wiley blackwell companion to syntax 2<sup>nd</sup> edition* (pp. 1–35). John Wiley & Sons, Inc.
- Borer, H. (2005). *Structuring sense*. New York: Oxford University Press.
- Brennan, V. (1993). *Root and epistemic modal auxiliary verbs*. Ph.D. Dissertation, UMass, Amherst.
- Broome, J. (2013). *Rationality through reasoning*. Wiley-Blackwell.
- Cariani, F., & Santorio, P. (2018). *Will done better: Selection semantics, future credence, and indeterminacy*. *Mind*, 127, 129–165.
- Carnie, A. (2013). *Syntax: A generative introduction* (3<sup>rd</sup> edition), Wiley-Blackwell.
- Chisholm, R. (1964). The ethics of requirement. *American Philosophical Quarterly*, 1, 147–153.
- Chomsky, N. (1981). *Lectures on government and binding*. Foris Publications.
- Chomsky, N. (1982). *Some concepts and consequences of the theory of government and binding*. Cambridge, Mass.: MIT Press
- Chrisman, M. (2012). ‘Ought’ and control. *Australasian Journal of Philosophy*, 90(3), 433–451.
- Chrisman, M. (2015). *The meaning of “ought.”* Oxford University Press.
- Collins, J. (2007). Syntax, more or less. *Mind*, 116, 805–50.
- Collins, J. (2017). The semantics and ontology of *the average American*. *Journal of*

- Semantics*, 34(3), 373–405.
- Condoravdi, C. (2002). Temporal interpretation of modals: Modals for the present and for the past. In D. Beaver, L. Casillas, B. Clark, & S. Kaufmann (Ed.), *The construction of meaning*. Palo Alto, CA: CSLI Publications.
- Dowty, D. (1989). On the semantic content of the notion ‘thematic role’. In B. Partee, G. Chierchia, & R. Turner (Ed.), *Properties, types and meaning* (pp. 69–129). Dordrecht: Reidel.
- Dowty, D. (1990). Thematic proto-roles and argument selection. *Language*, 67, 547–619.
- Epstein, S. D. (1984). Quantifier-pro and the LF representation of PRO<sub>arb</sub>. *Linguistic Inquiry*, 15(3), 499–505.
- Feldman, F. (1986). *Doing the best we can: An essay in informal deontic logic*. Dordrecht, Boston; D. Reidel Publishing Company.
- Fine, K. (1985). *Reasoning with arbitrary objects*. New York: Blackwell.
- Finlay, S., & Snedegar, J. (2014). One ought too many. *Philosophy and Phenomenological Research*, 89(1), 102–124.
- von Fintel, K., & Heim, I. (2011). *Intensional semantics*. Unpublished Lecture Notes.
- von Fintel, K., & Iatridou, S. (2008). How to say *ought* in foreign: The composition of weak necessity modals. In J. Gueron, & J. Lecarme (Ed.), *Time and modality* (pp.115–141). Springer.
- Geach, P. (1982). Whatever happened to deontic logic? *Philosophia*, 11, 1–12.
- Hale, K., & Keyser, S. J. (2002). *Prolegomenon to a theory of argument structure*. Cambridge, Mass.: MIT Press.
- Harley, H. (1995). *Subjects, events, and licensing*. Ph.D. Dissertation. MIT.

- Harman, G. (1973). Review of ‘the significance of sense: meaning, modality, and Morality’. *The Philosophical Review*, 82(2), 235–9.
- Heim, I. (1982). *The semantics of definite and indefinite noun phrases*. Ph.D. Dissertation. UMass, Amherst.
- Heim, I., & Kratzer, A. (1998). *Semantics in Generative Grammar*. Malden, MA: Blackwell.
- Hornstein, N. (1999). Movement and control. *Linguistic Inquiry*, 30, 69–96.
- Horty, J. (2001). *Agency and deontic logic*. Oxford: Oxford University Press.
- Horty, J., & Belnap, N. (1995). The deliberative stit: A study of action, omission, ability, and obligation. *Journal of Philosophical Logic*, 24, 583–644.
- Humberstone, L. (1971). Two sorts of ‘ought’s. *Analysis*, 32, 8–11.
- Jackendoff, R. (1972). *Semantic interpretation in generative grammar*. Cambridge, MA: MIT Press.
- Jackson, F. (1985). On the semantics and logic of obligation. *Mind*, 94, 177–195.
- Jaeggli, O. (1986). Passive. *Linguistic Inquiry*, 17, 587–622.
- Kaufmann, M. (2012). *Interpreting imperatives*. New York: Springer.
- King, J. (1991). Instantial terms, anaphora, and arbitrary objects. *Philosophical Studies*, 61, 239–265.
- Kratzer, A. (1977). What ‘must’ and ‘can’ must and can mean. *Linguistics and Philosophy*, 1, 337–55.
- Kratzer, A. (1981). The notional category of modality. In H. J. Eikmeyer, & H. Rieser (Ed.), *Words, worlds, and contexts*. Berlin and New York: de Gruyter.
- Kratzer, A. (1991). Modality. In A. von Stechow, & D. Wunderlich (Ed.), *Semantics: An*

- international handbook of contemporary research* (pp. 639–650). Berlin: de Gruyter.
- Kratzer, A. (1996). Severing the External Argument from its Verb. In J. Rooryck, & L. Zaring (Ed.), *Phrase structure and the lexicon* (pp.109–137). Springer.
- Kratzer, A. (2012). *Modals and conditionals*. Oxford University Press.
- Lebeaux, D. (2009). *Where does binding theory apply?*. Cambridge, Mass.: MIT Press.
- Levin, B., & Rappaport Hovav, M. (1995). *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge, Mass.: MIT Press.
- MacFarlane, J., & Kolodny, N. (2010). Ifs and oughts. *Journal of Philosophy*, 107, 115–43.
- Manzini, R., & Roussou, A. (2000). A minimalist theory of A-movement and control. *Lingua*, 110, 409–447.
- Marantz, A. (1984). *On the nature of grammatical relations*. MIT Press.
- Moltmann, F. (2006). Generic *one*, arbitrary PRO, and the first person. *Natural Language Semantics*, 14, 257–281.
- Moltmann, F. (2010). Generalizing detached self-reference and the semantics of generic *one*. *Mind and Language*, 25(4), 440–473.
- Moore, G. E. (1922). *Philosophical studies*. London: Kegan Paul.
- Pietroski, P. (2018). *Conjoining meanings*. Oxford: Oxford University Press.
- Postal, P. (1970). On coreferential complement subject deletion. *Linguistic Inquiry*, 1, 439–500.
- Postal, P. (1974). *On raising*. Cambridge, MA: MIT Press.
- Price, A. (2008). *Contextuality in practical reason*. Oxford: Oxford University Press.
- Quine, W.V.O. (1960). *Word and object*. Cambridge, Mass.: The MIT Press.

- Ramchand, G. C. (2008). *Verb meaning and the lexicon: A first phase syntax*. New York: Cambridge University Press.
- Ross, J. 2010. Personal and impersonal obligation. *Journal of Philosophical Logic*, 39, 307–23.
- Schroeder, M. (2007). Reasons and agent-neutrality. *Philosophical Studies*, 135, 279–306.
- Schroeder, M. (2011). *Ought*, agents, and actions. *Philosophical Review*, 120, 1–41.
- Wedgwood, R. (2006). The meaning of ‘ought’. In Russ Shafer-Landau (Ed.), *Oxford studies in metaethics*, vol. 1 (pp.127–160). Oxford: Oxford University Press.
- Wedgwood, R. (2007). *The nature of normativity*. Oxford: Oxford University Press.
- Wurmbrand, S. (1999). Modal verbs must be raising verbs. In S. Bird, A. Carnie, J. Haugen, & P. Norquest (Ed.), *The proceedings of the 18<sup>th</sup> west coast conference on formal linguistics* (pp. 599–612). Somerville, MA: Cascadilla Press.
- Yalcin, S. (2016). Modalities of normality. In M. Chrisman, & N. Charlow (Ed.), *Deontic modality* (pp. 230–255). Oxford University Press.