FOCUS AND THE SEMANTICS OF DESIRE PREDICATES AND DIRECTIVE VERBS

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By

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In this dissertation, we investigate the semantics of attitude predicates in terms of how they interact with focus. We look at two kinds of focus data: minimal pairs where the focus structure of the complement varies ('Sofia wants to WORK on Saturday' vs. 'Sofia wants to work on SATURDAY'); and minimal pairs where one utterance in a sequence of utterances varies according to whether it has focus-marking ('Sofia wants to eat the chicken. Sofia wants to eat the beef.' vs. 'Sofia wants to eat the CHICKEN. Sofia wants to eat the beef.'). The goal is to provide an ordering semantics analysis for attitude predicates that accounts for such data.

We begin by establishing definitions for two kinds of focus-sensitivity: semantic focus-sensitivity and pragmatic focus-sensitivity. We evaluate original data with a range of attitude predicates and classify them according to these definitions. We find that only desire verbs, emotive factives, and some directives are semantically focus sensitive; all other attitude predicates are only pragmatically focus sensitive. We propose that semantic focus-sensitivity is tied to a semantics of comparison, i.e. the complement of a semantically focus sensitive predicate is compared to a set of contextually relevant alternatives; no such comparison is made when the attitude predicate is not semantically focus sensitive.

We develop a comparative semantics for want by innovating upon proposals that treat it as comparative (Heim 1992, Villalta 2008, Rubinstein 2012). We modify our entry for want to
account for desire predicates *wish, glad,* and *disappointed* as comparative quantifiers. We
develop a second entry for *want* as a noncomparative quantifier, based on focus data where one
utterance in a sequence of utterances alters according to focus-marking. We show how this entry
expresses a different kind of desire than comparative *want* (cf. Davis 1984, 1986).

Turning to directives, we define them by using our entries for *want* as starting points. We
define semantically focus sensitive directives like *advise* as comparative quantifiers, and
semantically focus insensitive directives like *order* as noncomparative quantifiers. We show that
the features of our two entries for *want* work well to define each kind of directive.
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CHAPTER 1
ATTITUDE PREDICATES AND FOCUS-SENSITIVITY

1. Introduction

If John says (1a), what does he mean?

(1a) I want to work on Saturday.

It is clear that he expresses a desire about working on Saturday, but what is involved in the expression of this desire? Is John experiencing an emotion? What are his thoughts? Is his focus purely on working on Saturday? Is he considering other alternatives? How long must his desire last in order for (1a) to be true? Does (1a) entail commitment? Will John work on Saturday, now that he has expressed (1a)? Is (1a) false if John does not work on Saturday? How do John’s beliefs relate to the desire expressed by want? Does John believe that it is possible for him to work on Saturday? Does he think that it is necessary? Why does John want to work on Saturday? Does he think it will make him happy? Does he think it will be good for him? Is it to fulfill an obligation?

Now suppose John says (1b).

(1b) I am glad that I worked on Saturday.

What does he mean? Surely he experiences the emotion of gladness because he worked, but how does his gladness relate to what John wants, believes, and knows? If John utters (1b), must (1a) also have been true? Suppose that (1b) is true but (1a) was false. Does this mean that John changed his mind? Or is there no connection between the emotion of gladness and the desire expressed by want? Is there a connection between John’s gladness and his belief? There must be,
as (1b) cannot be true if John does not believe that he worked on Saturday. Or must he know that he worked on Saturday? What is the difference between believing and knowing? If John did not believe that he worked on Saturday, would (1b) be false or infelicitous? Is gladness predicated on its complement being true? Or on it not being false? What is the source of John’s gladness? Is it because he thinks it was good for him to work on Saturday? Can John experience other emotions about working on Saturday? Can he also be upset that he worked on Saturday? Can he experience these emotions simultaneously?

Now suppose that Mary tells John:

(1c) I order you to work on Saturday.

What does Mary express when she gives John this order? Are any of her emotions involved? Can Mary feel glad? Upset? Confused? Does Mary express anything about her desires in uttering (1c)? Is (1c) false if Mary does not want John to work on Saturday? Is it infelicitous? What are Mary’s beliefs? Must she believe that it is possible for John to work on Saturday? Necessary? If she knows that it is impossible for John to work on Saturday, is (1c) infelicitous? False? What are Mary’s expectations when she utters (1c)? Must she believe that John will obey her?

Want, glad and order belong to the class of attitude predicates, i.e. those predicates we use to express our cognitive states about propositions.\(^1\) Attitude predicates include attitude verbs such as think, believe, know, advise, say, mention, notice, remark, persuade, outline, assert, presuppose, remember, discover, forget, overlook, realize, promise, vow, expect, imagine, try, and emotive factives such as happy, elated, delighted, eager, disappointed, terrified, upset, indignant, anxious, disgusted, surprised, and so on. Attitude predicates are commonly thought of

---

\(^1\) Our language implies that the complements of attitude predicates are propositions. However, there is debate about the ontological status of these complements (see e.g. Moltmann 2010).
as modals, as they allow us to speak about possibilities and necessities, things beyond the here and now (cf. Hintikka 1969 for the origination of this approach). This idea is useful in that it helps narrow down a framework for defining attitude predicates, but it does not tell us much else about what individual attitude predicates mean. For instance, it does little to answer any of the questions we raised above about the meaning of want, glad, and order.

To arrive at a more specific semantics for attitude predicates, they are commonly studied with respect to a certain phenomenon. For instance, there is much literature on attitude predicates and mood. Those predicates whose complements must be in the subjunctive mood are generally assumed to have semantic similarities that are not shared by those predicates whose complements must be in the indicative mood (Farkas 1992, 2003, Quer 1998, Giannakidou 1998, 2011, Giannakidou and Yoon 2014, Portner 1997, Giorgi and Pianesi 1997, Villalta 2008, a.o.).

In this dissertation, we propose to study the meaning of attitude predicates by seeing how they interact with focus. Focus is a pragmatic feature we use to indicate semantic prominence of a given constituent. This prominence arises because focus indicates “the presence of alternatives that are relevant for the interpretation of linguistic expressions” (Krifka 2007: 6). Languages employ a variety of strategies to focus mark constituents but throughout this dissertation, we focus on the strategy of intonational prominence, which we indicate with capitalization.

We propose to study attitude predicates by looking at how they interact with focus because focus can have both pragmatic and semantic effects when in the scope of attitude

---

2 Modals also help us express related notions, such as conditionality.
3 Proposals about mood vary according to whether the mood is seen to be determined, i.e. triggered, by the embedding predicate, or is assigned to the embedded clause independently, so that the embedding predicate selects for clauses in a certain mood. Analyses of mood also vary: some treat all subjunctive selecting predicates as having semantic similarities, while the indicative selecting predicates are an elsewhere class, others posit that indicative selecting predicates share semantic similarities, and so on.
predicates. We believe that the variety of effects we see offers a compelling reason to use focus to learn more about the semantics of attitude predicates.

For instance, suppose that Mary asks John whether he wants to work on Saturday or Sunday – he can only work on one of the two days – and he says:

(2a) I want to work on SATURDAY.
(2b) I want to work on Sunday.

If John utters this sequence without any pauses, it is infelicitous. By contrast, suppose that John responds to Mary without using any focus.

(3a) I want to work on Saturday.
(3b) I want to work on Sunday.

In this case, there is no infelicity to this sequence. This demonstrates that focus in the scope of an attitude verb such as want can have an effect on the felicity of the sentence. To provide more contrast, we can see that if we change the attitude verb, the effect of focus is somewhat different. For instance, suppose that Mary tells John:

(4a) I order you to work on SATURDAY.
(4b) I order you to work on Sunday.

Unlike the want-sequences, this sequence is not totally infelicitous, but it is somehow marked. Why is this? What is different about the semantics of order that results in focus having a different effect on the pragmatics of the sequence?

Focus can also have a semantic effect when in the scope of an attitude verb such as want. For instance, suppose that John does not want to work at all over the weekend, but he needs to
work in order to finish his project. Given the options of working on Saturday or on Sunday, he opts to work on Saturday. Now consider the following:

(5a) John wants to work on SATURDAY.
(5b) John wants to WORK on Saturday.

(5a) is true but (5b) is false, and this difference in truth value is due to the different focus structures. For contrast, consider the same sort of sentences with order as matrix predicate.

Mary’s boss needs her to finish a project before Monday. Mary has already delegated a large portion of the project to John, and he is committed to work on the project over the weekend. Mary realizes how much work she has left to do after John finishes his portion of the project. Feeling stressed, she orders him to finish it on Saturday so she can work on it on Sunday.

Suppose she utters either of the following:

(6a) I order you to work on SATURDAY.
(6b) I order you to WORK on Saturday.

The pattern for these sentences seems to be the same as exhibited by want: (6a) is true and (6b) is false. However, upon closer examination, it is not clear that (6b) is false. It is true that Mary ordered John to work on Saturday rather than not work on Saturday, so perhaps (6b) is in fact literally true but infelicitous. If this is the case, what does this mean about the semantics of order as compared to want? And the semantics of focus?

This chapter is laid out as follows. In section 2, we provide a brief overview on some attested effects of focus and different kinds of focus theories. We also look at the literature on attitude predicates and focus-sensitivity, seeing that it does not clearly establish which attitude predicates are focus sensitive. We thus devote section 3 to determining which attitude predicates
are focus sensitive. We develop a definition of semantic focus-sensitivity and a definition of pragmatic focus-sensitivity. We then classify a range of attitude predicates according to these definitions. We establish a hypothesis about semantic focus-sensitivity. In section 4, we look at pragmatic effects of focus on semantically focus sensitive attitude predicates. We close in section 5, outlining the chapters of this dissertation.

2. Literature on focus effects, focus analyses, and focus sensitive attitude predicates

We begin in section 2.1 by providing an overview on some known effects of focus. In section 2.2, we outline three prominent ways that focus is analyzed. With this background, we turn to the literature on attitude predicates and focus-sensitivity, in section 2.3. In section 2.4, we develop a set of research questions to help us better understand the focus-sensitivity of attitude predicates.

2.1 Attested effects of focus

Focus is known to have several pragmatic uses and effects. When it is used exhaustively, it indicates that the focused constituent represents the complete list of alternatives that makes the sentence true. This effect implicates that if a focus-alternative were substituted for the constituent in focus, the sentence would be false.

(7) A: Who did John introduce Bill to?
    B: John introduced him to SUE. (cf. Rooth 1985: vi)

In (7), the natural interpretation of B’s response is that John introduced Bill to Sue and no one else. We can see that this exhaustivity is only a pragmatic effect, however. If B were to continue his response in (7) with (8), it would not be seen as a contradiction.
(8) B: And he also introduced him to DONNA.

The fact that the exhaustive effect of focus can be nullified classifies it as a pragmatic effect.

**Contrastive** focus is used to make contrast between the focused item and its focus alternatives.

(9) Mary drank TEA while John drank COFFEE.

In this case, focus on *tea* and *coffee* serves to contrast the two drinks with each other. Note how the focus is not exhaustive. An utterance of (9) is not false in a situation where Mary drank tea and orange juice.⁴

Exhaustive and contrastive focus represent just a couple of the known pragmatic effects of focus. For instance, Krifka (2007) identifies five other ways that focus can be used pragmatically.⁵ Some of these are distinct from exhaustive and contrastive focus, while some may qualify additionally as exhaustive or contrastive focus:

i) Focus has metalinguistic effects of correcting or confirming information

(10) A: John worked on Saturday.

    B: Yes, JOHN worked on Saturday.

    B’: No, MARY worked on Saturday.

---

⁴ The sequence of (7) followed by (8) also provides an example of contrastive focus.

(7) A: Who did John introduce Bill to?

    B: He introduced him to SUE.

(8) B: And he also introduced him to DONNA.

In this case, *Sue* and *Donna* are contrastively focused.

⁵ This list slightly diverges from Krifka’s presentation. Although he acknowledges that focus can be used to correct pronunciation, as in (ii), he treats it as different from the other listed uses of focus since they do not target pronunciation.
The focus in the response in B is used to confirm that John worked on Saturday, while the focus in B' is used to correct that it was Mary and not John who worked on Saturday. The use of focus in B' is also contrastive.

ii) Focus has a metalinguistic effect of correcting pronunciation

   B: John didn’t have a [sɛɹə bɹl] hemmmorhage – he had a [səɹibɬ] hemorrhage!

(Here we give the focus in bold, as we cannot capitalize IPA notation.) This focus can also be considered contrastive, as it contrasts two pronunciations of the same word.

iii) Focus has an informational effect, highlighting the part of the answer that corresponds to the wh-constituent of a question

(12) A: What did Mary order John to do?
    B: She ordered him to WORK ON SATURDAY.

Note that it would be odd if the focus-marking in B were on him, as this does not provide the information that the question is seeking.

iv) Focus has the effect of highlighting parallels in interpretation

(13) JOHN worked on SATURDAY and MARY worked on SUNDAY.

Krifka explains that expressions are parallel so long as they both evoke the same set of alternatives. In this example, both conjuncts evoke the same set of alternatives, namely that there was some entity y who worked on some day x: \{work-on(x_1, x_2) | y_1, y_2 ∈ ENTITY\}. Such use of
focus also qualifies as contrastive. In this example, *John* is contrasted with *Mary* and *Saturday* with *Sunday*.

v) Focus has the effect of making the addressee aware that the utterance is delimited

(14) As for JOHN, he was seen in the KITCHEN. \hspace{1cm} (Krifka 2007: 14)

Krifka’s elaboration on what it means for an utterance to be delimited appeals to the notion of the common ground, that is, that body of information that conversational participants take for granted in the conversation (cf. Stalnaker 1974, 1978). For focus to indicate delimitation is for it to indicate that the utterance satisfies only some of the conversational needs of the common ground. (14) indicates that information about where someone like Mary was seen remains to be given.

In addition to these pragmatic effects, focus is known to have semantic effects when in the scope of words like *only, even, also,* and *too.* For instance, consider this example from Rooth (1985: vi).

(15) John introduced Bill and Tom to Sue but made no other introductions.
(15a) John only introduced Bill to SUE.
(15b) John only introduced BILL to Sue.

It is clear that (15a) is true but (15b) is false. This semantic effect is attributed to the fact that *only* has a semantics which is informed by focus, so that depending on which constituent is focused, the truth conditions – and truth values – of the sentence alter. Since words like *only, even, also* and *too* have a semantics that interacts with focus in this way, they are variously termed “focus sensitive” and “focus particles” (e.g. Zimmermann 2007, Zimmermann & Onea 2011). As we demonstrated in (5), focus can also have similar semantic effects in the scope of
attitude verbs such as *want*. We look at the literature on attitude predicates and focus-sensitivity in section 2.3 so we refrain from saying more about these effects here.

### 2.2 Three kinds of focus analyses

Having outlined the kinds of effects focus can have, we turn now to analyses of focus: a structured meaning approach, Alternative Semantics, and an event-based approach. One commonality to these approaches is that their aim is generally to explain how focus works and to provide semantics for words like *only*, which as we demonstrated, have a semantics that interacts with focus in such a way that it can affect truth conditions and truth values. The literature is generally not as concerned to show how these approaches account for pragmatic effects of focus.

Among the authors who use a structured meaning approach to analyzing focus, we focus here on Krifka (1992). The basic premise of a structured meaning approach is that focus is analyzed as partitioning the clause containing the focus into a focus part and a background part. Focus sensitive operators like *only* are not taken to be part of either the background or the focus, rather they are assigned a semantics that manipulate these two parts. There are two main semantic calculations. One is a normal semantic calculation of the focused part. The other is a calculation of the whole clause, where the focused part is lambda-abstracted. In this way, the clause is represented as a property. To see how this works, take this example with *only*:

(16) John only introduced Bill to SUE.         (Rooth 1985: vi, repeated in Krifka 1992: 18)

In this sentence, the focus is ‘Sue’, and the background is ‘λx.John introduced Bill to x’ (as *Sue* is λ-abstracted). Krifka assigns *only* a semantics which manipulates a focus and a background:

---

6 Authors such as Beaver and Clark (2008) use the term “part” to talk about focused or backgrounded material in a structured meaning approach. We use this same word as what is focused or backgrounded may not always represent whole or continuous phrases.
(17) *only* in a structured meaning approach

\[ [\text{only}]((\alpha, \beta)) : \leftrightarrow \alpha(\beta) \& \forall X[X \approx \beta \& \alpha(X) \rightarrow X = \beta], \] where X is a variable of the type of \( \beta \)

Krifka uses the \( \approx \) symbol to represent comparability, which he uses “to capture contextual and ontological restrictions” (Krifka 1992: 19). For example, it may be the case that John introduced Bill to many other people, but at the event in discussion, John introduced Bill to exactly one person, Sue. In other words, comparability ends up refining the set of alternatives to those that are contextually salient. Thus applying Krifka’s semantics for *only* to (16), it means that there is no contextually salient entity that John introduced Bill to aside from Sue.

The main premise of Alternative Semantics (cf. Rooth 1985, 1992, a.o.) is that focus introduces a second semantic value. Thus there are two kinds of semantic calculations that are performed. The first is the ordinary semantic value, \([\alpha]^0\), which is calculated in the normal way. The second is the focus semantic value, \([\alpha]^f\), which is a set of semantic values for \( \alpha \). Roughly, this set is taken by replacing the focused constituent with comparable alternatives. This set may represent more alternatives than are contextually relevant, e.g. if a transitive verb of a sentence is focused, a set of sentences with each transitive verb provides more alternatives than are contextually relevant. Thus there is a context set C. This set C is constrained by focus in that it is a subset of the focus semantic value, so that it represents the set of contextually relevant alternatives. The semantics of each of these contextually relevant alternatives is calculated. Focus sensitive operators are given semantics that manipulate the ordinary semantic values and the focus semantic values to provide truth values. To see how this works, consider the following sentence.

(18) Mary *only* READ the Recognitions.  

(Rooth 1992: 78)
The ordinary semantic value of the VP, \([\lambda x.\text{read}(x, \text{the recognitions})]\), is \([\lambda x.\text{read}(x, \text{the recognitions})]\). The focus semantic value of the VP, \([\lambda x.\text{read}(x, \text{the recognitions})]\), is \{\text{read the Recognitions, understood the Recognitions, lived in the same millennium as the author of the Recognitions, born on the same planet as the author of the Recognitions, etc.}\}. C is then taken to be the contextually relevant subset of this set, so that \(C = \{\text{read the Recognitions, understood the Recognitions}\}\). Rooth assigns only a semantics that manipulates the ordinary semantic value and C. (Note that Rooth defines only for its auxiliary position, so that it quantifies properties).

(19) only in an Alternative Semantics approach

\([\text{only}] = \lambda x.\lambda y.\forall P[P \in C \land P(y) \rightarrow P = x]\)

Applying this meaning of only to (18), it means that Mary read the Recognitions and she did not understand them.

We turn now to an event-based approach of focus, specifically that of Herburger (2000). In this approach, sentences are treated as descriptions of events (cf. Davidson 1967), so that sentences are assumed to tacitly express existential quantification over events. When present, focus has the effect of imposing structure on the quantification of these events. Specifically, all the nonfocused material in the scope of the event quantifier serves as its restrictor. In this way, the nonfocused material indicates what the sentence is about. The focused material, along with the nonfocused material, is taken to constitute the scope. Thus the focused material contributes only to the assertion of the sentence (and not its about-ness). To see what we mean by this, consider the difference between (20) and (21).

(20) ROSALIA wrote a poem.

\([\exists e: C(e) \land \text{write}(e) \land \text{Past}(e) \land [a x: \text{poem}(x)] \text{Theme}(e, x)] \text{Agent}(e, \text{rosalía}) \land \text{Write}(e) \land \text{Past}(e) \land [a x: \text{Poem}(x)] \text{Theme}(e, x)]\)
(21) Rosalía wrote A POEM.

\[\exists e: C(e) \& \text{Agent}(e, \text{rosalía}) \& \text{write}(e) \& \text{Past}(e)] \ [a x: \text{poem}(x)] \ \text{Theme}(e, x) \& \text{Agent}(e, \text{rosalía}) \& \text{Write}(e) \& \text{Past}(e) \]

(Herburger 2000: 18)

‘C’ stands for a context predicate, and its value is fixed by the context of utterance. Herburger assumes that this predicate restricts all quantifiers. In the case of the event operator, C indicates that we are only looking at those events that are relevant in the context in which the sentence is used.

Now let us look at the difference between (20) and (21). With focus on the subject Rosalía, the focus structure indicates that (20) is about a past-poem-writing-event, and it is asserted that Rosalía was the agent of this past-poem-writing-event. With focus on the object in (21), the sentence is indicated to be about a past event of Rosalía writing, and it is asserted that it was a poem that Rosalía wrote. In this way, we see that focus has the effect of providing information of what the sentence is about, as well as determining the assertion of the sentence.

Herburger defines focus sensitive words like only and even as having a semantics that is informed by the focal mapping of the sentence. For example, Herburger states that only’s restrictor and scope is determined via focus, in that the nonfocused material determines its restrictor and the focused material its scope. Specifically, she gives it the following semantics:

(22) only in an event-based semantics

\[\text{only e: F(e)}][\text{G(e)} \iff F \neq \{\} \& \forall f((f \in F) \rightarrow \exists e (\text{Part}(f, \text{of } e) \& e \in G))\]

(Herburger 2000: 107)

Herburger treats only as taking scope over the existential event quantifier that is introduced by a sentence. So for a sentence like “John only introduced Bill to SUE”, it means that the sentence is about John making an introduction between Bill and someone else, and only Sue can be asserted to be the person John introduced Bill to.
One commonality we see to these focus analyses is that their primary goal is generally to define semantics for semantically focus sensitive words like *only*. Another commonality to these different approaches is that whichever framework is used has no impact on identifying the kinds of effects focus can have or identifying which kinds of words or expressions are focus sensitive. Rather, words like *only* are identified as focus sensitive because of the observation that focus structure can impact truth conditions and truth value when in the scope of words like *only*.

### 2.3 Literature on attitude predicates and focus-sensitivity

The literature identifies a variety of attitude predicates as focus sensitive. When the literature uses examples to demonstrate this focus-sensitivity, they are generally of the same format: minimal pairs where the propositional content of the complement of an attitude predicate is the same, but the constituent that is focused alters. The literature uses such data to classify different attitude predicates as focus sensitive. However, the literature disagrees about which attitude predicates are focus sensitive, and also offers different analyses of such focus-sensitivity.

One of the earliest identifications of a focus sensitive attitude predicate comes from Dretske (1972), who shows that the truth value of *advise*-clauses alters depending on which constituent in its complement is focused.

(23) **Scenario: Stolen car**  
(adapted from Dretske 1972: 415-6)

Schultz offers Clyde $30,000 to buy a car he doesn’t drive anymore. Clyde asks Alex whether he should sell it for this price. Alex tells him to sell the car for $30,000, since it is unlikely it will appreciate in value anymore. Following Alex’s advice, Clyde agrees to sell the car to Schultz for $30,000. However, when Clyde tries to cash the check from Schultz, it bounces. He can’t get the money from Schultz because he ran away with the car. Clyde is angry with Alex for telling him to sell the car.
Alex defends himself by arguing that only (23a) is true and (23b) is false.

(23a) Alex advised Clyde TO SELL HIS CAR to Schultz FOR $30,000.
(23b) Alex advised Clyde to sell his car TO SCHULTZ for $30,000.

Alex’s defense is solid. (23a) is true because Alex’s advice was about how much money Clyde should sell his car for. (23b) is false because Alex gave Clyde no advice about who to sell the car to per se. In this way, we see that focus in the scope of advise has an effect on truth values (similar to the effect we demonstrated for want in (5), and we showed for only in (15)). Dretske (1972) explains this focus-sensitivity by saying that focus determines the scope of the advice, so that the backgrounded constituents are not part of the advice. It is worth noting that Dretske’s explanation is rather cursory: he does not investigate here what the semantics of advise would be to make it focus sensitive, nor does he offer any ideas for how focus determines the scope of the advice.

Such focus-sensitivity is not considered to be unique to advise. Later work identifies numerous attitude predicates as focus sensitive. For instance, Dretske (1975) identifies find out that, odd that, hope, be happy, be sorry, see that, discover and learn as focus sensitive. Soon after, Dretske (1977) also identifies cause, know, remember, perceive, be angry, and tell as focus sensitive, reiterating that advise and be sorry are focus sensitive (To be clear, cause is not an attitude predicate, but it is has a focus sensitivity similar to attitude predicates.) Work by linguists identifies whole classes of attitude predicates as focus sensitive. For instance, Partee (1991),7 von Fintel (1999), and Beaver and Clark (2008) identify all emotive factives as focus sensitive. Partee (1991) goes so far as to identify all attitude verbs as focus sensitive, although she notes that the effect of focus is stronger for some verbs, e.g. just found out and realize, than it

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7 Partee notes that Kratzer also made this observation. She cites several references that I am unable to locate: notes from a class Kratzer gave at UMass in Spring 1991, notes from a class she gave at Santa Cruz in Summer 1991, and her talk “Pseudo-scope”, given at an ASL/LSA Conference on Logic and Linguistics at Santa Cruz in 1991.
is for others, e.g. *know* and *believe* (Partee 1991: 174). Somewhat in conflict with this literature, Villalta (2008) identifies certain attitude predicates as focus sensitive while classifying others as **not** being focus sensitive. Specifically, Villalta states that only those predicates whose Spanish equivalents select for subjunctive-marked complements are focus sensitive, while all predicates whose Spanish equivalents select for indicative-marked complements are not focus sensitive. This conflicts with Partee’s (1991) identification of all attitude verbs as focus sensitive, as well as Dretske’s (1975, 1977) identification of *see that, learn, know, remember, perceive, and tell* as focus sensitive, as these verbs select for indicative complements in Spanish.

Why does the literature disagree about which attitude predicates are focus sensitive? Is it because it uses different theories of focus? This is not the deciding factor, as we noted that identification of words and expressions as focus sensitive is based on theory-independent observation. Is the disagreement because the literature uses different kinds of data to establish focus-sensitivity? This also does not seem to be the source of the problem. Although not all literature provides examples to illustrate what it means by focus-sensitivity (e.g. von Fintel 1999), the examples that the literature provides are generally in the format of (23), where focus structure emphasizes different constituents within an otherwise identical complement to an attitude predicate, e.g. Dretske (1972, 1977), Partee (1991), Beaver and Clark (2008) and Villalta (2008).

Rather, we attribute the disagreement to two reasons. The first is that there is no clear and consistent description or definition of “focus-sensitivity”. It is not clear if attitude predicates are identified as focus sensitive because focus in their scope has a pragmatic effect, a semantic effect, or a dual pragmatic/semantic effect. The second reason is that identification of attitude predicates as focus sensitive is sometimes based on analysis of what makes an attitude predicate
focus sensitive rather than on data. And because analyses differ, different attitude predicates are classified as focus sensitive.

We can see that there is no clear or consistent description or definition of semantic focus-sensitivity. As noted, Dretske (1972) proposes that for advise to be focus sensitive is for focus to determine the scope of advise, so that backgrounded material is not advice. In later work, Dretske (1977) explains focus-sensitivity to mean that the truth value of the sentence is a function of the focus structure.\(^8\) (Where *function* is not used in a technical, mathematical sense). Neither Partee (1991) nor von Fintel (1999) provide a description or definition of what they mean by focus-sensitivity. Beaver and Clark’s (2008) description of the focus-sensitivity of emotive factives is the same as their analysis, which we discuss shortly. Villalta (2008) defines “focus-sensitivity” to mean that focus has a “truth-conditional effect”, similar to the effects of focus in the scope of *only* (citing Rooth 1985, 1992).

Similarly, we can see that authors provide different analyses of focus-sensitivity. For instance, Dretske (1977) suggests that the focus-sensitivity of attitude predicates revolves around *cause* (which, as we noted, is not an attitude predicate). He treats it as a semantic primitive, stating that all focus sensitive attitude predicates are “causal locutions”.\(^9\) Partee (1991) suggests that the focus-sensitivity of attitude predicates may be related to the fact that they are quantifiers over possible worlds. Although she does not provide much detail, she suggests that focus structure determines the restrictor and scope of the attitude predicate. (Note the similarity to Herburger’s analysis of focus.) It seems that Partee is motivated by the idea that quantification over worlds makes a predicate focus sensitive, rather than examination of data, to classify all

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\(^8\) Dretske’s work does not employ terminology such as “focus structure”.

\(^9\) Perhaps Dretske based his proposal on *cause* as there was a strand of philosophical literature before and after him that took interest specifically in the focus-sensitivity of *cause*, e.g. Achinstein (1975), Levin (1976), Woodward (1984), Stern (1993), and Hitchcock (1996).
attitude predicates as focus sensitive. She only exemplifies that *odd that* and *find out that* are focus sensitive (using examples from Dretske 1975). She gives no other examples of other attitude predicates to support the claim that they are all focus sensitive. ¹⁰

Beaver and Clark (2008) explain their analysis of the focus-sensitivity of emotive factives by giving an example with *be glad* (they identify the copula as part of the predicate):

(24a) The students were glad that BRADY taught semantics.
(24b) The students were glad that Brady taught SEMANTICS. (Beaver and Clark 2008: 67)

They gloss (24a) to mean that the students were glad that Brady rather than some other person taught semantics, and (24b) to mean that the students were glad that Brady taught semantics rather than some other subject. However, their explanation of why these glosses differ is not clearly tied to focus. They suggest that emotive factives are “intrinsically interpreted relative to a set of counterfactual alternatives” (Beaver and Clark 2008: 67), citing Heim (1992) and von Fintel (1999). Although they analyze focus according to Rooth’s (1992, 1996) Alternative Semantics, so that focus introduces a set of focus alternatives, they do not explain how the semantics of *be glad* takes the focus alternatives to create the set of counterfactual alternatives it compares to the complement. Instead, they say that *be glad* is focus sensitive because there is a requirement that in order for the *be glad*-clause to be relevant to the discourse, one of the focus alternatives that composes its modal base must be true in the real world. ¹¹ In other words, they relate *be glad*’s focus-sensitivity to its factivity. They propose the same analysis for all emotive factives. Unlike the other literature, this analysis does not make a connection between the

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¹⁰ Partee acknowledges that her proposal might not be fully satisfactory for explaining the focus-sensitivity of attitude predicates, as she notes that attitude predicates like *just found out* and *realize* show stronger effects than *know* and *believe* (Partee identifies the predicate as *just found out* rather than something less specific like *find out (that)*.)

¹¹ They use the notion of relevance in a discourse because their model for focus-sensitivity is built upon Roberts’ (1996, 2004) model of discourse, where discourse is treated as a series of questions and answers.
semantics of emotive factives like *be glad* and focus to explain why (24a) and (24b) can differ in truth value.

Villalta’s (2008) analysis of the focus-sensitivity of attitude predicates is more developed. As noted, she is specific in defining “focus-sensitivity” to mean that focus has a “truth-conditional effect” (Villalta 2008: 496), e.g. as attested with *only*. Using examples similar to (23) and (24), Villalta illustrates that this truth conditional effect is present for attitude predicates *want, be glad, demand*, as well as for non-attitude predicates like *cause* and *be necessary*, but absent for attitude predicates like *know* and *said*. As her examples are based on the same scenario, we focus here on the behavior of *want* in contrast to *know*.

(25) **Scenario: Teaching**  
(paraphrase of Villalta 2008: 496)

The linguistics professors are discussing the teaching schedules for the upcoming semester. Lisa does not want John to teach syntax; she wants Lara to teach syntax. Yet given the teaching schedules, it is necessary for John to teach syntax. Lisa’s preferences are for him to teach on Tuesdays and Thursdays, rather than on Mondays, Wednesdays and Fridays.

(25a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.  
(25b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.  

((25a) and (25b) verbatim from Villalta 2008: 496)

As we have evaluated similar examples with *advise* and *glad that* in (23) and (24), the intuition should be clear that (25a) is true but (25b) is false. In contrast, Villalta points out that a similar pair of sentences with *know* as matrix clause cannot differ in truth value in the same context.

(26a) Lisa knows that John teaches syntax on TUESDAYS AND THURSDAYS.  
(26b) Lisa knows that John teaches SYNTAX on Tuesdays and Thursdays.  

(Villalta 2008: 497)
Villalta points out that if (26a) is true, (26b) must also be true, and vice versa. Unlike the sentences with *want*, it is not possible for one of these *know*-sentences to be true while the other is false.

Villalta analyzes focus-sensitivity by making a three-way connection between focus-sensitivity, mood selection, and a semantics of comparison. Villalta proposes that all those predicates which select for subjunctive mood in Spanish, e.g. *want*, have a semantics of comparison, i.e. that they make comparison between their complement and some alternatives to the complement. This causes them to be focus sensitive because focus determines the set of alternatives that the complement is compared to. She proposes that those predicates which select for complements in the indicative mood in Spanish, e.g. *know*, do not have a semantics of comparison and are thus not focus sensitive, since the attitude predicate makes no reference to a comparison set. However, like Partee, it seems that Villalta uses her proposed theory, rather than data, to identify attitude predicates as focus sensitive. For instance, although she provides examples to that show that attitude predicates *want*, *be glad*, and *demand*, and non-attitude predicates *cause* and *be necessary* are focus sensitive, and examples to show that *know*, *say*, *believe* are not focus sensitive (citing Boër 1979 and Dretske 1972), she classifies more than seventy predicates as focus sensitive or not. As she does not provide data to demonstrate the focus-sensitivity for all these predicates, her classification seem more to based on theory.

2.4 **Response to the literature: Research questions**

Looking at the literature, it is clear that focus has an effect on truth values when in the scope of predicates like *advise*, *be glad*, and *want* that is absent for a predicate like *know*. However, the literature does not agree on a definition that can be used to classify *advise*, *be glad*,
and *want* as focus sensitive but *know* as not focus sensitive. Likewise, there is no consensus about how to analyze focus-sensitivity. We see that analyses range from making a connection to causality (Dretske 1977), explaining focus-sensitivity via quantification over possible worlds (Partee 1991), factivity (Beaver and Clark 2008), or making a connection to a semantics of comparison (Villalta 2008).

To this end, we formulate the following research questions.

**Research questions about focus sensitive attitude predicates:**

- What is a definition of focus-sensitivity that will classify attitude predicates like *advise, glad, and want* as focus sensitive, but attitude predicates like *know* as not focus sensitive?
- What is the range of attitude predicates that are focus sensitive? And those that are not focus sensitive?
- What is an appropriate analysis of focus-sensitivity? Do all focus sensitive attitude predicates share semantic similarities? Are there semantic similarities among attitude predicates which lack this focus-sensitivity?

We begin responding to these questions in section 3.

### 3. Determining which attitude predicates are focus sensitive

In this section, we respond to the research questions we just developed. We begin in section 3.1 by developing some definitions of focus-sensitivity for attitude predicates. In section 3.2, we use these definitions to classify a range of attitude predicates according to focus-sensitivity. In 3.3, we develop a hypothesis about semantic focus-sensitivity.
3.1 Definitions of focus-sensitivity for attitude predicates

We begin by responding to the first of our research questions:

- What is a definition of focus-sensitivity that will classify attitude predicates like advise, glad, and want as focus sensitive, but attitude predicates like know as not focus sensitive?

In looking at the literature, we found that only Villalta provided a description of focus-sensitivity that is not based on theory, and can be used for all attitude predicates. To reiterate, her description is that focus has an effect on truth conditions. While this description is appealing because it can be applied to all attitude predicates, it is somewhat lacking because it does not specify what the effect on truth conditions is. Thus we propose to flesh out this description by making use of Dretske’s (1972) intuition about the focus-sensitivity of advise. To recall, Dretske says that advise is focus sensitive because only the focused material need be advised, and the backgrounded material need not be advised. We integrate this insight with Villalta’s description to propose the following as a first pass definition for the focus-sensitivity of attitude predicates:

(27) Focus-sensitivity for attitude predicates  (first version)

An attitude predicate P is focus sensitive iff the P-clause can be true when its complement C has focused and backgrounded material, C(F,B), and only F is P’ed; B is not P’ed.

This definition expands on Villalta’s description in that the truth conditional effect is taken to correspond to whether the predicate applies to the focused material, even if the backgrounded material is not P’ed. The corollary of this definition is that if the p-clause can only be true when p is predicated of all material, focused and backgrounded, then the predicate is not focus sensitive. Let us see how well this definition works by looking again at the data with want (first given in (25), copied here).
(28a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.
(28b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.  
     (Villalta 2008: 496)

We assume the same background from Villalta in (25): Lisa prefers Lara over John and for syntax to be taught on Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays. In this case, (28a) is true and (28b) is false. However, if we consider our definition in (27), it is odd to say that (28a) is true because Lisa only wants Tuesdays and Thursdays and she does not want John to teach syntax. What does it mean that Lisa only wants Tuesdays and Thursdays? Specifically, she wants these to be the days, rather than Mondays, Wednesdays, and Fridays, that John teaches syntax. Or take (28b). According to our definition in (27), it is false because Lisa does not want John. She does not want John to do what? The answer is given by the nonfocused material of the complement: Lisa does not want John to be the one who teaches syntax on Tuesdays and Thursdays. In this way, we see that our definition in (27) is inaccurate. All of the material in the complement, focused and unfocused, must be wanted. What is relevant for the truth value seems to be whether the complement is preferred with respect to the focus alternative(s).

To further see that our definition in (27) is not quite right, consider again advise. Suppose that John is asking Lisa for advice. Although she thinks it would be better for him to teach semantics rather than syntax, he is insistent on wanting to teach syntax. She thus gives him advice to teach Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays.

(29a) Lisa advises John to teach syntax on TUESDAYS AND THURSDAYS.
(29b) Lisa advises John to teach SYNTAX on Tuesdays and Thursdays.

(29a) is true and (29b) is false. However, (29a) is not true because Lisa advised John Tuesdays and Thursdays. Such a sentence is meaningless. What was Lisa’s advice about these days? As
with \textit{want}, the answer lies in the backgrounded material: Lisa’s advice about these days is for these to be the days that John teaches syntax. Likewise for (29b). It is not false because Lisa did not advise John syntax. This sentence is not even grammatical. (29b) is false because the nature of her advice was about the days that he teaches syntax on. In this way, \textit{advise} seems to behave like \textit{want}: its focus-sensitivity is due to the fact that the alternatives that focus highlights plays a role in determining whether it is true that the complement is P’ed.

Clearly we need to rework our definition of focus-sensitivity. Based on the behavior of \textit{want} and \textit{advise}, we might want to say that an attitude predicate is focus sensitive because it makes comparison between it complement and some alternatives to the complement. This is the source of their focus-sensitivity: focus picks out the alternatives to be compared to the complement. The problem with this sort of approach is that it imports analysis into definition. The view that certain attitude predicates have a semantics of comparison is analysis, and not merely description. We want a definition of focus-sensitivity that is theory-neutral. We instead propose the following definition for focus-sensitivity:

\begin{equation}
(30) \text{Focus-sensitivity for attitude predicates} \quad \text{(second version)}
\end{equation}

An attitude predicate P is focus sensitive iff the truth value of the P-clause can alter according to which constituent in its complement is focused.

This definition expands on Villalta’s description of focus-sensitivity by defining the “truth-conditional effect” of focus to mean that focus structure can alter the truth values of the P-clauses. It also echoes Villalta’s description for why \textit{want} is focus sensitive and \textit{know} is not.

We evaluate this definition by verifying that it classifies attitude predicates like \textit{advise}, \textit{want}, and \textit{glad} as focus sensitive but \textit{know} as not focus sensitive. We repeat the sentences from (23)-(26) above, renumbering them here.
(31a) Alex advised Clyde TO SELL HIS CAR to Schultz FOR $30,000.
(31b) Alex advised Clyde to sell his car TO SCHULTZ for $30,000.

The context of these sentences is that Alex told Clyde to sell his car for $30,000 without telling him who to sell his car to. For this reason, (31a) is true but (31b) is false.

In this way, we see that advise is focus sensitive: the truth value alters according to which constituent is focused.

(31c) The students were glad that BRADY taught semantics.
(31d) The students were glad that Brady taught SEMANTICS.

Let us suppose that the students wanted to be taught semantics rather than syntax, and preferred Carver rather than Brady to teach. In this case, (31c) is false but (31d) is true. Thus glad is focus sensitive according to our definition in (30): truth value alters according to focus structure.

(31e) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.
(31f) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.

To repeat, the context of this scenario is that Lisa prefers Lara over John and Tuesdays and Thursdays over Mondays, Wednesdays and Fridays. Thus (31e) is true but (31f) is false. This exemplifies that want is focus sensitive according to our definition in (30).

(31g) Lisa knows that John teaches syntax on TUESDAYS AND THURSDAYS.
(31h) Lisa knows that John teaches SYNTAX on Tuesdays and Thursdays.  (Villalta 2008: 497)

If we suppose that Lisa knows that John teaches syntax, but she does not know what days he teaches on, neither sentence can be true. Regardless of where focus falls, the truth value of both sentences is the same: false. So our definition in (30) works to classify know as not focus sensitive.
Thus we have a theory-neutral definition of focus-sensitivity for attitude predicates that meets the desired goal of establishing *advise, glad,* and *want* as focus sensitive but *know* as not. However, before we use this definition to classify other attitude predicates, we need to make an important clarification about this definition: it is not all-encompassing. It is designed to identify attitude predicates which have a focus-sensitivity because truth conditions – and accordingly truth values – alter. This does not account for every kind of focus-sensitivity an attitude predicate may have. For instance, consider this example with *prohibit.*

(32) Sofía did not prohibit Victoria from teaching a class, but she did prohibit her from teaching syntax.

(32a) Sofía **prohibited** Victoria from TEACHING syntax.

(32b) Sofía **prohibited** Victoria from teaching SYNTAX.

At first glance, (32a) seems false and (32b) seems true. But if we consider (32a) more closely, we realize that this judgment is inaccurate. (32a) is not false: Sofía’s prohibition was in fact about Victoria teaching. Of course, the prohibition was not about teaching *per se*; it is not as though Sofía prohibited Victoria from teaching anything at all; she only prohibited her from teaching syntax. But this does not falsify (32a). To see this, consider the focus alternatives for (32a). They are {Victoria from teaching syntax, Victoria from not teaching syntax}. And it is true that Sofía prohibited ‘Victoria from teaching syntax’ rather than ‘Victoria from not teaching syntax’. For comparison, consider (32b). The focus alternatives are {Victoria from teaching syntax, Victoria from teaching semantics, Victoria from teaching phonetics, etc.}. Again, (32b) is true because it was the complement that was prohibited, rather than any of its focus alternatives. The point is that (32a) is literally true, just like (32b). The complement of (32a) was prohibited, just like the complement of (32b). However, (32a) and (32b) differ in terms of
felicity. With focus on *teaching* in (32a), we interpret the sentence as misrepresenting the nature of what Sofia’s prohibited, or drawing inspiration from Herburger (2000), it misrepresents its about-ness. Or, to put it a third way, the set of focus alternatives for (32a) differ from those alternatives that are contextually relevant.

To see that this (32a) and (32b) truly differ in felicity values and not truth values, consider again *want*. We use the same sentences given in (31e-f) but rewrite the description of the scenario so that it only contains the necessary information.

(33) John is required to teach syntax. Although Lisa prefers someone other than John to teach syntax, she wants him to teach it on Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays.

(33a) Lisa **wants** JOHN to teach syntax on Tuesdays and Thursdays.

(33b) Lisa **wants** John to teach syntax on TUESDAYS AND THURSDAYS.

Our judgment is that (33a) is false and (33b) true. Let us verify that the difference between these sentences is a matter of truth value and not felicity conditions. For (33a), the focus alternatives are {John teaches syntax on T/R, Lara teaches syntax on T/R, etc.}. For (33b), the focus alternatives are {John teaches syntax on T/R, John teaches syntax on M/W/F}. The fact that these focus alternatives are different is important. For (33a), Lisa does not want the complement over its focus alternatives. But for (33b), Lisa does want the complement over its focus alternatives. So (33a) is literally false and (33b) is literally true.

In this way, we see that *prohibit* has a focus-sensitivity that is indeed distinct from that exhibited by *want*. For *prohibit*, focus structure alters felicity, for *want*, it alters truth value. As we look at a range of attitude predicates, we will see others that exhibit the same pragmatic focus-sensitivity as *prohibit*. For this reason, we want to distinguish our first definition in (30) as a semantic focus-sensitivity, with “semantic” indicating that focus structure affects truth
conditions and truth values. Alongside this, we want to define a pragmatic focus-sensitivity, with “pragmatic” indicating that focus structure affects felicity conditions and felicity values. We repeat our first definition here, renaming it, and follow it with our second, new definition.

(34) Semantic focus-sensitivity for attitude predicates
An attitude predicate P is semantically focus sensitive iff the truth value of the P-clause can alter according to which constituent in its complement is focused.

(35) Pragmatic focus-sensitivity for attitude predicates
An attitude predicate P is pragmatically focus sensitive iff the felicity value of the P-clause can alter according to which constituent in its complement is focused.

We now have two definitions to pick out two different ways that attitude predicates can be focus sensitive. With this, we have answered our first research question and can move on to answering the next.

3.2 Classification of attitude predicates in terms of focus-sensitivity

In this section, we respond to our second research question:

- What is the range of attitude predicates that are focus sensitive? And those that are not focus sensitive?

To answer this question, we look at a range of attitude predicates with examples similar to those found in the literature: minimal pairs where the constituent in the complement that is focused alters. We define attitude predicates as focus sensitive according to both the definitions we developed in the last section. If the two sentences differ in truth value, we classify the predicate as semantically focus sensitive. If the two sentences differ in felicity value, we classify the
predicate as pragmatically focus sensitive. One note about this process: for those predicates we identify as semantically focus sensitive, we do not then assess if they are also pragmatically focus sensitive. This is because we do not want the judgments of felicity value to be tainted by the judgments of truth value. As a result, some predicates receive an evaluation of only their semantic focus-sensitivity, and others an evaluation of both their semantic and pragmatic focus-sensitivity. (In section 4, we use a different kind of data to evaluate whether the semantically focus sensitive attitude predicates are also pragmatically focus sensitive.)

We make one other clarification before we proceed. Certain complementizers can affect the perceived focus-sensitivity of the attitude predicate. For instance, we showed with our examples in (31g-h) that know is not focus sensitive. However, if we change the example so that the complement to know is headed by why, know appears to exhibit focus-sensitivity.

(36) Sofía knows why Victoria worked, but she does not know why she chose to work on Saturday.
(36a) Sofía knows why Victoria WORKED on Saturday.
(36b) Sofía knows why Victoria worked on SATURDAY.

We judge (36a) as true but (36b) as false. Based on this, we might assume that know is in fact semantically focus sensitive. However, we attribute the differences in truth value to why, as it is known to be focus sensitive (e.g. Dretske 1972, 1975 and Hajičová 1984, Bromberger 1987, Partee 1991).

Thus we propose to pair attitude predicates with that, since that is not known to be focus sensitive. This means that it does not affect our perception of the focus-sensitivity of the predicate. Of course, not all predicates can be complemented by that, e.g. want, so for such predicates, we use no complementizer.
Having made this clarification, we now proceed by applying our definitions in (34) and (35) to a range of attitude predicates. As we do not have space to look at every attitude predicate, we select various predicates from different natural classes. Our distinction between natural classes is based mostly on Villalta’s (2008) distinction.

We already demonstrated in (31e) and (31f) that want is semantically focus sensitive, so we do not use this same data to test whether it is pragmatically focus sensitive. We thus turn to another attitude verb of desire: wish that.

(37) Victoria is planning on working over the weekend on Sunday. Although Sofía wishes that Victoria wouldn’t work at all, she wishes she would work on Saturday rather than on Sunday.

(37a) Sofia wishes that Victoria would WORK on Saturday. (False)
(37b) Sofía wishes that Victoria would work on SATURDAY. (True)

(37a) is false; Sofía does not wish for the complement rather than its focus alternatives. But (37b) is true: Sofía does wish for the complement as compared to its focus alternatives. Thus wish that is semantically focus sensitive.

We saw that the literature commonly identifies emotive factives as focus sensitive. We demonstrated that glad that is semantically focus sensitive in (31c-d) (so we do not use this data to test whether it is also pragmatically focus sensitive). The same is true for other emotive factives, e.g. disappointed that and sorry that: they are semantically focus sensitive.

(38) Sofía is glad that Victoria worked over the weekend – she needed to get her project done – but she is disappointed that she worked on Saturday; she would’ve preferred for her to work on Sunday.

(38a) Sofia is disappointed that Victoria WORKED on Saturday. (False)
(38b) Sofía is disappointed that Victoria worked on SATURDAY. (True)
(38a) is false; Sofía does not prefer the complement to its focus alternative(s). However, (38b) is true; the complement is preferred to its focus alternative(s). Thus disappointed that is semantically focus sensitive. The same is true for sorry that.

(39) Victoria is not sorry that she worked – she is happy she made progress on her project – but she is sorry that she worked on Saturday rather than Sunday.

(39a) Victoria is sorry that she WORKED on Saturday.  
(39b) Victoria is sorry that she worked on SATURDAY.

Depending on which constituent is altered affects whether it is true that Victoria is sorry about the complement. This demonstrates that sorry that is semantically focus sensitive.

Promissives like promise that and offer are neither semantically focus sensitive nor pragmatically focus sensitive.

(40) Victoria does not promise to work on Saturday, although she does promise to work.

(40a) Victoria promises that she will WORK on Saturday.  
(40b) Victoria promises that she will work on SATURDAY.

(40a) and (40b) are both false; the complement, rather than its focus alternative(s), is not promised. And neither sentence is more felicitous than the other. Thus promise that is neither semantically nor pragmatically focus sensitive.

The same is true for offer.

(41) Victoria does not offer to on Saturday, but she does offer to work.

(41a) Victoria offers to WORK on Saturday.  
(41b) Victoria offers to work on SATURDAY.
(41a) and (41b) are both false and neither appears more felicitous than the other. So like *promise that, offer* is semantically focus insensitive and pragmatically focus insensitive.

**Directives** like *order* and *require* are not semantically focus sensitive but they are pragmatically focus sensitive.

(42) Sofía did not order Victoria to work *per se* – Victoria had already decided to work – but she did order her to work on Saturday.

(42a) Sofía **ordered** Victoria to WORK on Saturday. (True but infelicitous)
(42b) Sofía **ordered** Victoria to work on SATURDAY. (True)

Both (42a) and (42b) are literally true: the complements rather than the focus alternative(s) were ordered. However, (42a) and (42b) differ in terms of felicity value. (42a) feels false, as the focus structure misrepresents the about-ness of Sofía’s order. On the other hand, (42b) feels true. Thus we interpret *order* as semantically focus insensitive but pragmatically focus sensitive.

(43) Sofía did not require Victoria to work *per se* – Victoria had already decided to work – but Sofía did require Victoria to work on Saturday.

(43a) Sofía **required** Victoria to WORK on Saturday. (True but infelicitous)
(43b) Sofía **required** Victoria to work on SATURDAY. (True)

We have the same judgments and explanations for *require*: (43a) is literally true but feels false; (43b) is literally true and feels true. Thus like *order, require* is semantically focus insensitive but pragmatically focus sensitive.

The pattern is different for directives like *advise* and *encourage*. Both are semantically focus sensitive.
(44) Sofía did not advise Victoria to work – Victoria decided this against Sofía’s recommendation and told her. So Sofía advised Victoria to work on Saturday.

(44a) Sofía **advised** Victoria to WORK on Saturday.  
(44b) Sofía **advised** Victoria to work on SATURDAY.

(44a) is literally false, as Sofía advised the focus alternative over the complement. And (44b) is literally true, since Sofía did advise Victoria to work on Saturday rather than some other day.

Thus *advise* is semantically focus sensitive.

The same is true for *encourage*.

(45) Sofía did not encourage Victoria to work – Victoria decided this against Sofía’s recommendation and told her. So Sofía encouraged Victoria to work on Saturday.

(45a) Sofía **encouraged** Victoria to WORK on Saturday.  
(45b) Sofía **encouraged** Victoria to work on SATURDAY.

Just like *advise*, *encourage* is semantically focus sensitive: truth value alters according to which constituent is focused.

We showed in (32) that *prohibit* is not semantically focus sensitive but it is pragmatically focus sensitive. Other **downward entailing verbs** pattern the same way.

(46) Sofía did not hinder Victoria from teaching syntax at all; she only hindered her from teaching it on Tuesdays and Thursdays.

(46a) Sofía **hindered** Victoria from teaching SYNTAX on Tuesdays and Thursdays.  
(46b) Sofía **hindered** Victoria from teaching syntax on TUESDAYS AND THURSDAYS.
(47) Victoria did not resist teaching syntax every time it was offered; she resisted teaching it on Tuesdays and Thursdays.
(47a) Victoria resisted teaching SYNTAX on Tuesdays and Thursdays.  (True but infelicitous)
(47b) Victoria resisted teaching syntax on TUESDAYS AND THURSDAYS.  (True)

(48) Victoria did not reject all times to teach syntax; she rejected teaching syntax on Tuesdays and Thursdays.
(48a) Victoria rejected teaching SYNTAX on Tuesdays and Thursdays.  (True but infelicitous)
(48b) Victoria rejected teaching syntax on TUESDAYS AND THURSDAYS.  (True)

Altering focus structure does not alter truth value for these predicates. In all sentences, it is literally true that the complements, rather than their focus alternatives, were hindered, resisted, and rejected, respectively. This shows us that all these predicates are semantically focus insensitive. However, we see that these predicates are all pragmatically focus sensitive. Each of the first pairs of the sentences seems to misrepresent the nature of what Sofía hindered, or what Victoria resisted or rejected. So we classify all these predicates as pragmatically focus sensitive.

Verbs of communication are semantically focus insensitive but pragmatically focus sensitive.

(49) Sofía says that Victoria teaches, but she does not say that it is syntax that she teaches.
(49a) Sofía says that Victoria TEACHES syntax.  (False but felicitous)
(49b) Sofía says that Victoria teaches SYNTAX.  (False)

(50) Sofía does not tell Mark simply that Victoria teaches a class. She tells Mark that Victoria teaches syntax.
(50a) Sofía tells Mark that Victoria TEACHES syntax.  (False but felicitous)
(50b) Sofía tells Mark that Victoria teaches SYNTAX.  (False)
For both *says that* and *tells x that*, both sentences in the pair are literally false. However, let us suppose that it is true that syntax is the class that Victoria teaches. In other words, we know from context that the complement is true. If we know this, there is a way to interpret (49a) and (50a) as being felicitous. It is as though the focus structure indicates what specifically about this complement, that is known to be true, Sofía says or tells. For this reason we propose that although they are literally false, sentences like (49a) and (50a) are felicitous.

We recognize that ‘false but felicitous’ is somewhat of a contentious label, as some classifications treat all false sentences as infelicitous in virtue of being false. However, we are using a broader definition for “felicity” here, where it is synonymous with “relevant” or “on-topic”. For instance, suppose that Victoria does not like pizza and Sofía asks her whether she likes pizza. Victoria responds in the affirmative, saying, “yes, I like pizza”. Her response is literally false. However, it provides an answer to Sofia’s question. On the other hand, a response such as “I have a cat” is in no way relevant. Equating felicity with relevance, we classify the first response as felicitous and the second as infelicitous, regardless of their truth values.

Thus we classify *says that* and *tells x that* are pragmatically focus sensitive and semantically focus insensitive.

The pattern is somewhat different for *confess that* and *clarify that*.

(51) Against Sofía’s advice, Victoria worked on Saturday. She feels guilty and wants to tell Sofía. She does not confess that she worked on syntax, as she knows that Victoria already knows this, but she confesses that it was Saturday that she worked on.

(51a) Victoria confesses that she WORKED on Saturday. (True but infelicitous)
(51b) Victoria confesses that she worked on SATURDAY. (True)
(52) Victoria does not clarify to Sofía simply that she worked on syntax, but she clarifies that it was Saturday that she worked on syntax.

(52a) Victoria clarifies that she WORKED on Saturday. (True but infelicitous)

(52b) Victoria clarifies that she worked on SATURDAY. (True)

In both these examples, each sentence is literally true (whereas for say that and tell x that, they are literally false). The complement, rather than its focus alternative, is what is confessed or clarified. However, in each pair, the first sentence seems to misrepresent the about-ness of what Sofía confessed or clarified, so that it seems false. We take this to mean that confess that and clarify that are semantically focus insensitive but pragmatically focus sensitive.

Next we examine fiction verbs.

(53) Sofía dreamed that Victoria teaches syntax, but she did not dream that she teaches syntax on Tuesdays and Thursdays.

(53a) Sofía dreamed that Victoria teaches SYNTAX on Tuesdays and Thursdays. (False but felicitous)

(53b) Sofía dreamed that Victoria teaches syntax on TUESDAYS AND THURSDAYS. (False)

(54) Sofía imagined that Victoria teaches syntax, but she did not dream that she teaches syntax on Tuesdays and Thursdays.

(54a) Sofía imagined that Victoria teaches SYNTAX on Tuesdays and Thursdays. (False but felicitous)

(54b) Sofía imagined that Victoria teaches syntax on TUESDAYS AND THURSDAYS. (False)

For both predicates, it is clear that the sentences in each pair are literally false: the complement was not dreamed or imagined, regardless of what the focus alternatives are. However, if we build up the context, as we did for say that and tell x that, it is possible to make the first sentence of the pair seem like it is true. For instance, let us suppose that it is in fact true that Victoria teaches
syntax on Tuesdays and Thursdays. This background seems to help make (53a) and (54a) feel true in some way. Thus we conclude that *dream that* and *imagine that* are pragmatically focus sensitive, although not semantically focus sensitive.

In looking at examples with **verbs of perception**, we use no complementizer. This is because these verbs take no complementizer when their intended meaning is about perception.

(55) Sofía sees that Victoria is teaching, but she does not see that she is teaching syntax.
   (55a) Sofía **sees** Victoria TEACHING syntax. (False but infelicitous)
   (55b) Sofía **sees** Victoria teaching SYNTAX. (False)

(56) Sofía hears Victoria teaching, but she does not hear that she is teaching syntax.
   (56a) Sofía **hears** Victoria TEACHING syntax. (False but infelicitous)
   (56b) Sofía **hears** Victoria teaching SYNTAX. (False)

All sentences are literally false, irrespective of what the focus alternatives to the complements are. But given the descriptions of the examples, the first sentences of the pairs feel true. As with *say that*, *tells x that*, *dream that*, and *imagine that*, the fact that the complement is backgrounded as true makes it feel like the focus structure of the (a)-sentences highlights what about this complement Sofía sees or hears. Thus we conclude that *see* and *hear* are pragmatically focus sensitive but semantically focus insensitive.

The pattern for **epistemic verbs** is the same as we just demonstrated for the perception verbs. In (31g-h), we showed that *know that* is semantically focus insensitive. To see whether it is pragmatically focus sensitive, we repeat the example (and renumber it here).

(57) Lisa knows that John teaches syntax, but she does not know that he teaches syntax on Tuesdays and Thursdays.
   (57a) Lisa **knows** that John teaches SYNTAX on Tuesdays and Thursdays. (False but felicitous)
   (57b) Lisa **knows** that John teaches syntax on TUESDAYS AND THURSDAYS. (False)
It is clear that both sentences are literally false, as the complement is not known, and it is irrelevant whether the focus alternatives are also known. However, it is possible to hear (57a) as true. Like the perception verbs, we propose that because the complement to know is true (since it is factive), it is possible to hear the focus structure in such a way that it emphasizes the information in the complement that is part of Lisa’s knowledge. However, the same is not true for (57b); it feels false. Thus we conclude that know that is semantically focus insensitive but pragmatically focus sensitive.

(58) Lisa thinks that John teaches syntax, but she does not think that he teaches it on Tuesdays and Thursdays – she thinks he teaches on Mondays, Wednesdays and Fridays. 
(58a) Lisa thinks that John teaches SYNTAX on Tuesdays and Thursdays. (False but felicitous) 
(58b) Lisa thinks that John teaches syntax on TUESDAYS AND THURSDAYS. (False)

(59) Lisa believes that John teaches syntax, but she does not believe that he teaches it on Tuesdays and Thursdays; she believes that he teaches syntax on Mondays, Wednesdays and Fridays. 
(59a) Lisa believes that teaches SYNTAX on Tuesdays and Thursdays. (False but felicitous) 
(59b) Lisa believes that John teaches syntax on TUESDAYS AND THURSDAYS. (False)

As with know that, both sentences with think that and believe that are literally false. However, if we suppose that it is in fact true that John teaches syntax on Tuesdays and Thursdays, it seems possible to interpret (58a) and (59a) as true. We give the same explanation we gave for perception verbs: a contextual background which establishes the complement as true enables us to interpret the focus of (58a) and (59a) as emphasizing which information within the complement Lisa thinks or believes is true. However, as with know that, such background does not alter our interpretation of (58b) or (59b); they
nonetheless feel false. We conclude then that think that and believe that are pragmatically focus sensitive but semantically focus insensitive.

The pattern exhibited by epistemic verbs is the same for verbs of cognition.

(60) Victoria is talking to Sofía in Spanish, telling her that John teaches syntax on Tuesdays and Thursdays. Sofía’s Spanish is very basic so while she understands that John teaches syntax, she does not understand that he teaches on Tuesdays and Thursdays.

(60a) Sofía understands that John teaches SYNTAX on Tuesdays and Thursdays.

(False but felicitous)

(60b) Sofía understands that John teaches syntax on TUESDAYS AND THURSDAYS. (False)

(60a) is literally false, as Sofía does not understand this complement rather than its focus alternative(s). However, it feels true because of the fact that the complement has been backgrounded as true, and focus seems to pick out which information in the complement Sofía understands. On the other hand, (60b) is literally false and feels false. So like the epistemic verbs, understand that is semantically focus insensitive but pragmatically focus sensitive.

(61) Sofía guesses that John teaches syntax, but she does not guess that he teaches on Tuesdays and Thursdays; she guesses that he teaches syntax on Mondays, Wednesdays and Fridays.

(61a) Sofía guesses that John teaches SYNTAX on Tuesdays and Thursdays.

(False but felicitous)

(61b) Sofía guesses that John teaches syntax on TUESDAYS AND THURSDAYS. (False)

Guess that exhibits the same pattern as understand that: the first sentence is literally false but feels true; the second is literally false and feels false. Our explanation for this pattern is the same as we give for understand that. So we take this data to illustrate that guess that is semantically focus insensitive but pragmatically focus sensitive.
Focus has similar effects in the scope of *predicates of certainty* like *convinced that* and *certain that*.

(62) Sofía is thinking about John’s schedule. Sofía is certain that John teaches syntax, but she is not certain whether he teaches on Tuesdays and Thursdays; she thinks he could teach on Mondays, Wednesdays and Fridays.

(62a) Sofía is *certain* that John teaches SYNTAX on Tuesdays and Thursdays.  
       (False but felicitous)

(62b) Sofía is *certain* that John teaches syntax on TUESDAYS AND THURSDAYS.  
       (False)

(63) Sofía is talking to Victoria about John’s schedule. Sofía is convinced that John teaches syntax, but she is not convinced that he teaches it on Tuesdays and Thursdays.

(63a) Sofía is *convinced* that John teaches SYNTAX on Tuesdays and Thursdays.  
       (False but felicitous)

(63b) Sofía is *convinced* that John teaches syntax on TUESDAYS AND THURSDAYS.  
       (False)

For both *certain that* and *convinced that*, the (a) sentences are literally false, as Sofía is not certain or convinced about the complement, rather than their focus alternatives. However, if we make the same sort of assumption we made for epistemic verbs and verbs of cognition, i.e. if we suppose that the complement is true, then the (a) sentences feel true because focus emphasizes the about-ness of Sofía’s certainty or state of being convinced. On the other hand, the (b) sentences are literally false and feel false. We interpret this to mean that *certain that* and *convinced that* are both semantically focus insensitive and pragmatically focus sensitive.

**Semelfactives** like *realize that* and *remember that* are not semantically focus sensitive, but they are pragmatically focus sensitive.
(64) Sofía is thinking about John’s schedule. She does not remember that John teaches syntax – this was already in her memory – but she remembers that he teaches on Tuesdays and Thursdays.

(64a) Sofía **remembers** that John teaches SYNTAX on Tuesdays and Thursdays.  
   (True but infelicitous)

(64b) Sofía **remembers** that John teaches syntax on TUESDAYS AND THURSDAYS.  
   (True)

(64a) is literally true, as Sofía does remember the complement rather than its focus alternative(s). However, it feels false because focus misrepresents the about-ness of what Sofía remembered. On the other hand, (64b) is not only literally true, but it feels true. This shows that **remember that** is semantically focus insensitive and pragmatically focus sensitive.

(65) Sofía is thinking about John’s schedule. She has a realization, but it is not that John teaches syntax; she already knew this; she realizes that it is on Tuesdays and Thursdays that John teaches syntax.

(65a) Sofía **realizes** that John teaches SYNTAX on Tuesdays and Thursdays.  
   (True but infelicitous)

(65b) Sofía **realizes** that John teaches syntax on TUESDAYS AND THURSDAYS.  
   (True)

The pattern for **realize that** is the same as it is for **remember that**. Literally, (65a) is true. However, it feels false because the focus structure misrepresents the about-ness of what Sofía realized. So we judge (65b) as true but infelicitous. On the other hand, (65b) is true and felicitous. This demonstrates that **realize that** is semantically focus insensitive and pragmatically focus sensitive.

We looked at a sampling of attitude predicates and using our definitions for semantic and pragmatic focus-sensitivity in (34) and (35), have characterized them either as focus sensitive or insensitive. The following table represents these findings.
Table 1. Attitude predicates as classified by focus-sensitivity

<table>
<thead>
<tr>
<th>Focus Sensitive?</th>
<th>Pragmatically Focus Sensitive?</th>
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<tbody>
<tr>
<td><strong>desire verbs</strong></td>
<td></td>
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<tr>
<td>want</td>
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<tr>
<td>wish that</td>
<td>yes</td>
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<tr>
<td><strong>emotives</strong></td>
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<tr>
<td>glad that</td>
<td>yes</td>
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<tr>
<td>disappointed that</td>
<td>yes</td>
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<tr>
<td>sorry that</td>
<td>yes</td>
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<tr>
<td><strong>promissives</strong></td>
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<td>promise that</td>
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<tr>
<td>offer</td>
<td>no</td>
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<tr>
<td><strong>directives</strong></td>
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<td>require</td>
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<td>prohibit</td>
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<td>hinder</td>
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<td>resist</td>
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<td>reject</td>
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<td><strong>verbs of communication</strong></td>
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<td>say that</td>
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<td>tell x that</td>
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<td>confess that</td>
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<td>clarify that</td>
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<td><strong>fiction verbs</strong></td>
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<td>dream that</td>
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<td>imagine that</td>
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<td>see</td>
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<td>hear</td>
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<td><strong>epistemic verbs</strong></td>
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<td>think that</td>
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<td>believe that</td>
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<td><strong>verbs of cognition</strong></td>
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<td>understand that</td>
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<td>guess that</td>
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<td><strong>predicates of certainty</strong></td>
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<td>certain that</td>
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<td><strong>semelfactives</strong></td>
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<td>remember that</td>
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<tr>
<td>realize that</td>
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We see that certain classes of verbs are consistent in their focus-sensitivity: all desire verbs and emotive factives (that we looked at) are semantically focus sensitive. In fact, these are the only two classes of verbs for which all of the predicates are semantically focus sensitive. The only other semantically focus sensitive predicates we identified are some of the directives, namely *advise* and *encourage*. As for all the other attitude predicates we looked at, none are semantically focus sensitive but nearly all pragmatically focus sensitive – only the promissives do not exhibit this focus-sensitivity.\(^\text{12}\)

We take it to be a success of our work that we have been able to establish the focus-sensitivity, whether semantic and/or pragmatic, of a range of attitude predicates. It is worth pointing out that nearly every attitude predicate has some kind of focus-sensitivity. We believe that this explains why the literature offers differing judgments about which attitude predicates are focus sensitive. However, it is most notable to point out that only a small number of attitude predicates is semantically focus sensitive, so that it is actually truth value – and not felicity value – that is affected by focus.

Since we have answered our second research question, we are able to move on to the third.

### 3.3 A hypothesis about semantic focus-sensitivity

We repeat our third set of research questions:

- What is an appropriate analysis of focus-sensitivity? Do all focus sensitive attitude predicates share semantic similarities? Are there semantic similarities among attitude predicates which lack this focus-sensitivity?

\(^{12}\)Although our examples for the promissives reveal no pragmatic focus-sensitivity, we expect that other data would reveal that they are pragmatically focus sensitive, as this seems to be a general feature of attitude predicates.
First, let us narrow down how we intend to respond to this question. Although we have looked at attitude predicates in terms of both semantic and pragmatic focus-sensitivity, we intend to focus here on semantic focus-sensitivity. While we think that there is much to learn from the pragmatic focus-sensitivity we uncovered in the last section, we do not have the space or time to adequately cover the topics of both semantic and pragmatic focus-sensitivity.

Thus, let us turn to the topic of semantic focus-sensitivity. As a starting assumption, we propose that all attitude predicates which are semantically focus sensitive have semantic similarities. But there are a few ways that this assumption can be borne out. For instance, do all semantically focus sensitive predicates have a similar semantics? Or are there a few basic types of semantics cause a predicate to be semantically focus sensitive? If we identify semantically focus sensitive semantic features, can we make sure that they are not also features of the semantically focus insensitive predicates?

To answer these questions, let us first consider the semantically focus sensitive emotive factives and desire verbs. A recurring proposal in the literature about their semantics is that they are comparative (e.g. Heim 1992, von Fintel 1999, Beaver and Clark 2008, Villalta 2008, Anand and Hacquard 2009, Lassiter 2011b, Rubinstein 2012).¹³ Not only might a semantics of comparison provide an explanation for why these predicates are semantically focus sensitive, as focus can indicate which class of alternatives the complement is compared to, but it also provides a compelling account of the meaning of these predicates. It seems reasonable to say that want \( p \) means that \( p \) is better than \( q \). Such an analysis offers a satisfactory explanation of (31e): the reason that Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS is because she prefers these days to something like Mondays, Wednesdays, and Fridays. Appealing to

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¹³ To be clear, not all this literature has proposals about all attitude verbs and all emotive factives. Some proposals are focused only on emotive factives or desire verbs, others simply on certain desire verbs, e.g. want.
comparison also offers a reasonable explanation of why (31f) is false: Lisa does not want JOHN to teach syntax because she prefers someone else to teach syntax. Likewise, it is appealing to analyze the emotive factives as comparative. For example, it seems reasonable to say that although $\alpha$ may not be glad that $p$ occurred, $\alpha$ is at least glad that $p$ rather than $q$ occurred (cf. (31c) and (31d)). Treating disappointed that and sorry that as comparative also seems to offer a reasonable paraphrase of their meaning: to be disappointed that or be sorry that $p$ is to wish that something other than $p$ had occurred (cf. (38) and (39)).

We also find a semantics of comparison to be an appealing analysis for the semantically focus sensitive directives advise and encourage. It seems reasonable to say that ‘$\alpha$ advises $\beta$ to do $p$’ means that $\alpha$ tells $\beta$ that $p$ is better than some alternative $q$. Such a paraphrase seems to capture well the meaning of the sentences in (31a) and (31b). It seems appropriate to say that the reason we judge (31a) as true is because Alex thinks that it is better for Clyde to sell his car than not to sell it.

Thus we find it reasonable to say that all semantically focus sensitive have the same basic kind of semantics, namely a semantics of comparison. Now onto our next question: do we find it reasonable to say that the semantically focus insensitive predicates do not have such a semantics?

Let us consider a few of the semantically focus insensitive predicates. For instance, take the predicate of certainty certain that. Work on certain that (often identified simply as certain) tends to associate it with a scale (e.g. Kennedy and McNally 2005, Kennedy 2007, Lassiter 2010, 2011b, Lassiter and Goodman 2015a, and Klecha 2012, 2014), so that ‘certain that $p$’ means that the certainty of $p$ is at the maximum end of a scale (whether it is a scale of certainty or probability). In other words, certain that is generally defined as having a scalar – and not a comparative – semantics. Take next a downward entailing predicate, e.g. prohibit. It is not very
intuitive to say that to prohibit p is to make violations of p worse than violations of alternatives q. Perhaps q is also prohibited, so that violating it is as serious as violating p. Similarly, it is not intuitive to define a verb of cognition such as understand that as comparative. To understand that p is not to understand that p more than q; perhaps q is also understood. It is the same for epistemic think that. It is not as though when α thinks that p, his thoughts are about p more than they are about q. Perhaps α is also thinking about q. The same is true for a verb of communication, e.g. confess that. It is not intuitive to say that to confess that p means that p rather than q is confessed that. The point is that conceptually, we do not find it compelling to treat the semantically focus insensitive predicates as having a semantics of comparison. In other words, our idea that a comparative semantics makes attitude predicates semantically focus sensitive, and that semantically focus insensitive predicates do not have such a semantics, seems reasonable.

Thus we have a hypothesis about the focus-sensitivity of semantically focus sensitive attitude predicates, i.e. desire verbs, emotive factives, and directives like advise and encourage. We propose to use this dissertation to analyze these predicates, focusing specifically on want, wish that, glad that, disappointed that, and advise. Our goal is not only to see whether it is appropriate to analyze these predicates as having a comparative semantics, but also to provide a detailed analysis of their semantics that accounts for a range of data. In addition, we propose to analyze order. We do this to test our theory that semantically focus insensitive predicates do not have a semantics of comparison, and also to contrast its meaning with semantically focus sensitive advise.
3.3.1 Choice of focus framework

Having clarified the attitude predicates we intend to study, we must also clarify how we intend to analyze focus. In section 2.2, we briefly characterized some of the major approaches to studying focus: structured meaning approaches, Alternative Semantics, and event-based approaches. From these options, we intend to work within the framework of Alternative Semantics. We choose this theory because we think that such a framework complements our analysis of semantically focus sensitive attitude predicates well. We think that want, wish that, glad that, disappointed that, and advise each compare its complement to a set of alternatives to the complement. So we want to give these predicates semantics whose truth values are based on a manipulation of the complement and its alternatives. Within Alternative Semantics, the primary role of focus is to generate a set of alternatives to the phrase containing focus. Thus it offers us precisely the component we want, i.e. the set of alternatives to compare to the complement. This choice of theory is justified by the fact that it is the same choice Villalta (2008) makes. Recall that her proposal for all focus sensitive attitude predicates is the same as what we propose for semantically focus sensitive attitude predicates, that each compares its complement to a set of alternatives to the complement. As we do here, she chooses to analyze focus according to Alternative Semantics.

4. Pragmatic focus-sensitivity of semantically focus sensitive attitude predicates

Our proposal for this dissertation is to study the semantically focus sensitive attitude predicates want, wish that, glad that, disappointed that, advise, and semantically focus insensitive order. Recall that as we looked at a range of attitude predicates in section 3.2, we identified all the other, semantically focus insensitive, attitude predicates according to their
pragmatic focus-sensitivity. However, we stated that we did not want to use the same data we examined to establish semantics focus-sensitivity to also test for pragmatic focus-sensitivity. Thus we devise a new kind of data to test whether these attitude predicates also have a pragmatic focus-sensitivity. Specifically, the data is of the form where a speaker responds to a question using a sequence of utterances, where the first sentence in this response has focus marking. For contrast, we consider the felicity of the sequence without focus (cf. (2)-(4)).

For instance, take this example with want.

(66) **Scenario: Dinner**, with *want*
Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. This is a tough decision for Sofía because she wants to order all three of the entrees. Victoria tries to encourage Sofía to make a decision by asking her if she wants to eat the chicken. Sofía responds:

(66a) Yes, I want to eat the chicken.
(66b) And I also want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

(67a) Yes, I want to eat the CHICKEN.
(67b) And I also want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

We want to address a potential concern with this example. In (66a), *chicken* is not only in the right-most position of the VP, but it is sentence-final. This means that by default, it receives focus. In this case, one might question whether the focus structure of (66a) is actually distinct from that of (67a).
To this end, we provide an alternative scenario to illustrate a contrast between presence and absence of focus.

(68) **Scenario: Dinner preparation**, with *want*

Sofía and Victoria are making dinner together, preparing chicken. Victoria and Sofía deliberate over three ways to prepare the chicken: broiling, grilling, or frying it. They cannot make up their minds so Victoria asks Sofía whether she wants to eat fried chicken. Sofía responds:

(68a) Yes, I want to eat fried chicken.
(68b) And I want to eat broiled chicken. And I want to eat grilled chicken. I can’t decide! They all sound good.

(69a) Yes, I want to eat FRIED chicken.
(69b) And I want to eat broiled chicken. And I want to eat grilled chicken. I can’t decide! They all sound good.

Here we see that *fried* is not in a position to receive default focus. And the felicity between the sequence in (68) and the sequence in (69) is different: (68a)-(68b) is felicitous; (69a)-(69b) is not. Thus we see unambiguously that presence of focus affects the felicity of following sequences.

Having made this clarification, let us return to the first scenario we gave in (66)-(67). If Sofía uses no special focus marking, as in (66a), there is no infelicity with her following it with (66b). However, if Sofía uses focus to emphasize *chicken*, as in (67a), it is infelicitous for her to utter (67b) (which is equivalent to (66b)). What is the reason for this difference? Is it because the focus-marking in (67a) is interpreted as exhaustive, so that (66b)/(67b) is expected to be false? But why should this be? We showed in (7)-(8), cf. footnote 4, that the exhaustive effect of focus is pragmatic, and can be cancelled. Is there something about *want* that inhibits cancellation of
this implicature? Is (66a) felicitous because, lacking any particular focus-marking, Sofía’s response is not interpreted exhaustively? Is this why it is felicitous for her to continue with (66b)/(67b)?

Consider now a similar example with focus in the scope of wish that.

(70) Scenario: Buffet, with wish that
Sofía is at an all-you-can-eat buffet and among the various meats there, chicken Hollandaise, beef Bourgignon and lamb kabobs, she tries none. After they leave the buffet, Victoria tells her how good the meats were. Sofía is disappointed. Victoria asks her if it is because she wishes that she would have eaten the chicken.

(70a) Yes, I wish I had eaten the chicken.
(70b) And I wish I had eaten the beef. And I wish I had eaten the lamb.

(71a) Yes, I wish I had eaten the CHICKEN.
(71b) And I wish I had eaten the beef. And I wish I had eaten the lamb.

As with want, the first sequence of (70a)-(70b) is wholly felicitous. There is no infelicity with Sofía expressing that she wishes she had eaten the chicken, the beef and the lamb. On the other hand, when Sofía uses focus-marking, as in (71a), there is something odd about her continuing with (71b). Yet the oddity is not so severe as for this sequence to be infelicitous in the same way as the similar want-sequence. Rather, our judgment is that the focus-marked wish that sequence is only marked. Such a judgment leads to the following question: if the infelicity of the similar focus-marked want sequence is because focus is interpreted exhaustively, and this implicature cannot be cancelled, why is a similar sequence with wish that not infelicitous to the same degree?

If we consider the other semantically focus sensitive predicates, we see that they pattern like wish that.
(72) **Scenario: Buffet**, with *glad that*
Sofía is at an all-you-can-eat buffet. She is feeling hungry so she eats some of each of the three meats that are available: chicken Hollandaise, beef Bourguignon, and lamb kabobs. After she finishes her meal, Victoria asks her if she is glad that she ate the chicken.

(72a) Yes, I’m glad that I ate the chicken.
(72b) And I’m glad that I ate the beef. And I’m glad that I ate the lamb.

(73a) Yes, I’m glad that I ate the CHICKEN.
(73b) And I’m glad that I ate the beef. And I’m glad that I ate the lamb.

(74) **Scenario: Buffet**, with *disappointed that*
Sofía is at an all-you-can-eat buffet. She eats some of each of the three meats that are available: chicken Hollandaise, beef Bourguignon, and lamb kabobs. But she does not seem happy. Victoria did not think the chicken was good so she asks Sofía if she is disappointed that she ate the chicken.

(74a) Yes, I’m disappointed that I ate the chicken.
(74b) And I’m disappointed that I ate the beef. And I’m disappointed that I ate the lamb.

(75a) Yes, I’m disappointed that I ate the CHICKEN.
(75b) And I’m disappointed that I ate the beef. And I’m disappointed that I ate the lamb.

(76) **Scenario: Dinner**, with *advise*
Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. Victoria can see that this is a tough decision for Sofía because she keeps deliberating about what to order. Sofía asks for her advice about what she should get. Victoria responds:
(76a) I advise you to get the chicken.
(76b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

(77a) I advise you to get the CHICKEN.
(77b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

For all these predicates, the pattern is the same as exhibited by *wish that*: the first sequence is wholly felicitous, and the second is marked, although not wholly infelicitious.

For comparison, consider *order* in a similar scenario.

(78) **Scenario: Food Critic**, with *order*
Victoria is head chef at a restaurant; Sofía is a sous-chef. A high-profile food critic is eating at their restaurant tonight. Sofía is tasked to make the main entree for him. She is nervous about what to make, and cannot decide between chicken Hollandaise, beef Bourgignon, and lamb kabobs. Seeing that Sofía needs help, Victoria demands the following of her:

(78a) I order you to prepare the chicken.
(78b) And I order you to prepare the beef. And I order you to prepare the lamb.

(79a) I order you to prepare the CHICKEN.
(79b) And I order you to prepare the beef. And I order you to prepare the lamb.

*Order* behaves like *wish that, glad that, disappointed that*, and *advise*. The first sequence is felicitious, the second marked but not wholly infelicitous.

This data shows us that the semantically focus sensitive attitude predicates are also pragmatically focus sensitive, but to different degrees. Most notably, *want* exhibits a felicity pattern not attested for the other predicates. *Wish that, glad that, disappointed
that, advise, and order exhibit pragmatic focus-sensitivity to the same degree.

In this section, we used a different kind of data with focus to see if we could assess whether semantically focus sensitive predicates have a pragmatic focus-sensitivity, and found that all of them do. In all cases, we saw that sequences of utterances without focus-marking were felicitous, but felicity was negatively impacted when there was focus-marking in the first utterance of the sequence. However, the infelicity was strongest for want, and weaker for the other semantically focus sensitive predicates. In addition, the felicity pattern for order was identical to that for wish that, glad that, disappointed that, and advise. The obvious question that arises from this data is what it is showing us. What can we learn about the semantics of these attitude predicates from this data? What do we learn about the semantics of focus from this data?

To this end, we formulate the following research questions.

Research question about the pragmatic focus-sensitivity of semantically focus sensitive predicates:

- What do the pragmatic effects of exhaustive focus teach us about the semantics of attitude predicates? Why is such focus use sometimes infelicitous, e.g. as with want in (66)-(67), and sometimes marked, e.g. as with wish that in (70)-(71)?
- What does such data teach us about focus?

We address these questions in Chapter 3.

5. Dissertation outline

Throughout this chapter, we sketched a research proposal for evaluating the semantics of a selection of attitude predicates, specifically focusing on desire verbs, emotive factives, and
directives. Here we explain how we examine and analyze the semantics of these predicates, by providing outlines for following chapters of this dissertation.

Chapter 2 is devoted to examining the desire predicates *want*, *wish that*, and desire predicates/emotive factives *glad that* and *disappointed that*. We analyze these predicates as modals, and take the view that modals are quantifiers over possible worlds. We thus begin the chapter with an overview of ordering semantics, as developed by Kratzer (1977, 1981, 1986, 1991, 2012). We then look at proposals in the literature about the semantics of desire predicates and emotive factives: Heim (1992), Villalta (2008) and Rubinstein (2012). In the course of presenting their different analyses, we highlight intuitions that these three authors have about these predicates, namely that they are comparative, and that their semantics must express some relationship to the attitude holder’s beliefs. To compare each of these proposals to each other, we take each author’s semantics for *want* and apply them to data such as (5), where the focus structure of the complement to *want* is altered between minimal pairs. We show that Villalta’s entry is best-suited to accommodate such data. However, we find certain problems with her analysis of *want*, which motivates us to improve upon her analysis to develop a new entry of *want*. We then show how this comparative entry of *want* can be altered to define *wish that*, *glad that*, and *disappointed that*. We evaluate our proposal for the semantics of these predicates by looking at our entry for *want*. We compare this entry to those of utilitarian-probabilistic accounts, most notably that of Lassiter (2011b). Ultimately this comparison responds to the larger question about what kind of model, e.g. ordering semantics, or utilitarian-probabilistic semantics, is better suited to account for the meaning of modal words and expressions.

14 Unlike Heim and Villalta, Rubinstein does not provide an analysis of desire predicates or emotive factives other than *want*. 
In Chapter 3, we turn to examining data with focus that we presented in section 4 of this chapter, where a person’s utterance alters according to whether there is any special focus marking in the first sentence of their utterance. We begin the chapter by examining this data where \textit{want} is the matrix verb. We explore a variety of explanations for why the felicity differs between focus-marked and non-focus-marked sequences. We propose to proceed with an analysis where \textit{want} has two entries. The first is comparative, as we develop in Chapter 2. The second is noncomparative. We support this proposal by looking at Davis (1984, 1986), who proposes that there are two kinds of desire. We propose that his distinction in kinds of desire aligns with our distinction in two entries of \textit{want}. We thus develop a second entry of \textit{want} as a noncomparative quantifier. We then turn to analyzing \textit{wish that}, \textit{glad that}, and \textit{disappointed that} in the data we gave in (70)-(75). We provide analyses of what this data shows us about the semantics of these predicates and focus. We close by examining how our noncomparative entry of \textit{want} is modeled in a utilitarian-probabilistic semantics, again responding to the larger question of which kind of model is better suited to represent the meaning of modals.

In Chapter 4, we turn to the directive predicates \textit{advise} and \textit{order}. We begin by looking at focus data similar to that given in section 3.2 of this chapter, where sentences vary according to which constituent in the complement of these verbs is focused. This reinstates that \textit{advise} is focus sensitive but \textit{order} is not. We also look at data such as we gave in the last section, where a person’s utterances alter according to whether they use any special focus-marking (cf. (76)-(79)). We propose to proceed with an analysis of these verbs based on our intuition from section 3.3 of this chapter, that \textit{advise} is semantically focus sensitive because it has a comparative semantics, and that \textit{order} is semantically focus insensitive because it does not have a semantics of comparison. We thus take our comparative and noncomparative entries for \textit{want} as the starting
point for defining these verbs, respectively. We examine the merit of our proposal by looking at the literature on *advise* and advice, *order* and orders. We collate insights from this literature to determine whether our comparative semantics for *advise* and our noncomparative semantics for *order* are adequate. We briefly turn to other directives predicates, to show how our entries for *advise* and *order* can be used to define them.
1. **Introduction**

In the last chapter, we classified desire predicates like *want*, *wish that*, *glad that*, and *disappointed that* as semantically focus sensitive. This classification is based on the fact that truth value can alter depending on which constituent in their complement is focused, as in (1).

(1) **Scenario: Teaching**  
(paraphrase of Villalta 2008: 496)

The linguistics professors are discussing the teaching schedules for the upcoming semester. Lisa does not want John to teach syntax; she wants Lara to teach syntax. Yet given the teaching schedules, it is necessary for John to teach syntax. Lisa’s preferences are for him to teach on Tuesdays and Thursdays, rather than on Mondays, Wednesdays, and Fridays.

(1a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS. (True)  
(1b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays. (False)  

((1a) and (1b) verbatim from Villalta 2008: 496)

Although (1a) and (1b) express the same propositional content, they differ in truth value. (1a) is true because Lisa prefers for syntax to be taught on Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays. (1b) is false because Lisa prefers Lara to John.

In the last chapter, we proposed that desire predicates are semantically focus sensitive because they have a semantics of comparison. More specifically, we proposed that desire predicates compare their complement to a set of q-alternatives. They are thus focus sensitive because focus determines the set of q-alternatives to compare the complement to.
The goal of this chapter is thus to provide a comparative semantics for \textit{want}, \textit{wish that}, \textit{be glad that}, and \textit{be disappointed that}.\footnote{In Chapter 1, section 3.2, we explained that certain complementizers are focus sensitive. For this reason, we treat the complementizer \textit{that} as part of the attitude predicate (where grammatical). This choice is not standard: although authors tend to use examples where attitude predicates are complemented by \textit{that}-clauses, they tend to omit the complementizer from the predicate. Researchers tend to vary in their identification of the predicate in terms of whether they treat the copula as part of the predicate (where grammatical). In talking about the literature, we refer to the attitude predicate as the authors do.} We propose to develop these semantics by examining the work of authors who treat these predicates as comparative, namely Heim (1992), Villalta (2008) and Rubinstein (2012). We begin by examining their analyses: Heim provides a semantics for \textit{want}, \textit{wish} and \textit{be glad}, Villalta for \textit{want}, \textit{wish}, \textit{be glad}, \textit{be disappointed}, and Rubinstein for \textit{want}. In the course of examining this literature, we see that there are two main concerns about the semantics of these predicates, namely the alternative(s) that the complements are compared to, and the appropriate role for the attitude holder’s belief worlds in the semantics of these predicates. The general focus of these authors’ work is on \textit{want}: they spend the most time developing a suitable entry for \textit{want}, and then briefly discuss how its semantics is altered to define other desire predicates. (Rubinstein is an exception, as she only discusses \textit{want}.) Thus, after summarizing these authors’ work, we evaluate their proposals by applying their semantics for \textit{want} to Villalta’s teaching scenario, as paraphrased in (1). In this application, Villalta’s semantics excels where the others fail. We thus propose to proceed by using her entry to define \textit{want}. However, upon closer inspection of it, we show that it is problematic because it has no incorporation of likelihood. In effect, the semantics includes more worlds than are necessary to evaluate the truth of \textit{want}-clauses. This motivates us to alter the analysis of \textit{want}: we incorporate likelihood in its semantics by providing a new role for the attitude holder’s beliefs. Following the development of our entry for \textit{want}, we briefly show how it can be altered to define the predicates \textit{wish that}, \textit{glad that}, and \textit{disappointed that}, using techniques similar to Heim and Villalta.
The content of this chapter extends beyond contributing to our understanding of desire predicates; it also contributes to our understanding of modality, as we view attitude predicates as modals. There are two major types of frameworks that are designed to analyze modals. The first kind is quantificational, treating modals as quantifiers over possible worlds. The other kind of theory is probabilistic, treating modals as expressions about the utility and probability of possible worlds. Within this dissertation, we follow the tradition of quantificational models, namely that of ordering semantics, as developed by Kratzer (1977, 1981, 1986, 1991, 2012). Thus after we give our semantics for desire predicates, we compare the merits of our proposal to those of a utility-probabilistic framework, specifically of Goble (1996) and Lassiter (2011b).

The chapter is set up as follows. Section 2 provides an overview of quantificational theories of modality, including basic ideas from modal logic and from ordering semantics. Section 3 summarizes the literature which treats desire predicates as comparative: Heim (1992), Villalta (2008) and Rubinstein (2012). We then apply each of these authors’ semantics for want to Villalta’s teaching scenario, cf. (1). We give our analysis of want in section 4. We develop this from a more in-depth evaluation of Villalta’s analysis of want, targeting a problem it has concerning likelihood. We extend this analysis to other desire predicates in section 5. We evaluate the merits of our analysis, comparing it to quantificational approaches, as well as utility-probabilistic approaches, in section 6. We close in section 7.

2. **Modality: Overview of modal logic and ordering semantics**

Here we provide an overview on quantificational theories of modality, beginning with fundamental ideas from modal logic, then outlining the basics of ordering semantics.
2.1 Modal words and expressions

Modality concerns necessity and possibility, as well as related notions like conditionality. In semantics, it involves the study of modal words and expressions. Some commonly studied modals are the English modal auxiliaries such as must, have to, should, ought to, might, and can. Because modal words are concerned with possibility and necessity, they affect the way that the truth values of sentences are judged. For example, take (2).

(2) Kastenjakl might be the murderer.

Given the modal’s sentential scope, it need not be true at the time of utterance that Kastenjakl is the murderer. It may be the case that Kastenjakl murdered, and it may not. This sentence is true so long as it is compatible with the facts that are available to the speaker at the time of utterance. Now consider (3).

(3) Kastenjakl must be the murderer.

In order for this sentence to be true, “Kastenjakl is the murderer” must be entailed by the speaker’s epistemic state at the time of utterance. There is no interpretation of what the speaker knows where someone other than Kastenjakl is the murderer. Observe how the truth conditions of the sentence differ when there are no modals.

(4) Kastenjakl is the murderer.

While there is clearly a difference between (3) and (4), it is somewhat difficult to establish precisely what it is. A traditional view in modal semantics is that the sentence with the modal is

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2 Throughout this dissertation, we use abbreviated terms such as “modal words” or “modals” rather than “modal words and expressions”.

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stronger than the sentence without it, although linguists hold that the sentence with the modal is weaker (e.g. Karttunen 1972: 12, a.o.).

Accounts of modality serve to define the meaning of sentences such as (2) and (3), and how these meanings differ from a sentence like (4). One of the most prominent of these accounts is ordering semantics, as developed by Kratzer (1977, 1981, 1986, 1991, 2012); this is generally accepted as the “standard theory” of modal semantics. (The literature commonly refers to it as “Kratzer/Kratzerian semantics”, but throughout this dissertation, we refer to it as “ordering semantics”.)

Kratzer’s work is an innovation upon standard modal logic. Thus we first discuss some basic notions from modal logic: possible worlds semantics, the differing forces of quantification for modals, and the various accessibility relations that modals have. Following this overview, we discuss the main points of Kratzer’s theory: the contextual parameters that modals are relative to (conversational backgrounds), various combinations of modal flavors for these conversational backgrounds, and varying degrees of modal strength. We then look at a basic ordering semantics entry for want as a comparative quantifier, to serve as a baseline to compare our analysis to.

2.2 Fundamentals of modal logic

Modals are traditionally thought of as quantifiers over possible worlds. A possible world is a complex object which represents “a complete way that the universe could be throughout its history” (Portner 2009: 21). The world we live in, the “actual world,” is one example of a

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3 The notion of a possible world is an old concept, often attributed to Leibniz. However, possible worlds semantics did not develop until much later, in work by Hintikka (1957, 1961), Bayart (1958, 1959), and Kripke (1959, 1963a, 1963b). (References as presented in Menzel forthcoming.)
possible world. The set of all possible worlds is referred to as W; it can be thought of as the set of all possibilities. Because possibilities are infinite, we think of W as an infinite set of worlds.\(^4\)

Within this set of worlds W, we can distinguish subsets of worlds, which can be roughly identified with propositions. A proposition is a set of worlds where the proposition is made true. A proposition is made true in a world if that world is a member of the proposition. If a world is not a member of a proposition, that proposition is false in that world. Propositions are expressed by sentences (or similar objects like clauses, complements, and prejacents). Thus, sentences themselves are not true or false, rather the propositions that they express in a particular context are true or false. However, a shorthand is commonly adopted; we speak of sentences, clauses, complements, and prejacents as being true or false, rather than the more cumbersome “proposition expressed by the sentence, clause, complement, or prejacent in the understood context”.

To reiterate, modals are treated as quantifiers over possible worlds in modal logic. There are two strengths of quantification: possibility, or existential, strength, and necessity, or universal, strength. Modals such as might and can have a strength of possibility: their prejacent only needs to be true in at least one of the worlds in the domain (We discuss what comprises domains shortly.)\(^5\) Thus a sentence such as (2) means that one of the worlds in might’s domain must be a world where the proposition “Kastenjakl is the murderer” is true. Other modals, such as must and have to, have necessity strength: their prejacent must be true in all the worlds in their domain. Thus (3) means that every world in must’s domain is a member of the proposition “Kastenjakl is the murderer”.

\(^4\) For practical purposes, one may make the Limit Assumption, which simplifies things to assume that the number of worlds is finite. See Portner (2009: 66-7) for references on debates concerning the Limit Assumption.
\(^5\) This presentation represents traditional views. More recent work, for example, does not assign can a meaning so that only one world in its domain must make true its prejacent (see e.g. Mun forthcoming, and references therein).
The domains that modal words quantify over are sets of possible worlds. These domains are made accessible by the modal words themselves, through their accessibility relations. Accessibility relations are binary relationships between worlds. For example, a world \( w' \) is epistemically accessible to \( w \) if everything that is known in \( w \) is true in \( w' \).

In the tradition of modal logic, modal words are thought of as using different accessibility relations to determine their domain of quantification. For example, \( might \) uses an epistemic accessibility relation in (2), so that it quantifies over that set of worlds where everything that is known in the world of utterance \( w \) is true in all the worlds in the domain. Similarly, \( must \) uses an epistemic accessibility relation in (3). Yet a modal such as \( must \) is not limited to using epistemic accessibility relations; it may also use a deontic accessibility relation, as in (5).

(5) Kastenjakl must not murder.

Here \( must \)’s domain is that set of worlds where all the moral or legal requirements of the world of utterance (which presumably include that Kastenjakl is not murdered) are fulfilled, i.e. that set of worlds that are accessible to the world of utterance on the basis of the moral or legal rules in the world of (5)’s utterance. Thus modals such as \( must \) may make use of different accessibility relations. For this reason, modals are treated as ambiguous in modal logic; their semantics differ according to which accessibility relation they use.

2.3 Ordering semantics

Kratzer’s (1977, 1981, 1986, 1991, 2012) work on modality represents a significant contribution to how we understand and analyze modals. While she maintains the traditional view that modals are quantifiers over possible worlds, so that her model is “quantificational”, she makes several significant changes to the standard modal logic view. First, Kratzer (1977) finds it
problematic to treat modals as ambiguous. To say that a modal has a different meaning, i.e. a different lexical entry, for each accessibility relation that it uses, is to assert that there is a near-infinity of lexical entries for each modal. For instance, not only do we need a different entry for a deontic must and an epistemic must, but for a deontic must that specifies the laws of Germany in 1977, a deontic must that specifies the laws of the US in 1977, and so on. For this reason, Kratzer proposes that modals are not ambiguous, but that they have one lexical entry which is compatible with a lexically determined range of accessibility relations. Which accessibility relation a given occurrence of a modal uses is determined by context. Kratzer terms these contextually informed accessibility relations “modal bases”.

A second innovation by Kratzer comes with her (1981) introduction of ordering sources. In standard modal logic, there is no organization to the worlds in the modal domain. This opens the theory up to several problems, as illustrated by the Samaritan Paradox (Prior 1958) and Chisholm’s paradox (Chisholm 1963). For instance, take Chisholm’s paradox (as summarized in Portner 2009: 61).

First, we make the following assumptions:

(i) □¬ Mary robs John.
(ii) Mary robs John.
(iii) Mary robs John → □Mary is punished.
(iv) □(¬ Mary robs John → ¬Mary is punished).

Based on these assumptions, (v)-(vii) follow logically:

(v) □ Mary is punished.
   (based on (ii), (iii), and modus ponens)
(vi) □¬ Mary is punished.
   (based on (i), (iv), the distribution of □ in (iv), and modus ponens)
(vii) □ Mary is punished ∧ □¬ Mary is punished.
   (based on (v), (vi), and &-insertion)
The problem here is that assumptions (i)-(iv) entail (vii), but such a conjunction “is intuitively implausible” (Portner 2009: 61) and incompatible with the requirement of seriality in the D system of modal logic.

Organizing the worlds in the domain into a hierarchy offers a solution of sorts. For instance, take the domain to have the following worlds:

\[ w_1: \text{Mary robs John} \]
\[ w_2: \text{Mary does not rob John} \]

Of these worlds, it is clear that \( w_1 \) is better than \( w_2 \), all else being equal. Organizing these worlds into a hierarchy represents this information. And it helps to respond to Chisholm’s paradox in the following way. The first conjunct of (vii) is only true in the worse world \( w_1 \), where Mary robs John. The second conjunct of (vii) is only true in the better world like \( w_2 \), where Mary does not rob Job. In other words, the conjuncts of (vii) are not true in worlds of the same goodness. This suggests that (vii) does not follow from the starting assumptions because it does not include information about the circumstances that determine the truth of its conjuncts.

Thus Kratzer’s ordering sources are used to organize the worlds in the modal’s domain, i.e. modal base, so that modals quantify over a hierarchical set of worlds. Kratzer proposes that ordering sources are the same as modal bases, in that both are roles of conversational backgrounds. Like modal bases, the flavor and content of ordering sources are contextually determined.

The third way that Kratzer innovates upon modal logic is that she provides a broader classification of quantificational strength, i.e. force. Modal logic provides two distinctions,
necessity and possibility. Kratzer shows that this limits the model from being able to account for instances of graded modality in natural language, e.g. ‘more possible’, ‘greater likelihood’, as well as blurring distinctions between different kinds of modals.

We explain the details of this framework in the rest of this section.

2.3.1 Conversational backgrounds

Formally defined, a conversational background is a function from a given set of worlds to sets of propositions. In other words, it assigns a set of propositions to every world in a given set. The propositions that the conversational background assigns are determined by the modal flavor, i.e. accessibility relation, of the conversational background. For instance, if a conversational background is epistemic, it assigns to each world the set of propositions is known in that world. Circumstantial conversational backgrounds identify all the propositions that represent all the circumstances that are true for each world in a given set of worlds. Stereotypical conversational backgrounds identify the set of propositions that represents the normal course of events for all worlds in a given set. Bouletic conversational backgrounds identify all the propositions that represent the desires of an entity for all worlds in a given set. A conversational background may be of any modal flavor: deontic, teleological, doxastic, ability, etc.

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6 Technically, modal logic makes three distinctions in force, as it also includes contingency, which is defined as ‘possibility and not necessity’.
7 Knowledge is not a free floating entity; it is necessarily tied to a specific individual. Kratzer’s (1991) language implies that epistemic conversational backgrounds must be relative to entities, but she does not explicitly include an entity as an additional modal parameter. However, work on epistemic, bouletic, etc. modals commonly include an argument to represent the entity whose knowledge, desires, etc., constitute the modal base.
8 Most modalities, except for constant modalities like metaphysical and mathematical modalities, are also relative to a specific time, since knowledge, circumstances, desires, beliefs, etc. change throughout time. However, like entities, Kratzer (1991) makes no mention of the fact that conversational backgrounds must also be relative to times. Since we make little use of time as a modal parameter, we follow suit and omit mention of a temporal parameter for most of this dissertation.
9 Kratzer’s (1991) language about bouletic modality is more explicit in that she indicates that such modality is relative to a given individual.
Conversational backgrounds may also be empty, i.e. they lack flavor. In that case, they assign every proposition to each world. As we noted in the last section, Kratzer defines two roles for conversational backgrounds: the role of modal base f, and the role of ordering source g.

If a conversational background has the role of **modal base**, it determines the domain of the modal word, i.e. the set of worlds that are accessible to the world of evaluation. According to Kratzer (1991), a modal base makes worlds accessible by three kinds of relations: circumstantial, epistemic or empty accessibility relations. A circumstantial conversational background that serves as a modal base f assigns the set of circumstances, represented as a set of propositions, that is taken to be true for a given world w, $\cap f_{circ}(w)$. This set $\cap f_{circ}(w)$ makes accessible all those worlds that make true the circumstances in the world of evaluation w. Likewise, $\cap f_{epi}(w)$ makes accessible all those worlds that make true what is known in w. And $\cap f_{empty}(w)$ makes accessible all worlds.

We noted that **ordering sources** are like modal bases in that they are one of the roles that the contextually determined conversational backgrounds may play. Thus like modal bases, an ordering source is a set of propositions that is assigned to a world, g(w). Ordering sources differ from modals bases in two main ways. We mentioned that the first difference concerns function: ordering sources organize the worlds of the modal base, thus establishing a hierarchy to the worlds. This ranking is established by membership in the propositions of the ordering source. For instance, if a world $w_1$ makes true propositions $p_1$ and $p_2$ of the ordering source, and $w_2$ only makes true $p_1$, then $w_1$ outranks $w_2$. This ranking is spoken of in terms of goodness: $w_1$ is “better than” $w_2$; $w_2$ “worse than” $w_1$.\(^{10}\) or in standard notation, $w_1 < w_2$.\(^{11}\) The second way that

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\(^{10}\) “Goodness” is thus a technical term. World $w_1$ is better than world $w_2$ according to the ranking of an ordering source, although $w_2$ may be more desirable or more ethical world than $w_1$.

\(^{11}\) The less than sign $<$ is commonly used to designate the better-than relationship, although some authors, e.g. Villalta (2008) indicate this relationship with $>$. 

---
conversational backgrounds differ from modal bases is in flavor. Ordering sources may be of any of the non-epistemic, non-circumstantial modal flavors, e.g. stereotypical, deontic, bouletic, doxastic, teleological, empty, etc.

Ordering sources can induce two kinds of rankings on modal bases, either strict total orders or partial orders. The difference between these kinds of rankings lies in whether all worlds are **comparable** to each other. A world is comparable to another world if the propositions that that world is a member form either a subset or a superset of all the propositions that the other world is a member of.

A strict total order is a binary relation that is transitive and asymmetric. In it, every pair of distinct elements, in this case, worlds, is comparable. Let us illustrate this by taking an ordering source \( g(w) \) that has three propositions: \{p, q, r\}. We use it rank worlds that make true all three of these propositions, i.e. \( pqr \)-worlds, worlds that make true the propositions \( p \) and \( q \), i.e. \( pq \)-worlds, and worlds that only make true \( p \), i.e. \( p \)-worlds. Applying the ordering source to this set of worlds, we get the following ranking: \( pqr \)-worlds < \( pq \)-worlds < \( p \)-worlds:

```
   pqr
   |   |
pq
   |   |
p
```

*fig. 1 Strict total order*

These worlds are all comparable to each other because all of the best worlds, i.e. the \( pqr \)-worlds, make true all of the propositions that all of the worse-ranking worlds make true. Likewise for the intermediary ranked worlds: the \( pq \)-worlds make true all propositions that are true in worse ranking worlds. As for the worse-ranking worlds, they make true a subset of the propositions that
the better worlds make true. Since all worlds are comparable to each other, the domain is organized into a strict total order.

Not all worlds are comparable to each other in partially ordered sets, i.e. posets. In other words, some worlds make true a set of propositions that is neither a subset or superset of the set of propositions another world makes true. To see this, take another illustration. We take our ordering source $g(w)$ to have three propositions, $p$, $q$, and $r$. It ranks a set of worlds which is composed of $pqr$-worlds, $qr$-worlds, $p$-worlds and worlds that make true no ordering source propositions, which we will denote as $\bullet$-worlds. Applying $g(w)$ to this set of worlds, we get the following ranking:

```
pqr
qr < p
\bullet
```

*fig. 2* Partially ordered set

The $pqr$-worlds are comparable to all other worlds: $pqr < qr$, $pqr < p$, $pqr < \bullet$. Likewise, the $qr$-worlds and $p$-worlds are comparable to $\bullet$-worlds: $qr < \bullet$, $p < \bullet$. However, the $qr$-worlds and $p$-worlds are incomparable to each other because the sets of propositions they make true are not in a set-subset relation. Because all worlds in this domain are not all comparable, it is a poset.

### 2.3.2 Combinations of modal flavors

As mentioned, Kratzer states that modal bases may only be of three flavors: epistemic, circumstantial, or no flavor. On the other hand, ordering sources can be of any of the other modal flavors, e.g. deontic, bouletic, stereotypical, doxastic, etc. There are restrictions on the combinations of modal flavors for conversational backgrounds. Epistemic modal bases may only
be organized by ordering sources related to information, e.g. ordering sources that specify the normal course of events (stereotypical), that contain information about what is reported, or that concern a person’s beliefs (doxastic). Circumstantial modal bases can be used with ordering sources specifying laws (deontic), aims, plans, goals (teleological), desires (bouletic), and other root modalities.

In looking at different modal auxiliaries in (2), (3), and (5), we noted that they can use different accessibility relations, i.e. be of different flavors. In general, the flavor of the modal word is determined by the flavor of the ordering source. For instance, if the modal quantifies over a circumstantial modal base that is organized by a bouletic ordering source, the modal is of bouletic flavor. If it quantifies over an epistemic modal base organized by a stereotypical ordering source, the flavor is stereotypical. However, in instances where the ordering source has no flavor, i.e. is empty, the flavor of the modal base is either pure epistemic or pure circumstantial.

2.3.3 Kratzer’s modal forces

We explained that standard modal logic provides two strengths of quantification for modals: possibility, e.g. existential strength, and necessity, e.g. universal strength. We noted that Kratzer (1991) points out that such a division does not capture the meaning of graded uses of modality, e.g. more possible, greater likelihood. Thus, by use of ordering sources, she provides more distinctions of modal strength, interchangeably referred to as ‘force’. We present the paradigm of forces she presents, using her notation (Kratzer 1991: 644). Also, in line with her work, we use her terminology, so that rather than speak about the strength of a ‘modal’, we speak about the strength of a ‘proposition’.
Before we look at the various strengths, we give the definition of the ordering $\leq$ for any given set of worlds $A$:

\begin{equation}
(6a) \text{For all worlds } w, w' \in W, \text{ for any } A \subseteq \mathcal{P}(W):
\end{equation}

$w \leq_A w'$ iff $\{p : p \in A \text{ and } w' \in p\} \subseteq \{p : p \in A \text{ and } w \in p\}$

(Kratzer 1991: 644)

In prose, $w \leq_A w'$ so long as $w$ makes true all of the propositions in a given set $A$ that $w'$ makes true.

Now we turn to the forces. A proposition $p$ has a strength of necessity (called “human necessity” in Kratzer 1981) iff it is true in all of the best, i.e. ideal, worlds in the set made accessible by the modal base:

\begin{equation}
(6b) \text{p is a necessity in } w \text{ wrt } f \text{ and } g \text{ iff for all } u \in \bigcap f(w) \text{ there is a } v \in \bigcap f(w) \text{ such that } v \leq_{g(w)} u \\
\text{and for all } z \in \bigcap f(w): \text{ if } z \leq_{g(w)} v, \text{ then } z \in p
\end{equation}

(Kratzer 1991: 644)

This force can also be referred to as strong necessity, in contrast to a force like weak necessity (defined shortly).

A proposition is a good possibility if it is true in all worlds $v$ which outrank a world $u$:

\begin{equation}
(6c) \text{p is a good possibility in } w \text{ wrt } f \text{ and } g \text{ iff there is a world } u \in \bigcap f(w) \text{ such that } \\
\text{for all } v \in \bigcap f(w): \text{ if } v \leq_{g(w)} u, \text{ then } v \in p
\end{equation}

(Kratzer 1991: 644)

For a proposition to have possibility strength (called “human possibility” in Kratzer 1981), $\neg p$ cannot be a necessity, i.e it must not outrank a set of worlds $v$ which outranks a set of worlds $u$:

\begin{equation}
(6d) \text{p is a possibility in } w \text{ wrt } f \text{ and } g \text{ iff } \neg p \text{ is not a necessity in } w \text{ with respect to } f \text{ and } g
\end{equation}

(Kratzer 1991: 644)
The next weaker strength is “at least as good a possibility”. A proposition $p$ is at least as good a possibility as a proposition $q$ iff for every $q$-world, there is a $p$-world at least as good as it:

$$(6e) \ p \ \text{is at least as good a possibility as } q \ \text{in } w \ \text{wrt } f \ \text{and } g \ \text{iff for all } u \ \text{such that } u \in \cap f(w) \ \text{and } u \in q \ \text{there is a } v \in \cap f(w) \ \text{such that } v \preceq_{g(w)} u \ \text{and } v \in p$$  

(Kratzer 1991: 644)

A proposition $p$ has better possibility than $q$ iff $p$ is at least as good a possibility as $q$ but $q$ is not at least as good a possibility as $p$ in $w$ with respect to $f$ and $g$. In other words, there are $p$-worlds in $f$ for which there are no equally- or better-ranked $q$-worlds in $f$.

Propositions are weak necessities iff $p$ is a better possibility than not-$p$ with respect to $f$ and $g$. In other words, there are $p$-worlds in $f$ for which there are no equally- or better-ranking not-$p$-worlds in $f$. It is worth pointing out that the only way that weak necessity differs from better possibility is in terms of the comparison class. For better possibility, $p$ is compared to $q$, and for weak necessity, $p$ is compared to not-$p$.

A proposition $p$ is a slight possibility in a world $w$, iff with respect to $f$ and $g$, $p$ is a possibility and $\neg p$ is a weak necessity in $w$. In other words, not-$p$ is not a necessity, rather it is a weak necessity: there are some not-$p$-worlds in $f$ for which there are no equally- or better-ranking $p$-worlds in $f$.

Since we said that ordering sources may be empty, there are two other quantificational forces. In a case where a modal has a force of necessity but the ordering source is empty, the modal is said to have a strength of simple necessity. This corresponds to the definition of necessity in modal logic, since the proposition is true in all of the accessible worlds. Simple possibility refers to those instances where modals have possibility force and the ordering source is empty. Such force corresponds to the definition of possibility in modal logic.
Using more categories of quantificational strength, we can distinguish between modals better in ordering semantics than we can in standard modal logic. For instance, standard modal logic treats *there is a good possibility that, might, at least as good a possibility, is more likely than, probably, and there is a slight possibility that* all as possibility modals. But with the classifications Kratzer establishes, we can treat them as a good possibility modal, a possibility modal, at least as good a possibility modal, a better possibility modal, a weak necessity modal, and a slight possibility modal, respectively.

### 2.4 Bouletic modals in ordering semantics

Now that we have described the basic features of ordering semantics, let us see how we can use it to define expressions of desire. Since we have mostly been looking at modal auxiliaries, let us consider an example of modal auxiliary with bouletic flavor. *Should* is commonly given as an example of a modal auxiliary with bouletic flavor:¹²

(7) Since I like chocolate, I should try this cake.  

(cf. Portner 2009: 36)

If we want to define *should* to account for it having a bouletic reading, we need to assign it appropriate force and flavor. As a bouletic modal, its flavor is obviously bouletic. As the flavors for conversational backgrounds are restricted by Kratzer (1991), a bouletic conversational background may only play the role of ordering source, and bouletic ordering sources only rank

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¹² It is questionable whether *should* is truly an expression of bouletic modality. For instance, it could be the case that *should* in (7) is teleological, where the goal is to satisfy the speaker’s desires. The concern that *should* is not a true expression of bouletic modality is supported by the Georgetown Gradable Modality Corpus. In this natural language corpus, modals may be annotated as expressions of one to three of the priority flavors. None of the 274 instances of *should* are annotated as expressions of bouletic modality only. Two instances of *should* are annotated as “bouletic-teleological”; and eighteen are annotated as “priority”, meaning that they are expressions of either deontic-teleological, deontic-bouletic, or deontic-teleological-bouletic modality. There are no instances where *should* is annotated as expressing bouletic modality only.
the worlds of circumstantial modal bases. Thus we define bouletic *should* as having a circumstantial modal base and a bouletic ordering source.

What force should we give *should*? *Should* is commonly labeled a “weak necessity” modal (e.g. Rubinstein 2012 and references therein), although the literature that uses this term does not commonly associate it with the definition given by Kratzer (1991). That issue aside, let us proceed by giving *should* a semantics of weak necessity using Kratzer’s definition. We do this to provide an entry of a bouletic modal auxiliary according to a basic ordering semantics framework.

We assign *should* three arguments: p, to represent its prejacent, α, to represent the entity’s whose desires determine the content of the ordering source, and w, to represent the world of evaluation. This gives us the following definition for *should*:

(8) Bouletic *should* as a weak necessity quantifier

\[
[[\text{should}]](p)(\alpha)(w) = 1 \text{ iff } \forall w': w' \in \cap f_{\text{circ}}(w) \land w' \in \neg p \rightarrow \exists w'': w'' \in \cap f_{\text{circ}}(w) \land w'' \in p \land w'' <_{\text{boul}(\alpha,w)} w'
\]

Now let us use the ordering semantics framework to define desire predicates such as *want*. The flavor of *want* is bouletic. So, like *should* in (8), we define *want* as having a circumstantial modal base and a bouletic ordering source. The question that remains is which force we should give it. As a first pass, we might think to make it a weak necessity quantifier like *should*, so that the negation of the complement is outranked by the complement:

(9) *want* as a weak necessity quantifier

\[
[[\text{want}]](p)(\alpha)(w) = 1 \text{ iff } \forall w': w' \in \cap f_{\text{circ}}(w) \land w' \in \neg p \rightarrow \exists w'': w'' \in \cap f_{\text{circ}}(w) \land w'' \in p \land w'' <_{\text{boul}(\alpha,w)} w'
\]
This is appealing in that it makes want comparative. However, as we stated in Chapter 1, section 3.3, and again in the introduction of this chapter, we believe that the semantic focus-sensitivity of want indicates that its complement is compared to a set of q-alternatives. A comparison between p and not-p does not capture this distinction.

Looking back over the forces enumerated by Kratzer (1991), better possibility seems to be a good fit, since it says that there is a proposition q which p outranks. But such a semantics is too weak: every single proposition, except for the worst possible proposition, is more desirable than some other proposition. So to define want by saying that its complement outranks a q-alternative says very little about its meaning. Perhaps we could instead say that p outranks a contextual q-alternative:

(10) want as a better possibility modal

\[
\left[\text{want}_C\right]^{g}(p)(w) = 1 \text{ iff } \exists q \forall w': w' \in f_{\text{circ}}(w) \land w' \in q \land q \in g(C) \rightarrow \exists w'': w'' \in f_{\text{circ}}(w) \land w'' \in p \land w'' \prec_{\text{boul}(a, w)} w'
\]

We have subscripted want with a contextual variable C and made it relative to an ordering source g so that we can stipulate that q is a contextually relevant alternative. (We see in section 3.2 that this is precisely how Villalta 2008 makes want contextually sensitive.) While this entry aligns better with our intuition about the meaning of want, it is not exactly right: in (10), p is said to be wanted if it is at least as good as possibility as at least one of its alternatives, and not a set of its alternatives. However, our goal here is to provide a baseline entry of want according to ordering semantics, so we do not worry about these finer details. At present, we propose that (10), which models want as a contextually sensitive better possibility modal, is a suitable way to represent the meaning of want within ordering semantics.
We end our overview on basic ideas of modal logic and ordering semantics here. We proceed by turning to the literature on *want* and other desire predicates that are analyzed as having a semantics of comparison. We return to this entry of *want* in (10) much later, in section 6.1, after we have developed our own analysis of *want*.

3. Literature on *want* and other desire predicates

In this section, we examine analyses that treat *want* and other desire predicates as having a comparative semantics. As we mentioned in the introduction of this chapter, we see two major themes emerge throughout this literature. One concerns the appropriate role of the attitude holder’s belief worlds in the semantics of desire predicates, the other concerns the appropriate alternative(s) to compare their complements to. We start in section 3.1 by looking at Heim (1992), who accounts for presupposition projection behavior by making *want* an operator over belief worlds. Heim gives *want* a preference semantics, using the attitude holder’s desires to rank its complement over its negation. We then show how Heim introduces the revϕ function to update the doxastic modal base to define *wish* and *be glad*. Following this overview, we move on to Villalta (2008) in section 3.2. She evaluates Heim’s analysis of *want* and accepts the basic ideas that desire predicates are comparative, and that they need to have the attitude holder’s belief-worlds incorporated in their semantics in some way. However, she alters the relationship to belief and the set of alternatives the complement is compared to, so that *want* is focus sensitive. We then see how she uses her analysis of *want* to define *wish*, *be glad*, and *be disappointed*. In section 3.3, we look last at Rubinstein (2012), who evaluates the work both of Heim (1992) and Villalta (2008), integrating their intuitions to provide her own analysis of *want*. Rubinstein
defines *want* so that its complement is compared to its negation, and the modal base it quantifies
over does not have a set flavor, rather it is contextually determined.

In section 3.4, we evaluate the merits of the proposals in the literature by seeing the
predictions each makes for Villalta’s teaching scenario, as given in (1) of this chapter.

### 3.1 Heim’s semantics for *want, wish, and be glad*

Heim’s (1992) work instantiates two major concepts concerning the semantics of *want*: 1) *want* is an operator over belief worlds; and 2) *want* has a semantics of preference, ranking its
complement $\phi$ as more desirable than not-$\phi$. In this section, we evaluate the tension she discusses
with making *want* operate over doxastic modal bases. We then see how she changes her analysis
of *want* to define *wish* and *be glad*.

#### 3.1.1 *Want* and a doxastic modal base

As a baseline semantics for a predicate like *want*, Heim considers Hintikka’s (1969)
proposal for *want*. Hintikka proposes to treat *want* as a simple necessity quantifier with a
bouletic accessibility relation. (Predating Kratzer, Hintikka does not abide by the principle that
bouletic conversational backgrounds can only serve as ordering sources.) As Hintikka does not
formalize his ideas, Heim provides the following entry, using a dynamic semantics:

(12) *Hintikka’s simple necessity semantics for want, as formalized by Heim* (Heim 1992: 192)

$c + \alpha \text{ wants } \phi \text{ is defined iff } \text{Bul}_\alpha(w) + \phi \text{ is defined for each } w \in c$

Where defined, $c + \alpha \text{ wants } \phi = \{ w \in c: \text{Bul}_\alpha(w) + \phi = \text{same} \}$

---

13 In a static semantics, Hintikka’s ideas are rendered as the following:

(11) *Hintikka’s analysis of want in a static semantics*

$[\text{want}](p)(\alpha)(w) = 1 \iff \forall w' \in \text{Boul}(\alpha, w) \rightarrow w' \in p$
Yet Heim finds such a proposal to be unsatisfactory because it cannot account for presupposition projection behavior. Citing Karttunen (1973b, 1974), Heim notes that the presuppositions of clauses embedded under want are not projected beyond the want-clause:

(13) Patrick wants to sell his cello.  

\(sell\) triggers the presupposition that Patrick owns a cello. However, this presupposition is not projected beyond (13), since it can be felicitously preceded by a clause such as “Patrick is under the misconception that he owns a cello” (Heim 1992: 183). Thus Heim believes that (13) demonstrates Karttunen’s (1974) generalization, which, applied to want, is that the presuppositions of want’s complement are only satisfied if the attitude holder believes those presuppositions. In other words, Heim proposes that the presupposition is not projected in (13)

14 We cite Karttunen (1973b) on Heim’s word as we are unable to locate this reference ourselves.
15 To be clear, ownership is not a stable presupposition of sell. It is possible for Patrick to rent a cello but still call it his own. A better example in support of Karttunen’s generalization is illustrated with a sentence such as (14), since stop consistently triggers the presupposition that its complement is ongoing.
(14) Patrick wants it to stop raining.

Let us suppose that it is not actually raining but Patrick is delusional and thinks that it is raining. In this case, the sentence “It isn’t raining but Patrick thinks it is and he wants it to stop raining” projects no presuppositions. This supports Karttunen’s generalization: Patrick’s beliefs are sufficient to satisfy the presuppositional demands of the want-clause.
16 It is reasonable to have some concern about Karttunen’s generalization. For instance, consider the following (which we gave as (14) in the previous footnote):
(15) Patrick wants it to stop raining.

If we can think of an example where Patrick does not think it is raining but (15) is true, then Karttunen’s generalization is invalidated. For instance, suppose that Patrick has a mischievous neighbor Blair who annoys Patrick by spraying water on his windows when he is sleeping. Patrick knows Blair does this to him, so when he wakes up one night and sees water on his window, he believes Blair is playing a trick on him. And Patrick exclaims that he wants Blair to stop spraying water on his window. But Patrick is mistaken. Blair is not spraying water on his window; it is actually raining. In this case, is (15) true? If so, then Karttunen’s generalization is invalidated.

But let us push this example a little further. Suppose that Maria hears Patrick utter “I want Blair to stop spraying water on my windows”. Maria knows that it is raining, so she corrects Patrick, saying “well actually, Blair isn’t playing any tricks on you. It’s really raining, so you want it stop raining.” But Patrick is so irate thinking that Blair is playing a trick on him that he doesn’t accept Maria’s correction. He retorts, “no, it’s not raining. This is Blair playing a trick on me again, and I want him to stop.” The fact that Patrick argues with the truth of Maria’s statement makes it seem like the want-clause can only be true if the attitude holder believes the presuppositions in the complement.
because Patrick believes he owns a cello. Thus Heim views it as essential to provide a definition of *want* that incorporates the attitude holder’s beliefs. This is why she finds Hintikka’s approach to defining *want* as insufficient.

In order to provide a new definition of *want*, Heim seeks for an intuition in the literature about the relationship between *want* and belief. She finds Stalnaker’s (1984) proposal to be promising: “‘wanting something is preferring it to certain relevant alternatives, the relevant alternatives being those possibilities which the agent believes will be realized if he does not get what he wants.’” (Heim 1992: 193, citing Stalnaker 1984: 89). Using this intuition, Heim formalizes a static semantics for *want*:

(16) Heim’s doxastically non-restricted semantics for *want* (Heim 1992: 193)

\[
\text{‘a wants } \phi \text{’ is true in w iff for every } w' \in \text{Dox}_\alpha(w), \ Sim_w([|\phi|]) <_{\alpha,w} Sim_{w'}(W\setminus[|\phi|])
\]

According to this definition, all of \( \alpha \)'s belief worlds are compared to their most similar sets of \( \phi \)- and not-\( \phi \)-worlds to determine the desirability of \( \phi \). Because the function \( \text{sim}_w \) may look throughout all worlds in \( W \), and is not restricted to \( \alpha \)'s belief worlds, we call this entry Heim’s doxastically non-restricted semantics for *want*.

Let us elaborate on the function \( \text{sim}_w \). It is a function from propositions to propositions: given a certain proposition \( p \) and world \( w \), it finds all the worlds \( w' \) that are maximally similar to \( w \) on the basis of a proposition \( p \):

(17) Heim’s \( \text{sim}_w \) function (Heim 1992: 195)

\[
\text{Sim}_w(p): \{w' \in W: w' \in p \text{ and } w' \text{ resembles } w \text{ no less than any other world in } p\}
\]

To be fair, such an argument does not adequately address all concerns about potential problems with Karttunen’s generalization. It may be the case that the generalization is not wholly accurate and thus must be modified or qualified before it is accommodated by any semantics. Nonetheless, like Heim, we pursue the idea that it is worthwhile to accommodate Karttunen’s generalization in the semantics of *want* and other attitude predicates.
It is clear that \( \text{sim}_w \) is intended to maintain a condition of \( \textit{ceteris paribus} \), to ensure that all else is held equal when sets of worlds are compared. However, Heim does not specify what it means for worlds to be similar to each other: is similarity merely a primitive? Is it derived? For instance, is it based on membership in propositions? Which kind of propositions? Those about likelihood? Those about what is normal in the world of evaluation? Heim does not clarify. As we look at Heim’s semantics, we assume that similarity is determined by membership in propositions, but we do not make further assumptions about what kinds of propositions these are.

\( \text{Sim}_w \) operates twice in the semantics of \textit{want}, once to generate a set of maximally similar \( \varphi \)-worlds to a belief world \( w' \) and another time to generate a set of not-\( \varphi \) worlds that are maximally similar to \( w' \). Heim notes that this allows for the following simplification. If a belief world is a \( \varphi \)-world, its set of maximally similar \( \varphi \)-worlds has just one member: itself, since no world is more similar to it than itself. Likewise, if a belief world is a not-\( \varphi \) world, its maximally similar set of not-\( \varphi \) worlds is itself.

To see that \( \text{sim}_w \) is important in Heim’s semantics for \textit{want}, suppose its absence from the semantics, so that each \( \varphi \)-belief world is compared to all not-\( \varphi \)-worlds in \( W \) and each not-\( \varphi \)-belief-world is compared to all \( \varphi \)-worlds in \( W \). Suppose “I want to go to a party” is true. Lacking \( \text{sim}_w \), this sentence is predicted to be false by the comparative semantics for \textit{want}. Let us say \( w_1 \) is a \( \varphi \) belief-world, i.e. it makes true “I go to a party”, and it is not a member of \( p \), “I win the lottery”. If \( w_1 \) is compared to all not-\( \varphi \) worlds, some of these worlds are \( p \)-worlds, i.e. worlds where I win the lottery. If it is more desirable to me that I win the lottery than go to the party, then this \( \varphi \)-belief-world does not outrank all \( \varphi \)-belief-worlds. This one ranking alone damages the ranking of \( \varphi \) so that “I want to go to the party” is predicted to be false by the semantics. However, by use of \( \text{sim}_w \), not-\( \varphi \) worlds where I win the lottery will not be included in maximally
similar sets to \( w_1 \), and hence will not be compared to \( w_1 \). In this way, \( \text{sim}_w \) holds all else equal for \( \text{want} \) to compare \( \phi \) to not-\( \phi \).

Heim notes that the doxastically non-restricted semantics for \( \text{want} \), in (16), is successful in accounting for different kinds of data. For instance, it blocks inferences of upward entailment, that if \( \phi \) entails \( \psi \), then ‘\( \alpha \) wants \( \phi \)’ entails ‘\( \alpha \) wants \( \psi \)’. Heim illustrates why such inferences should be blocked by repeating Asher’s (1987) example: Nicholas wants to get a free trip on the Concorde. “A free trip” entails “a trip”. However, we know that although Nicholas wants a free trip on the Concorde, it does not mean that he wants a trip on the Concorde no matter what, e.g. if he has to pay.\(^{17}\) Heim’s doxastically non-restricted semantics for \( \text{want} \) in (16) prevents licensing this upward entailment because \( \phi \)-belief worlds, where Nicholas gets a free trip on the Concorde, are compared to their most similar not-\( \phi \)-worlds, which include those worlds where he has to pay to ride the Concorde. The \( \phi \)-worlds are more desirable than the not-\( \phi \)-worlds, so the inference of upward entailment is blocked.

The doxastically non-restricted semantics blocks another unwanted inference, that \( \alpha \) wants what \( \alpha \) believes to be true. Heim shows this with an example originally from Stalnaker (1984): “I want to have been sick”. Suppose I was sick. Every one of my belief-worlds is an I-was-sick-world. Because \( \text{sim}_w \) is not restricted to belief worlds, it can look throughout \( W \) to find most similar not-\( \phi \)-worlds, i.e. worlds where I was healthy, to compare to the \( \phi \)-belief worlds, i.e. the worlds where I was sick. Because these not-\( \phi \)-worlds are more desirable than the \( \phi \)-worlds, “I want to have been sick” is predicted to be false.

Thus Heim’s analysis of \( \text{want} \), as presented in (16), is successful at accounting for different kinds of data: it does not license inferences of upward entailment nor does it predict that

\(^{17}\) Unfortunately, the obvious nature of Asher’s example will be lost on future readers: this high-speed commercial turbojet was retired in 2004.
α wants what α believes is true. These successes derive from the fact that want is not restricted to doxastic worlds, and because it compares φ- and not-φ worlds, rather than using a semantics of simple necessity. For comparison, although Hintikka’s analysis gives the right truth value for data such as Stalnaker’s example (I-was-sick-worlds make no worlds bouletically accessible), it predicts that all propositions that are upward entailment by want’s complement are desired, cf. Asher’s (1987) example.

3.1.2 Stronger doxastic restriction for want

Despite these successes, Heim believes that her doxastically non-restricted semantics is problematic. The reason that Heim develops an analysis of want as an operator over belief worlds is to account for Karttunen’s generalization, that α believes the presuppositions in the complement of want. However, because sim_w is not doxastically restricted, the desirability comparison is not necessarily between belief worlds. Heim believes that her semantics thus sacrifices explanation of Karttunen’s generalization. In order to account for it, she proposes that sim_w, and thus the comparison between worlds, should be restricted to α’s belief worlds:

(18) Heim’s doxastically restricted semantics for want

\[ c + \alpha \text{ wants } \phi = \{ w \in c : \text{for every } w' \in \text{Dox}_\alpha(w): \text{Sim}_{w'}(\text{Dox}_\alpha(w) + \phi) <_{\alpha, w} \text{Sim}_{w'}(\text{Dox}_\alpha(w) + \text{not } \phi) \} \]

We call this entry Heim’s ‘doxastically restricted semantics for want’. In addition to its doxastic restriction, this entry is different from the last because it is written in a dynamic semantics, namely context change semantics. The basic idea of this semantics is that the meaning of a sentence is its context change potential (CCP). A context is an information state, which is defined formally as a set of possible worlds. The CCP of a sentence refers to how it can change
the context it is added to. For instance, take context \( c = \{w_1, w_2, w_3\} \), and a sentence \( s \) which expresses the proposition \( p_1 = \{w_2, w_3, w_4\} \). The CCP of the sentence is to reduce \( c \) to those of its worlds where the sentence is true, so that \( c + s = \{w_2, w_3\} \).\(^{18}\)

The reason that Heim switches to context change semantics is because of her goal to account for Karttunen’s generalization. A basic principle of context change semantics is that the presuppositions of a sentence are requirements on contexts, in that a sentence only has CCP in contexts where its presuppositions are true. If a sentence presupposes \( p \), and \( p \) is not entailed by \( c \), the sentence has no CCP for \( c \). Thus Heim’s dynamic semantics for \textit{want} says that its meaning cannot be added to the context \( c \) unless its presuppositions are entailed by the context.

While Heim believes that this definition of \textit{want} accounts for Karttunen’s generalization better than her doxastically non-restricted semantics, she notes that it has a serious flaw. No truth values can be provided if \( \alpha \) believes that \( \phi \) is true or false. Consider again Stalnaker’s (1984) example of being sick, and take the sentence “I want to have been sick”. Because I believe that I was sick, all of my belief worlds make true the complement “I was sick.” In other words, there are no not-\( \phi \)-belief-worlds. This means that \( \text{sim}_w \) can find no most similar not-\( \phi \)-worlds for comparison to a \( \phi \)-belief world. The semantics thus has a presupposition failure, so that the \textit{want}-clause is assigned no truth value, contrary to our judgment that is false.\(^{19}\) The same is true for any \textit{want}-clause where \( \alpha \) believes the complement is true or false: the semantics has a presupposition failure. Heim notes that this problem can be solved by establishing a precondition that \( \alpha \) does not believe \( \phi \) or its negation in order for ‘\( \alpha \) want \( \phi \)’ to have a truth value. Yet she

\begin{itemize}
  \item \(^{18}\) If the context and the presupposition expressed by a sentence make true all the same worlds, then the sentence makes no change to the context.
  \item \(^{19}\) Heim points out that “I want to have been sick” and “I want to have been healthy” are both odd sentences. She notes that we prefer factive predicates like \textit{glad that} for instances where the complement is known to be true. We discuss whether it is appropriate for \textit{want} to have true complements in section 5.4.
\end{itemize}
decides against implementing such a precondition because of the fact that \textit{want} can have complements that are known to be impossible (cf. (38)).

Ultimately, Heim provides no solution to this problem with her doxastically-restricted semantics. She accepts it, viewing it as a trade-off in her effort to restrict \textit{want} to \(\alpha\)’s belief worlds. Because she believes that it accounts for Karttunen’s generalization, Heim upholds her doxastically restricted semantics for \textit{want} as the appropriate analysis of \textit{want}. Accordingly, she takes it to be the starting point for defining other desire predicates. She shows that with a minimal change, her doxastically restricted semantics for \textit{want} can be used to define \textit{wish} and \textit{be glad}.

3.1.3 \textit{Wish} and \textit{be glad}

Heim focuses on the entry of \textit{wish} that takes irrealis complements. She proposes that like \textit{want}, Karttunen’s generalization applies to \textit{wish}, that \(\alpha\) believes the presuppositions of \textit{wish}’s complement. She takes the following sentence to support this claim:

(19) John believes Mary is coming and he wishes SUSAN were coming too. \hspace{1cm} (Heim 1992: 203)

Although \textit{too} triggers the presupposition that someone other than Susan is coming, it is not projected beyond (19). As with \textit{want}, this can be explained by Karttunen’s generalization: since the presuppositions of \textit{wish}’s complement are believed by the attitude holder, they do not project.

So like \textit{want}, Heim wants to treat \textit{wish} as an operator over belief worlds. But because Heim is evaluating irrealis \textit{wish}, she proposes that \(\alpha\) believes \(\phi\) is false as a presupposition of ‘\(\alpha\)
wish φ’. So a semantics for wish that is like want, i.e. is restricted to α’s belief-worlds, will always have a presupposition failure: there are no φ-worlds in dox_α(w).  

Thus Heim proposes to use a rev_φ function in the semantics of wish. Heim defines the function rev_φ as applying to a context, i.e. a set of propositions, and updating it according to a proposition φ. Specifically, this update is a removal of any propositions in c that conflict with φ, so that rev_φ(c) changes c to one of its supersets. (In instances where a context does not conflict with φ, rev_φ(c) = c.) Heim specifies a limitation to the propositions that may be removed from c: any propositions that make true φ’s presuppositions must remain in the context.

(20) For any context c, LF φ:
rev_φ(c), the revision of c for φ, is \( \bigcup \{ X \subseteq W : c \subseteq X \text{ and } X + \phi \text{ is defined} \} \) (Heim 1992: 204)

Thus rev_φ can be used in the semantics of wish, to revise α’s doxastic modal base so that it is compatible with wish’s complement φ. Specifically, Heim inserts rev_φ on the left-hand side of the desirability comparison, so that α’s belief worlds are compatible with φ. The right-hand side of the desirability comparison can be simplified: since all belief worlds are not-φ-worlds,

\[
\text{sim}_w(\text{Dox}_α(w) + \text{not-φ}) = w'.
\]  

(21) Heim’s semantics for wish (Heim 1992: 206)

\( c + α \text{ wishes } φ = \{ w ∈ c: \text{ for every } w' ∈ \text{Dox}_α(w): \text{Sim}_w(\text{rev}_φ(\text{Dox}_α(w)) + φ) <_{α,w} w' \} \)

---

20 One might question whether it is actually the case that all belief worlds are not-φ worlds when ‘α wish φ’. For instance, it might be the case that when ‘α wish φ’, α thinks that φ is highly unlikely, but not impossible. In such a set-up, it would seem that α does have some φ-belief worlds. Heim does not explicitly address this possibility, but her work on rev_φ implicates that such highly unlikely worlds are not members of dox_α(w). We address the topic of what worlds belong in dox_α(w) in section 4.3.

21 ‘LF’ means logical form.

22 Presumably, w' is treated as a singleton set, so that it is sets of worlds that are compared. We make this assumption throughout this chapter.
Using $\text{rev}_\phi$, Heim can also easily adapt her semantics for want to define be glad. Since be glad is factive, i.e. its complement is presupposed to be true, $\text{rev}_\phi$ need only revise $\alpha$’s doxastic set so it is compatible with not-$\phi$.\(^{23}\) And because all of $\alpha$’s belief-worlds are $\phi$-worlds, the left-hand side of the desirability comparison can reduced to $w'$. 

\begin{equation} \tag{22} \text{Heim’s semantics for be glad} \quad (\text{Heim 1992: 206}) \\
c + \alpha \text{ is glad } \phi = \{ w \in c : \text{ for every } w' \in \text{Dox}_\alpha(w) : w' \prec_{\alpha,w} \text{Sim}_w(\text{rev}_{\text{not-}\phi}(\text{Dox}_\alpha(w)) + \text{not } \phi) \} \end{equation}

### 3.1.4 Summary of Heim’s proposal

In this section, we looked at Heim’s analysis of desire predicates. She makes want, wish and be glad preferential operators over belief-worlds, and uses $\text{rev}_\phi$ in the semantics of wish and be glad to accommodate wish taking irrealis complements and be glad being factive.

As discussed, Heim’s doxastically restricted semantics for want is mostly successful: it accounts for presupposition behavior and because it is comparative, it blocks the inference that if $\alpha$ wants $\phi$ and $\phi$ upward entails $\psi$, then $\alpha$ also wants $\psi$. But, as Heim acknowledges, making want an operator over $\alpha$’s belief worlds generates a presupposition failure any time $\alpha$ wants $\phi$ and believes that $\phi$ is true or false. Yet Heim does nothing to fix this problem.\(^{24}\) She accepts it, favoring her doxastically restricted semantics over her non-doxastically restricted semantics because she believes only the former accounts for Karttunen’s generalization.

\(^{23}\) We correct Heim’s semantics in this presentation. She writes her semantics for be glad so that the right-hand side of the desirability comparison is revised according to $\phi$.

\(^{24}\) This is not for lack of possible solutions. For instance, Heim could use $\text{rev}_\phi$ in the semantics of want. Perhaps she refrains from doing so in an effort to distinguish the meaning of want from wish. (Although is not clear that such a change would blur the distinction between these two verbs. Since want’s complement can be true or false, it would need $\text{rev}_\phi$ not just on the left-hand side of the desirability comparison, but on both the left- and right-hand side, where either one or both revisions would be moot for any given instance of want.)
3.2 Villalta’s semantics for desire predicates

Following Heim, Villalta (2008) evaluates the semantics of desire verbs in the context of the mood selection of Spanish predicates. Villalta adopts the proposal (ultimately stemming from Heim 1992) that predicates which select for subjunctive-marked complements have a semantics of comparison. (The flipside of this proposal is that indicative selecting predicates do not have a semantics of comparison.) Villalta thus uses Heim’s analysis of want as a comparative operator as her starting point in analyzing want. In evaluating Heim’s analysis, Villalta makes three main changes. First, she proposes that the comparison is not between want’s complement and its negation, but between want’s complement and a set of contextually relevant alternatives to the complement. The second change comes with her getting rid of simw. The third change is with her loosening the doxastic restriction, allowing non-belief worlds to be included in the desirability comparison.

3.2.1 Changing the Heimian analysis

Villalta’s proposal for desire verbs is rooted in an examination of Heim’s analysis of want, wish and be glad. Because Heim endorses her doxastically-restricted semantics over her doxastically non-restricted semantics, Villalta only evaluates the merits of the former. She starts by finding a problem with this semantics concerning simw. But rather than looking at data specifically with want to illustrate this issue, Villalta uses data with wish and be disappointed:

(23) **Scenario: Picnic** (Villalta 2008: 476, paraphrased)
Sofía has promised to bring a dessert to the picnic. Her friend Victoria prefers for Sofía to bring chocolate cake the most, then apple pie, then ice cream. But according to what Victoria believes, the likelihood of Sofía bringing these desserts runs opposite to Victoria’s preferences: Victoria believes that it is most
likely for Sofía to bring ice cream and then apple pie. Victoria believes that the odds that Sofía would bake and bring a chocolate cake are so bad that the likelihood is virtually nonexistent.

(23a) Victoria wishes Sofía would bring an apple pie.

((23a) verbatim from Villalta 2008: 477)

Villalta states that (23a) is false because Victoria prefers chocolate cake over apple pie. Yet Villalta argues that this sentence is predicted to be true according to Heim’s semantics for wish.²⁵ Villalta shows this by adapting Heim’s dynamic semantics for wish into a static semantics. (Note that we have replaced Villalta’s Latin ‘α’ with ‘α’, and > with <.)

(24) Villalta’s static semantics adaptation of Heim’s entry for wish (Villalta 2008: 475)

\[
[[\text{wish}]](p)(\alpha)(w) = 1 \text{ iff } \forall w' \in \text{Dox}_\alpha(w) : \text{Sim}_w(\text{rev}_p(\text{Dox}_\alpha(w)) \cap p) <_{\alpha,w} \text{Sim}_w(\text{Dox}_\alpha(w) \cap \neg p)
\]

Villalta argues that (24) predicts that (23a) is true for the following reason. If the semantics takes an apple pie belief-world \(w_1\), \(\text{sim}_w\) must find maximally similar \(\neg p\)-worlds to compare to \(w_1\). Villalta states that all maximally similar \(\neg p\)-worlds to \(w_1\) are those where Sofía brings ice cream, and includes no worlds where Sofía brings chocolate cake. Villalta explains this by reasoning that because Victoria believes that it is unlikely for Sofía to bake and bring a chocolate cake, \(\text{sim}_w\) treats such worlds as too dissimilar from apple pie worlds. Thus, a comparison of \(p\)-worlds to \(\neg p\)-worlds, i.e. apple pie-worlds to ice-cream-worlds, finds \(p\) as more desirable, so that (24) predicts that (23a) is true.²⁶

²⁵ Similarly, we assume that Villalta would say that a parallel want-clause is also false in this scenario, but predicted true by Heim’s semantics.

²⁶ It is questionable whether this is a fair interpretation of how \(\text{sim}_w\) works. As we noted, Heim does not specify the exact mechanism of \(\text{sim}_w\), so it is possible that similarity is not based on the attitude holder’s beliefs about likelihood. And even if we grant that \(\text{sim}_w\) is based on these beliefs, Heim’s semantics still seem to work. As Rubinstein (2012) notes, if Victoria believes that Sofía will bring a chocolate cake world, then these not-\(\phi\)-belief
Villalta shows that \( \text{sim}_w \) is also problematic for a predicate like \textit{be disappointed}. Heim does not discuss or define \textit{be disappointed}, but Villalta gives it a truth conditional Heim-style semantics, proposing that the difference between \textit{be disappointed} and \textit{be glad} is that the complement of \textit{be disappointed} is less desirable to \( \alpha \) than its negation.\(^{27}\) The following formalizes Villalta’s (2008: 477) description of \textit{be disappointed}.

\begin{equation}
\text{be disappointed} \quad \text{according to Villalta’s interpretation of Heim} \quad \text{\textit{(cf. Villalta 2008: 477)}}
\end{equation}

\begin{equation}
|\text{be disappointed}|(p)(\alpha)(w) = 1 \text{ iff } \forall \omega \in \text{Dox}_d(w): \text{Sim}_w(\text{rev}_\neg p(\text{Dox}_d(w)) \cap \neg p) < \alpha, w
\end{equation}

\begin{equation}
\text{Sim}_w(\text{Dox}_d(w) \cap p)
\end{equation}

As with Heim’s entry for \textit{wish} (which Villalta adapts to be truth conditional, cf. (24)), Villalta shows that because of \( \text{sim}_w \), this semantics gives the wrong truth value for another sentence in the context of the dessert scenario:

\begin{equation}
\text{(26) Victoria is disappointed that Sofía brought an apple pie.} \quad \text{\textit{(Villalta 2008: 477)}}
\end{equation}

Villalta states that (26) is true. (We are not as clear on this judgment: since Victoria knows that it is highly unlikely for Sofía to bake and bring a chocolate cake, it seems that (26) is in fact false. We discuss this issue further in section 5.3, where we repeat this example as (70).) Against the reported judgment, Villalta states that the Heim-style semantics for \textit{be disappointed} predicts that it is false. As before, she states that \( \text{sim}_w \) only takes ice cream worlds to populate the set of most similar \( \neg p \)-worlds to apple pie worlds. Chocolate cake worlds are excluded because they diverge worlds must be compared to their most similar \( \phi \)-belief worlds. Such a comparison will cause the semantics to rightly give \( (22a) \) as false. We discuss this problem in section 3.3 as we examine Rubinstein (2012).

\(^{27}\) It is odd that Villalta defines \textit{be disappointed} in this way, as she later suggests (Villalta 2008: 482) that \textit{be disappointed} means that there is a better alternative to its complement, so that its complement is not necessarily the worst alternative (cf. (35) of this chapter).
in similarity too much. Thus, apple pie worlds are only compared to ice cream worlds, and since apple pie is more desirable to Sofía, (26) is wrongly predicted to be false.

Based on these examples with *be glad* and *be disappointed*, Villalta proposes that the complement of a desire predicate is not compared to its negation, but to a set of contextually relevant alternatives. This change ensures that for both (23a) and (26), chocolate cake worlds, along with ice cream worlds, are included in the comparison set to apple pie p-worlds. As a result, (23a) is predicted to be false and (26) is predicted to be true.

Thus Villalta formalizes a semantics for *want* where its complement is compared to a set of contextual alternatives:28

\[(27) \text{Villalta’s first proposal for want} \quad (\text{Villalta 2008: 478}) \]

\[\langle \text{want}_C \rangle(p)(\alpha)(w) = 1 \text{ iff } \forall q: q \neq p \& q \in g(C): \text{Sim}_w(Dox_\alpha(w) \cap p) < \text{Sim}_w(Dox_\alpha(w) \cap q) \]

This entry of *want* is contextually relativized, as *want* is relative to a context C and an ordering source g, so that the set of q-alternatives are contextually salient. Aside from that innovation, this entry is the same as Heim’s: each of α’s belief worlds is compared either to its most similar p- or q-worlds, depending on which proposition it is a member of.

### 3.2.2 Keeping belief in the semantics of *want*

Villalta finds the definition of *want* in (27) to be problematic because it licenses an invalid inference. She illustrates this with an example from Heim (1992: 195, repeated in Villalta 2008: 478).29

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28 As we did with her adaptation of Heim’s semantics, we use < to represent the ‘better-than’ relationship, although Villalta uses >. Additionally, Villalta varies in using ‘a’ and ‘α’ to represent the attitude holder; we use ‘α’ only.

29 A similar inference is discussed in Kratzer (1981: 65).
(28) (a) I want to teach Tuesdays and Thursdays next semester.
   
   (b) I believe that I will teach Tuesdays and Thursdays next semester iff I work hard now.

   (c) ∴ I want to work hard now. (Invalid inference)

Because I know that the set of worlds where I teach on Tuesdays and Thursdays next semester is also that set of worlds where I work hard this semester, (28c) is validated by the principle of *modus ponens*. But Villalta points out that we do not want this inference to be validated: we know that (28a) and (28b) can be true without (28c) also being true. Villalta does not use such terms, but we label this the “multiple senses” problem, since the complements in (28a) and in (28c) are different senses that refer to the same set of worlds. It is a basic principle that if two objects are different senses of the same referent, then the two are interchangeable. Hence (28c) is true because (28a) is.

Villalta thus considers the possibility of eliminating the doxastic modal base in the semantics of *want*. This can block the inference of (28c), since although all my p-belief worlds in (28a) are those where I work hard, there are worlds in W where I teach on Tuesdays and Thursdays next week without working hard (cf. footnote 30).

But Villalta does not want to completely give up the doxastic modal base from *want’s* semantics, since she notes that belief does seem to play a role in the semantics of *want*:

(29) John doesn’t have to teach at all next semester but he thinks he does and he wants to teach Tuesdays and Thursdays. (Villalta 2008: 479)

---

30 With a stipulation. If we populate $p_1$ ‘I teach on Tuesdays and Thursdays next semester’ and $p_2$ ‘I work hard now’ from all worlds in W, $p_1$ and $p_2$ are not identical sets. $p_1$ contains worlds where I get lucky and teach on Tuesdays and Thursdays even though I do not work hard now. However, if we populate $p_1$ and $p_2$ only with those worlds in doxI(w), then $p_1$ is identical to $p_2$. (This is based on the assumption that doxI(w) is populated only by worlds that are most likely or most realistic. We touched on this issue is footnote (20) and return to it in section 4.3.)
Furthermore, she notes that maintaining a relationship to belief in the semantics of desire predicates is useful in distinguishing them from each other.

Thus Villalta provides a new formalization of want’s semantics, where dox\(_\alpha\)(w) is no longer in the truth condition but in the definedness condition. This definedness condition stipulates that all contextually relevant propositions must have a non-empty intersection with dox\(_\alpha\)(w). In other words, each contextually relevant proposition must have at least one belief-world as its member. Apart from that, dox\(_\alpha\)(w) has no other role in the semantics. The desirability comparison is not between \(\alpha\)’s belief worlds, but between all worlds of the contextually relevant propositions. Additionally, Villalta changes how the desirability comparison is made. She gets rid of sim\(_w\), so that every set of most similar p-worlds need not outrank the most similar q-worlds. Instead, want is treated more like a quantifier, where a proposition p outranks another proposition q iff for each of the q-worlds, there is a better-ranking p-world, i.e. there is no q-world for which there are no more desirable p-worlds.\(^3\)

(30) Villalta’s final proposal for want

\[\text{[(want\_C)]}^\delta (p)(\alpha)(w) = \text{defined} \iff \forall q \in g(C): \text{Dox}_\alpha(w) \cap q \neq \emptyset\]

if defined, \[\text{[(want\_C)]}^\delta (p)(\alpha)(w) = 1 \iff \forall q \neq p & q \in g(C): p <_{\text{DES}_\alpha,w} q\]

where \(<_{\text{DES}_\alpha,w}\) is defined as follows

a) for any \(w, w', w'' \in W\), \(w' <_{a,w} w''\) iff \(w'\) is more desirable to \(\alpha\) in \(w\) than \(w''\)

b) For any \(p \subseteq W, q \subseteq W\), \(p <_{\text{DES}_\alpha,w} q\) iff \(\forall w'' \in q \exists w' \in p\) such that \(w' <_{a,w} w''\), and it is not the case that \(\forall w' \in p \exists w'' \in q\) such that \(w'' <_{a,w} w'\)

Villalta demonstrates the merits of this semantics by showing that it gives the right truth values for a sentence in context of the picnic scenario:

\(^3\) We say that want is treated “more like a quantifier” rather than “is a quantifier” because in proper quantificational semantics, modals quantify over modal bases. Want quantifies over no modal base in Villalta’s semantics.
(31) Victoria wants Sofía to bring apple pie.

Context informs the semantics that the relevant alternatives to \( p \), “Sofía brings apple pie” are \( q_1 \), “Sofía brings ice cream” and \( q_2 \), “Sofía brings chocolate cake”. Since Victoria believes that there are possible worlds where Sofía brings each of these desserts, the definedness condition is met: \( p \cap \text{dox}_a(w) \neq \emptyset \), \( q_1 \cap \text{dox}_a(w) \neq \emptyset \), and \( q_2 \cap \text{dox}_a(w) \neq \emptyset \). Then the desirability comparison is made. Since there are some \( q \)-chocolate cake worlds for which there are no better ranking apple pie worlds, the complement does not represent the best alternative, and (31) is appropriately predicted to be false.

This semantics is similarly successful at blocking the invalid inference we discussed in (28), labeling the ‘multiple senses’ problem. The complement to \textit{want} in (28a), “I teach Tuesdays and Thursdays,” is compared to its set of contextual alternatives, including “I teach Mondays, Wednesdays, and Fridays”. The proposition expressed by want’s complement in (28c), “I work hard this semester”, is compared to a different set of alternatives, most notably including propositions such as “I do not work hard this semester”. Thus although both complements in (28a) and (28c) denote the same set of worlds, the inference in (28c) is not licensed: the complement of (28a) is better than its alternatives, but the complement in (28c) is not better than its alternatives.

### 3.2.3 \textit{Wish}, \textit{be glad}, and \textit{be disappointed}

Based on these successes, Villalta adapts her analysis of \textit{want} in (30) for other predicates which select for subjunctive in Spanish, including the desire predicates \textit{wish} and \textit{be glad}. She
alters her semantics for *want* for *wish* and *be glad* by changing the relationship to belief in the definedness condition.  

First, let us look at *wish*. Like Heim, Villalta is concerned with the entry of *wish* that takes irrealis complements. Also like Heim, Villalta proposes that the attitude holder of *wish* believes the complement is false, so that there are no p-belief-worlds when ‘α wish p’. Thus she changes her entry of *want* for *wish* by writing the definedness condition to stipulate an empty intersection between *wish*’s complement and α’s doxastic set. The truth condition is the same as for *want*.  

(32) Villalta’s semantics for *wish*  

\[ \text{iff } p \cap \text{Dox}_a(w) = \emptyset \]  

\[ \text{if defined, } \text{iff } q \neq p \text{ & } q \in g(C): p <_{\text{DES}_a,w} q \]  

Similarly, Villalta changes the definedness condition of *want* to define *be glad*. Since *be glad* presupposes that the attitude holder believes its complement is true, the definedness condition requires dox\_a\(\text{(w)}\) to be a subset of the complement. The truth condition is the same as for *want* and *wish*.  

(34) Villalta’s semantics for *be glad*  

\[ \text{iff } \text{Dox}_a(w) \subseteq p \]  

\[ \text{if defined, } \text{iff } q \neq p \text{ & } q \in g(C): p <_{\text{DES}_a,w} q \]  

---

32 Villalta acknowledges that as presented, the definedness conditions for both of these semantics are simplified, since the conditions represent “a rather complex matter” (Villalta 2008: 481).  
33 As with her other entries, we rewrite Villalta’s > as < to represent ‘better-than’, and use α to represent all instances of the attitude holder.  
34 Again, recall that Villalta represents the ‘better-than’ relationship with > and alters between using Latin and Greek letters to refer to the attitude holder.  
35 In a later section, Villalta notes that the complement of *be glad* may not represent the most desirable alternative, rather that it is more desirable than at least one other contextually relevant alternative. She thus provides a second entry for *be glad* (following Villalta, we omit the definedness condition to keep the presentation streamlined):  

(33) *be glad*  

\[ \text{iff } \exists q: q \neq p \text{ & } q \in g(C): p <_{\text{DES}_a,w} q \]
Having defined these predicates, Villalta believes that such an analysis can be applied to provide a semantics for all desire predicates, e.g. *lamentarse* ‘be disappointed, regret’, *enfadarse* ‘be upset’. The difference among desire predicates is in the ranking of their complements to the alternatives, as well as the relationship between α’s belief-worlds and p.\(^{36}\) For instance, Villalta notes that the complement of *be disappointed* is worse-ranking than one of its q-alternatives. Although Villalta does not formalize an entry for *be disappointed*, we can do so based on her comments. Since *be disappointed* is factive, we give it the same definedness condition Villalta gives *be glad*.

\[\text{\textbf{(35) be disappointed} according to Villalta’s comments} \] (cf. Villalta 2008: 482)
\[
||\text{be disappointed}_{C}|]_E(p)(\alpha)(w) = \text{defined iff } \text{Dox}_d(w) \subseteq p
\]
\[
\text{if defined, } ||\text{be disappointed}_{C}|]_E(p)(\alpha)(w) = 1 \text{ iff } \exists q: q \neq p \land q \in g(C): q <_{\text{DES}_{\alpha,w}} p
\]

### 3.2.4 Focus-sensitivity in Villalta’s proposal

To reiterate, a significant way that Villalta innovates on Heim’s work is that she makes desire predicates contextually sensitive. Rather than compare the complements to their negations, they are compared to sets of contextually relevant alternative propositions. This is a welcome innovation: it allows the semantics to distinguish the right alternatives to compare the complement, which in turn, makes the semantics semantically focus sensitive. To see this, consider Villalta’s teaching scenario (which is also given in (1) but is renumbered here).

---

\(^{36}\) On top of this, Villalta believes that such an analysis is appropriate for all Spanish predicates which select for complements in the subjunctive mood. Villalta suggests that the difference for non-desire predicates like *es interesante* ‘it is interesting’, *es divertido* ‘it is amusing’, *es útil* ‘it is useful’ and *es fascinante* ‘it is fascinating’ is in the flavor of the ordering source. She makes no mention of whether the relationship to dox\(_d\)(w) is necessary or would differ for such predicates.
(36) **Scenario: Teaching**  
(paraphrase of Villalta 2008: 496)  
The linguistics professors are discussing the teaching schedules for the upcoming semester. Lisa does not want John to teach syntax; she wants Lara to teach syntax. Yet given the teaching schedules, it is necessary for John to teach syntax. Lisa’s preferences are for him to teach on Tuesdays and Thursdays, rather than on Mondays, Wednesdays, and Fridays.

(36a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.  
(True)

(36b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.  
(False)

((36a) and (36b) verbatim from Villalta 2008: 496)

The complement denotes the same proposition in both (36a) and (36b). But because of focus-marking, the semantics compares it to different alternative propositions: “John teaches on Mondays, Wednesdays, and Fridays” for (36a) and “Lara teaches on Tuesdays and Thursdays” for (36b). Thus the semantics correctly predicts that (36a) is true, and (36b) is false. The semantics for *wish, be glad*, and *be disappointed* are similarly successful with similar examples.

With contextually sensitive semantics, they can distinguish the appropriate alternatives to compare to their complements, allowing them to provide different truth values even when the propositional content is the same.

### 3.2.5 Summary of Villalta’s proposal

Villalta innovates on Heim’s semantics for desire predicates in three main ways. She gets rid of the function $\text{sim}_w$. Belief is given a new role, removed from the desires predicates’ truth conditions and placed instead in their definedness conditions. Finally, desire predicates do not compare their complements to their negations but to sets of contextually relevant alternatives, so that they are focus sensitive.
While it is clear that it is an improvement to make the semantics of desire predicates focus sensitive, it is unclear whether Villalta’s other innovations are also improvements. For instance, consider the role that belief has in her semantics for *want*. To repeat, the definedness condition stipulates that all contextually relevant alternatives must have a nonempty intersection with dox\(_a(w)\). In light of this condition, consider Stalnaker’s (1984) example of “I want to have been sick”. The contextually relevant alternative is “I was not sick”. However, if I know that I was sick, all worlds in dox\(_i(w)\) are I-was-sick worlds. Thus the semantics is undefined and no truth value is assigned to “I want to have been sick.” Thus even though Villalta loosens Heim’s doxastic restriction, it is no better at providing truth values when \(\alpha\) believes that the complement of *want* is true or false. Since we again address Villalta’s doxastic incorporation in section 4, we presently end our overview of Villalta’s work here.

### 3.3 Rubinstein’s semantics for *want*

We turn now to Rubinstein (2012), who does not look at a variety of desire predicates, but works simply on *want*. She analyzes *want* based on an examination of both Heim’s and Villalta’s proposals for *want*.

#### 3.3.1 Accounting for Heim’s and Villalta’s intuitions

Rubinstein begins by examining Villalta’s innovation of comparing the complement of *want* to a set of contextual alternatives rather than to its negation. Rubinstein agrees with Villalta, that by using a set of alternatives, the *multiple senses* inference, as illustrated in (28), is
blocked. She also acknowledges that it is licensed by Heim’s doxastically-restricted semantics, which compares the complement to its negation.\footnote{Rubinstein notes that such inferences are not licensed by Heim’s doxastically non-restricted semantics, since comparison is not restricted to belief worlds. Thus the issue is not simply that \( \phi \) is compared to its negation, but that only \( \alpha \)’s belief worlds can be considered. We raised this point in footnote 30.}

However, despite the success of this innovation, Rubinstein believes that Villalta’s reasons for it are flawed. As we discussed in section 3.2, Villalta motivates making this change to Heim’s analysis by finding a problem with \( \text{sim}_w \) in the Picnic Scenario, given in (23). Recall that as Villalta interprets Heim’s \( \text{sim}_w \) function, it does not include chocolate cake worlds in most similar sets to apple pie worlds because they are too different in terms of likelihood. For this reason, Villalta says that only apple pie worlds and ice cream worlds are compared to each other, so that the semantics wrongly predicts that “Victoria wishes Sofía would bring an apple pie” is true. Yet Rubinstein shows a mistake with Villalta’s argument. In this scenario, Victoria has belief worlds where Sofía bakes and brings a chocolate cake. So even if \( \text{sim}_w \) does not include chocolate cake worlds in maximally similar sets to apple pie worlds, the belief worlds where Sofía brings chocolate cake must be compared to their most similar sets of \( \phi \)-worlds. Since these not-\( \phi \) worlds are more desirable than \( \phi \)-worlds, Heim’s semantics for \textit{wish} do predict that “Victoria wishes Sofía would bring apple pie” is false. Showing that Villalta’s argument against Heim’s semantics is unjustified, Rubinstein reverts to Heim’s proposal, comparing \textit{want}’s complement to its negation. (Heim refers to the complement with ‘\( \phi \)’, Rubinstein ‘\( p \)’.)

However, Rubinstein believes that comparing \textit{want}’s complement \( p \) to not-\( p \) licenses the invalid \textit{multiple senses} inference, as illustrated in (28), whereas it is not licensed if \( p \) is compared to a set of contextually relevant alternatives. In order to block such inferences, Rubinstein proposes to blend Villalta’s intuition about contextual sensitivity with Heim’s intuition that the complement is compared to its negation. She proposes that \textit{want} has a definedness condition that
p and not-p must intersect not just dox$_a$(w), but also another, contextually specified, modal base f. The desirability comparison is made between all p-worlds in the contextually specified modal base and all not p-worlds in the contextually specified modal base:

(37) Rubinstein’s second proposal for want

\[ [\text{want}] f(\alpha)(w) = \text{defined} \iff \cap f(w) \cap \text{Dox}_a(w) \cap p \neq \emptyset \text{ and } \cap f(w) \cap \text{Dox}_a(w) \cap \neg p \neq \emptyset \]

if defined, \[ [\text{want}] f(\alpha)(w) = 1 \iff \cap f(w) \cap p < \text{DES}_a,w \cap f(w) \cap \neg p \]

This definition of want is similar to Villalta’s (in (30)) in that dox$_a$(w) has a role only in the definedness condition, and none in the truth condition. So like Villalta’s semantics, doxastically inaccessible worlds may be included in the desirability comparison. On the other hand, in the sense that this semantics compares the complement to its negation, it is more like Heim’s.

3.3.2 Removing the doxastic modal base

Yet Rubinstein finds the definedness condition of the semantics in (37) to be unappealing. Repeating an example from Heim (1992: 199), Rubinstein highlights that we are not limited to wanting things which we believe to be possible.

(38) I want this weekend to last forever (But I know, of course, that it will be over in a few hours.)

(Rubinstein 2012: 116, originally in Heim 1992: 199)

Rubinstein notes that her definition of want in (37) gives (38) as valueless since the definedness condition is not met: p has no doxastically accessible worlds. Thus Rubinstein changes her analysis of want by removing the doxastic modal base from want’s semantics. The definedness
condition requires $p$ and $\neg p$ to have a non-empty intersection with the contextually specified modal base $f$. The truth condition remains the same as before.\footnote{Rubinstein follows this formalization with a quantificational entry:}

(40) Rubinstein’s final proposal for $\text{want}$

\[
\begin{align*}
[\text{want}]^f(p)(\alpha)(w) &= \text{defined if } \cap f(w) \cap p \neq \emptyset \text{ and } \cap f(w) \cap \neg p \neq \emptyset \quad \text{if defined, } [\text{want}]^f(p)(\alpha)(w) = 1 \text{ iff } \cap f(w) \cap p <_{\text{DES}_{\alpha,w}} \cap f(w) \cap \neg p
\end{align*}
\]

But Rubinstein does not intend for this entry to make no use of $\alpha$’s doxastic set. Rather, she proposes that the contextually specified modal base is either of doxastic or circumstantial flavor. It is doxastic when $p$ and $\neg p$ intersect $\text{dox}_\alpha(w)$, and it is circumstantial when either $p$ or $\neg p$ have no overlap with $\text{dox}_\alpha(w)$. So for an example like Villalta’s picnic scenario, given in (23), the modal base is doxastic, since all contextually relevant alternatives, of Sofia bringing apple pie, ice cream, or chocolate cake, have doxastically accessible worlds. On the other hand, the contextually specified modal base is circumstantial for an example like (38), since $p$, “this weekend lasts forever”, has no doxastically accessible worlds. Likewise, the modal base is circumstantial for an example such as Stalnaker’s, since $\neg p$, “I want to have not been sick”, has no doxastically accessible worlds. (We address our concerns with this proposal in section 3.4.2.)

3.3.3 Summary of Rubinstein’s proposal

Unlike both Heim’s and Villalta’s analyses of $\text{want}$, Rubinstein’s analysis of $\text{want}$ in (40) provides the right truth value for examples where $\alpha$ believes that $p$ is true or false. It simply uses
a circumstantial modal base rather than a doxastic modal base. In this way, Rubinstein’s proposal presents a noteworthy improvement over both Heim’s and Villalta’s approaches. It can provide truth values for *want*-clauses when the relevant alternatives have no doxastically accessible worlds. However, if we adopt Heim’s perspective on presupposition projection behavior, i.e. accept Karttunen’s generalization, Rubinstein’s proposal is not fully adequate, since, according to Heim, such behavior is only explained if *want* operates (or quantifies) only over α’s belief worlds.

### 3.4 Testing the proposals in the literature

In sections 3.1-3.3, we examined Heim’s, Villalta’s, and Rubinstein’s work on desire predicates, *want, wish, be glad* and *be disappointed*, with emphasis on *want*. One of the primary goals of providing an overview on this literature was to highlight the intuitions that surface in analyses of *want* and other desire predicates. These intuitions are that desire predicates make comparison to alternatives, whether they are not-p or some set of q-propositions determined by context, and that they have some connection to the attitude holder’s beliefs, whether it is that only worlds in doxα(w) are available for comparison, or that the compared propositions must have a nonempty intersection with doxα(w).

Looking first at Heim, we see that she uses presupposition projection behavior to motivate the analysis of *want* not as a quantifier over bouletically accessible worlds, but as an operator that uses α’s desires to rank belief worlds. We looked at both ways that Heim formalizes *want*: the first, doxastically non-restricted semantics, cf. (16), makes comparison between ϕ- and not-ϕ belief worlds and their most similar worlds in W, the other, doxastically restricted semantics, cf. (18), between ϕ-belief worlds and their most similar not-ϕ-belief worlds. Heim
shows that the first approach is successful in accounting for examples where $\phi$ or not-$\phi$ is doxastically inaccessible, but believes it is inadequate in explaining presupposition projection behavior. Willing to sacrifice an account of $want$-clauses where either $\phi$ or not-$\phi$ is doxastically inaccessible, Heim promotes the second, doxastically-restricted, semantics of $want$, viewing it as explanatory of presupposition projection behavior. She then defines $wish$ and $be glad$ with a similar semantics by introducing the function $\text{rev}_\phi$.

Next we discussed Villalta, who proposes that desire predicates compare their complements to sets of contextually relevant alternatives, rather than to their negation. This makes the semantics of desire predicates focus sensitive, so that if complement is focus-marked, the focus alternatives are taken to be the relevant set of alternatives for comparison. Villalta also loosens the doxastic restriction for $want$, making the desirability comparison between all $p$- and $q$-worlds, so long as all these propositions have doxastically accessible worlds. We mentioned that such a semantics is problematic for examples such as Stalnaker’s (1984), since it has a presupposition failure when $p$ or a $q$-alternative has no intersection with $\text{dox}_\alpha(w)$.

Looking at Rubinstein (2012), we saw a solution for doxastic restriction: $want$ quantifies over a modal base whose flavor is contextually determined. This modal base is doxastic if $p$ and not-$p$ have doxastically accessible worlds but circumstantial in cases where either $p$ or not-$p$ have no doxastically accessible worlds. However, we noted that according to a Heimian perspective, allowing $want$ to quantify over circumstantial modal bases sacrifices explanation of presupposition projection behavior.

Our goal is to provide an analysis of desire predicates that maintains the intuitions of these proposals in the literature without also maintaining their problems. To proceed with our analysis, we follow the tradition of the literature and focus first on defining $want$. We begin by
showing that its semantics must be able to be informed by focus, to account for the fact that it is semantically focus sensitive. We make this clear by applying Heim’s and Rubinstein’s analyses to Villalta’s teaching scenario (first given in (1) and repeated as (36)). We show that since the semantics are not focus sensitive, they fail to give the right truth values for sentences evaluated in the context of this scenario. On the other hand, we illustrate again that Villalta’s focus sensitive semantics does pick out the appropriate set of alternatives for focus-marked complements.

Thus let us proceed by looking at Villalta’s teaching scenario, which has a minimal pair of want-clauses where the constituent that is focused alters. We show that neither of Heim’s nor Rubinstein’s entries for want can account for Villalta’s teaching scenario. We contrast this with the success of Villalta’s focus sensitive entry of want. Instead of paraphrasing this example, we present it in its full form.

(41) **Scenario: Teaching**

(Villalta 2008: 496, unabridged)

In the linguistics department, at the faculty meeting, the teaching schedules of the different faculty members for the upcoming semester are discussed. There is only one syntactician in the department (John), one phonologist (Lisa), and two semanticists (Lara and Frank). John can only teach syntax. Lara can teach syntax and semantics. There is some controversy on which days John should teach his syntax classes. There are two options: he may teach syntax on Tuesdays and Thursdays, or he may teach syntax on Mondays, Wednesdays, and Fridays. Lisa’s preferences are the following: she would prefer it if Lara would teach syntax rather than John. But given that John has to teach syntax, she prefers it if he teaches on Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays (because she wants the teaching slot on Mondays, Wednesdays, and Fridays for her own phonology class, which cannot conflict with the syntax class).

(41a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS. (True)

(41b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays. (False)
The pattern is familiar from Chapter 1: we compare the complement to its focus alternative. If the focused constituent is more desirable to Lisa than its focus alternative(s), we judge the sentence as true, as with (41a), and false otherwise, as with (41b).

As we evaluate the different analyses in light of this example, let us make the assumption that because Lisa knows that John is going to be assigned to teach syntax next semester, all of Lisa’s belief worlds are John-teaches-syntax worlds.

3.4.1 Heim’s analysis

Lacking focus-sensitivity, neither of Heim’s semantics for want give accurate truth values for this scenario. First, take Heim’s doxastically non-restricted semantics for want, repeated here:

(42) Heim’s doxastically non-restricted semantics for want  
(Heim 1992: 193)  
‘a wants ϕ’ is true in w iff for every w′ ∈ Doxα(w), Simw′([ϕ]) <α,w Simw′(W\[ϕ])

This semantics cannot simultaneously provide the right truth values for both (41a) and (41b). This is because simw is responsible for picking out the not-ϕ alternative, but it is not contextually, i.e. focus sensitive. So although we as speakers interpret not-ϕ as “John teaches on Mondays, Wednesdays, and Fridays” for (41a) and “Lisa teaches syntax on Tuesdays and Thursdays” for (41b), simw has no way of making this distinction; it picks out the same not-ϕ alternative for both of them. It is unclear whether this not-ϕ alternative is “John teaches on Mondays, Wednesdays, and Fridays” or “Lara teaches on Tuesdays and Thursdays”. Either way, this semantics does not give the right truth values for this focus-marked data: both sentences are predicted to be either true or false, respectively.

Heim’s doxastically restricted semantics is also inadequate in accounting for this scenario. We repeat the semantics here:
(43) Heim’s doxastically restricted semantics for want

\[ c + \alpha \text{ wants } \phi = \{ w \in c : \text{for every } w' \in \text{Dox}_\alpha(w): \text{Sim}_w(\text{Dox}_\alpha(w) + \phi) <_{a,w} \text{Sim}_w(\text{Dox}_\alpha(w) + \text{not } \phi) \} \]

Recall that we said that we will limit Lisa’s belief worlds to those where John teaches syntax next semester, so that all worlds are either those where John teaches on Tuesdays and Thursdays or where he teaches on Mondays, Wednesdays, and Fridays. In this case, it is now clear what \( \text{sim}_w \) identifies as not-\( \phi \) worlds: those where John teaches on Mondays, Wednesdays, and Fridays. Because the complement is more desirable to Lisa than this alternative, both (41a) and (41b) are predicted to be true.\(^{39}\) This semantics is thus unable to account for this scenario.

### 3.4.2 Rubinstein’s analysis

As with both of Heim’s analyses for want, Rubinstein’s semantics for want cannot account for this focus-marked data. We repeat it here:

(44) Rubinstein’s semantics for want

\[ \text{[\text{\text{want}}]}(p)(\alpha)(w) = \text{defined iff } \cap \cap f(w) \cap p \neq \emptyset \text{ and } \cap f(w) \cap \neg p \neq \emptyset \]

if defined, \( \text{[\text{\text{want}}]}(p)(\alpha)(w) = 1 \text{ iff } \cap f(w) \cap p <_{\text{Dox}^a,w} \cap f(w) \cap \neg p \)

The flavor of the modal base is contextually determined, so let us arbitrate its flavor based on the doxastic accessibility of the relevant alternatives. Since we know the not-\( p \) alternative for (41a) is “John teaches on Mondays, Wednesdays, and Fridays”, and this proposition has doxastically accessible worlds, let us say the modal base is doxastic for (41a). Thus comparing \( p \) to not-\( \neg p \), (41a) is predicted to be true. However, not-\( \neg p \) for (41b) is “Lara teaches on Tuesdays and

\(^{39}\) Even if we supposed that Lisa’s belief worlds include worlds where Lara teaches next semester, this semantics fails to give the right truth values. Just like Heim’s doxastically non-restricted semantics, not-\( \phi \) is taken to be the same for both sentences (41a) and (41b).
Thursdays”, and we have said all of Lisa’s belief-worlds are John-teaches worlds. So let us say the modal base is circumstantial for (41b), so that it is accurately predicted to be false.

Although we have gotten the semantics to give the right truth values, it did not do it on its own; we set the flavor of the modal base for the semantics. We did this because it is not clear that the semantics can properly perform this task. Determining the modal base’s flavor relies on identifying the right not-p alternative, assessing whether it has doxastically accessible worlds, and also assessing whether p has doxastically accessible worlds. As Rubinstein’s semantics is currently defined, it is has no way to gather such information. Thus it cannot identify the right modal base for both (41a) and (41b).  

3.4.3 Villalta’s analysis

As noted earlier, Villalta’s focus sensitive semantics does identify the appropriate comparison sets for the complement for both sentences of this scenario. We repeat her semantics here.

(45) Villalta’s semantics for want

\[[\text{want}_C]\theta(p)(\alpha)(w) = \text{defined iff } \forall q \in g(C): \text{Dox}_\alpha(w) \cap q \neq \emptyset\]

if defined, \[[\text{want}_C]\theta(p)(\alpha)(w) = 1 \text{ iff } \forall q: q \neq p \& q \in g(C): p <_{\text{DES}_\alpha,w} q\]

(where ‘p <_{\text{DES}_\alpha,w} q’ means there is a p-world outranking all q-worlds, and no q-world outranks all p-worlds, according to α’s desires)

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40 Suppose we were to treat the modal base as circumstantial for both sentences. Rubinstein’s semantics is still problematic: as with Heim’s doxastically non-restricted semantics, it will pick out the same not-p alternative for both sentences.

41 As before, we alter Villalta’s notation, using < to represent ‘better-than’, rather than Villalta’s >, and using α to represent all instances of the attitude holder.
The semantics is defined to identify the q-alternatives based on context. So for (41a), the q-alternative is appropriately given as “John teaches syntax on Mondays, Wednesdays, and Fridays”. For (41b), the semantics takes q as “Lara teaches syntax on Tuesdays and Thursdays”.

Thus in terms of identifying the right q-alternatives for the complement in (41a) and (41b), this semantics is successful. However, adhering to the assumption we made explicit, that Lisa’s belief worlds are only those where John teaches syntax next semester, (41b) is given as valueless. All of the contextually relevant alternatives do not have doxastically accessible worlds. We address this problem soon, so let us stop here by making explicit our finding that because of its focus-sensitivity, Villalta’s semantics for want excels over Heim’s and Rubinstein’s.

3.4.4 Summary

We demonstrated that only Villalta’s focus sensitive entry of want can distinguish the appropriate alternatives for the complement of want in cases where the focus-marking in the complement alters. Both of Heim’s semantics for want, as well as Rubinstein’s entry, encounter the problem of either picking out the same not-ϕ (not-p) alternative for both (41a) and (41b), or giving (41b) as valueless because of doxastic restriction. Since we want to be able to account for such data, we propose to proceed by providing an analysis of want where we use Villalta’s entry as our starting point. The reason we do not take Villalta’s definition wholesale is because of the problem it has with how it incorporates dox_ω(w). It states that p and all q-alternatives must have at least one doxastically accessible world, otherwise calculating a presupposition failure. So if we assume for (41) that Lisa’s belief worlds are only those where John teaches next semester,
(41b) is valueless. We showed the same problem with Villalta’s semantics for Stalnaker’s sick example in section 3.2: if α believes that he was sick, “I want to have been sick” is valueless.

Thus we turn to our improved analysis of want.

4. Our proposal: A likelihood restricted ordering semantics for want

We provide a focus sensitive entry of want that improves upon Villalta’s entry. We begin by analyzing specific details of Villalta’s focus sensitive semantics, repeated here.

(46) Villalta’s semantics for want

\[ [\text{want}_C]^G(p)(\alpha)(w) = \text{defined iff } \forall q \in g(C): \text{Dox}_\alpha(w) \cap q \neq \emptyset \]

if defined, \[ [\text{want}_C]^G(p)(\alpha)(w) = 1 \text{ iff } \forall q: q \neq p \& q \in g(C): p <_{\text{DES}_\alpha,w} q \]

(46) Villalta’s semantics for want (Villalta 2008: 480)

The attitude holder’s doxastic set is used as a modal base in the definedness condition. The requirement is that all contextually relevant alternatives, including p, must have at least one doxastically accessible world. We have shown that this requirement is problematic for the teaching scenario. If we assume that all of Lisa’s belief worlds are only those where John teaches syntax, (41b) is given as undefined. Likewise, Stalnaker’s sick example is undefined according to Villalta’s semantics, since there are no doxastically accessible q-worlds.

Let us preview our analysis of want that improves upon Villalta’s entry. We get rid of a modal base, of any flavor. We incorporate dox(α,w) in the semantics as an ordering source. We make the desirability comparison between all best q-worlds and all best p-worlds, where bestness is determined by the doxastic ordering source. As such, dox(α,w) is present in the truth.

42 The difference between ‘dox(α,w)’ and ‘dox(α,w)’ is stylistic. We prefer the latter.
condition, allowing us to get rid of Villalta’s definedness condition. This is the rough sketch of the formalization of our proposal:

(47) Rough sketch of our proposal for want
\[ [\text{want}_C]\mathfrak{g}(p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, g_{\text{dox}}(\alpha, w)) \& q \in g(C)] \rightarrow \]
\[ \exists w''[w'' \in \text{Best}(p, g_{\text{dox}}(\alpha, w)) \& w'' <_{\text{DES}_{\alpha, w}} w''] \& \forall w''[w'' \in \text{Best}(p, g_{\text{dox}}(\alpha, w))] \rightarrow \]
\[ \neg \exists w' \forall q[w' \in q \& q \in g(C) \& w \in \text{Best}(q, g_{\text{dox}}(\alpha, w)) \& w' <_{\text{DES}_{\alpha, w}} w''] \]

We motivate this entry in this section. We do so by evaluating Villalta’s semantics more closely. We first address Villalta’s definedness condition in section 4.1. We evaluate the teaching scenario and the assumption we have been working under, that all Lisa’s belief worlds are John-teaches-worlds. Then in 4.2 we evaluate the truth condition of Villalta’s semantics. We discuss a problem with making the comparison between all p- and all q-worlds. In section 4.3, we solve this problem by making use of an intuition we bring up in discussion of the definedness condition. This brings us to our proposed entry for want, as sketched in (47).

4.1 Evaluating Villalta’s definedness condition

In our application of Heim’s, Villalta’s, and Rubinstein’s semantics for want to Villalta’s teaching scenario (cf. (41)), we said that we would make the assumption that all of Lisa’s belief worlds are those in which John teaches syntax next semester. The intuition behind this assumption is straightforward: Lisa knows the proposed teaching schedule, and this schedule assigns John to teach syntax next semester.

But let us think about this assumption more closely. Even though Lisa knows the teaching assignment, does this mean that she does not believe it is possible for someone other than John to teach syntax? Of course not. Lisa can imagine all sorts of scenarios where the
assigned teaching schedule is not adhered to. John could mysteriously disappear right before the semester starts. In a scramble to find a professor to teach syntax, the faculty assigns the position to another professor, e.g. Lara. Or John could quit teaching right before the semester starts, causing the faculty to assign syntax to another professor. We could come up with numerous examples where someone other than John teaches syntax. So to give a more precise characterization of Lisa’s beliefs: it is most likely that John will teach syntax, and it is unlikely that someone else will teach syntax.

Acknowledging the diversity of worlds that Lisa believes possible, we might want to change how we conceive of the doxastic modal base. Contrary to our initial assumption, let us suppose that the doxastic modal base makes accessible any world that Lisa believes can occur, regardless of likelihood. In other words, let us suppose that Lisa’s doxastic modal base makes accessible worlds where John teaches and worlds where Lara teaches. Now Villalta’s semantics does account for the teaching scenario. Both alternative propositions have doxastically accessible worlds, so (41b) is defined. Similarly, the semantics gives the right truth value for (41b): it is predicted to be false, because Lisa prefers Lara over John.

However, even if we stipulate that dox(α, w) includes all worlds that α believes are possible, no matter how unlikely, Villalta’s semantics is still inadequate. It cannot give the right truth values for examples where α believes that p is true or false, e.g. Stalnaker’s sick example. Because I know I was sick, I have no belief worlds where I wasn’t sick. So “I want to have been sick” remains undefined. This is true of all examples where the attitude holder believes with certainty that the complement is true or false: Villalta’s semantics treats all such want-clauses as valueless.
We close this section by highlighting an intuition about dox(α,w) we made explicit in section 3.4. In discussion of the teaching scenario (cf. (41)), we stated our intent to adhere to the assumption that Lisa’s doxastic modal base is composed of only those worlds where John teaches next semester. Based on this discussion here, we identified the intuition behind this assumption as limiting dox(α,w) to only those worlds that α believes is most likely. In this section, we showed that we could reinterpret dox(α,w), so that it includes all worlds that α believes are possible. However, we see that this liberal interpretation of dox(α,w) offers no solution for examples where α believes that want’s complement is true or false.

4.2 Evaluating Villalta’s truth condition

Now we turn to evaluating Villalta’s truth condition. To reiterate, the truth condition requires a comparison of all p-worlds to all q-worlds, regardless of whether a particular world is doxastically accessible. Here we show that it is problematic that the comparison is made between every single p-world and every single q-world. Let us show why by temporarily shifting the discussion from the evaluated scenarios to a new example. Suppose John thinks that it is most likely going to rain tomorrow.43 John utters:

(48) I want to carry my umbrella tomorrow.

We judge this sentence as true, but it is predicted to be false according to Villalta’s semantics. Let us work through this. Context informs the semantics that the relevant alternatives are p, John carries his umbrella, and q, John does not carry his umbrella. Let us say that both of these

43 This example is not novel to the present work. I ran across it elsewhere in the literature, unfortunately neglecting to note the source or the context of its presentation.
propositions have a non-empty intersection with \( \text{dox}(\alpha, w) \). Now, \( p \) and \( q \) are compared to each other. For simplification, we compare two \( p \)-worlds: \( w_1 \) and \( w_2 \) and two \( q \)-worlds, \( w_3 \) and \( w_4 \):

\[
\begin{align*}
w_1 &: \text{John carries his umbrella and it does not rain tomorrow} \\
w_2 &: \text{John carries his umbrella and it does rain} \\
w_3 &: \text{John does not carry his umbrella and it doesn’t rain} \\
w_4 &: \text{John does not carry his umbrella but it does rain tomorrow}
\end{align*}
\]

If we suppose that John prefers to be dry rather than wet, and also prefers not to have to carry his umbrella when it is not raining, \( w_3 < w_2 < w_1 < w_4 \). The truth condition states that for every \( q \)-world, there must be a more desirable \( p \)-world. However, looking at the ranking, we see that the \( q \)-world \( w_3 \) has no better ranking \( p \)-world. It is the most desirable world of the compared propositions. Thus Villalta’s semantics predicts that (48) is false, contrary to our judgment.

We attribute this inaccurate truth value to the fact that Villalta’s semantics does not incorporate an intuition we have about this example. Our intuition is that John’s beliefs about what is most likely to happen feature into the assessment of what John wants. Because John believes that it is most likely to rain tomorrow, we restrict comparison to worlds where it rains. In other words, we only consider \( p \)-worlds like \( w_2 \), where John carries his umbrella and it rains, and \( q \)-worlds like \( w_4 \), where John does not have his umbrella and it is raining. In other words, because John thinks it is most likely to rain, we compare only those worlds in the contextual alternatives that make true this most likely belief. We do not evaluate worlds that he believes are not most likely, e.g. \( w_1 \) and \( w_3 \). This is why Villalta’s semantics gives a different truth value for (48) than we do: her semantics looks at all \( p \)- and \( q \)-worlds, regardless of how likely John believes them to be. If Villalta’s semantics were in some way restricted by John’s beliefs about
likelihood in the truth condition, we could get it to look at the more limited set of most likely worlds so that it would give the right truth values for such examples.

If we reevaluate the teaching scenario, we can see that Villalta’s semantics suffers because it evaluates all p- and all q-worlds. Villalta does not explain why Lisa prefers Lara over John as a syntax teacher, but let us suppose that the reason is because Lisa wants syntax to be taught well. Lisa thinks it is most likely that if Lara teaches, she will do well, and it is most likely that if John teaches, he will teach poorly. So thinking about next semester, Lisa prefers Lara over John because she thinks she will do a better job.\(^4\) Interpreting the scenario this way, let us apply Villalta’s semantics to (41b), “Lisa wants JOHN to teach syntax…”. It compares all John-teaches-worlds to all Lara-teaches-worlds. Thus it considers worlds where John teaches well, in addition to those worlds where Lara teaches well. And if worlds where John teaches well are equally desirable to Lisa as worlds where Lara teaches well, i.e. Lisa has no preference among teachers as long as the teaching is good, then the best-ranking John-teaches-world will be equally ranked with the best-ranking Lara-teaches-world. The good news is that (41b) is still predicted to be false, because all q-worlds, where Lara teaches, are not outranked by more desirable p-worlds, where John teaches. The bad news is that a sentence like (49) is also predicted to be false.

\((49)\) Lisa wants LARA to teach syntax.

(49) is predicted to be false for the same reason (41b) is: all q-worlds are not outranked by more desirable p-worlds.

To state the problem with Villalta’s truth condition more generally: because comparison is made between all worlds in the contextually relevant propositions, p cannot always be found to

\(^4\) Effectively, we are setting up the scenario so that Lisa’s ordering source does not contain “Lara teaches syntax” but “syntax is taught well”.

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outrank \( q \). However, if we used a semantics that compares only those worlds that the attitude holder believes to be most likely, the desirability comparison would be between the right worlds, enabling the semantics to give the right truth values.

4.3 **Our entry for want**

We have identified problems both for Villalta’s definedness condition and her truth condition. Thus we provide a new entry for \( \text{want} \). We begin by changing the truth condition. Since we found it problematic that Villalta’s analysis compares all \( p \)- and all \( q \)-worlds, we will restrict the desirability comparison to the most likely \( p \)- and \( q \)-worlds.

4.3.1 **Definitions**

Before we work on this formalization, let us reiterate a point we have already made, and introduce some terminology. In highlighting our intuition that \( \text{want} \)’s doxastic modal base should access only those worlds that \( \alpha \) believes are most likely, we acknowledged that a doxastic modal base could also be construed of as accessing all worlds that make true any of \( \alpha \)’s beliefs, regardless of how likely \( \alpha \) finds that belief. In other words, we showed that in defining \( \text{want} \), there are two ways to interpret \( \text{dox}(\alpha, w) \). So to distinguish between which interpretation we intend, let us use the following terms. If we intend for \( \text{dox}(\alpha, w) \) to be composed of that set of propositions that represent what an individual believes is most likely, we call it a **likely doxastic** conversational background. It is composed of **belief worlds**. A belief world is a world which a person thinks is most likely to occur. If we intend for a doxastic conversational background to be composed of that set of propositions which characterizes all the possibilities that an individual believes can occur, regardless of likelihood, we will call it a **possible doxastic** conversational
background. It is composed of **doxastic alternatives**. A doxastic alternative is a world that a person believes has some nonzero chance of occurring. Defined in this way, there is a relationship between belief worlds and doxastic alternatives: belief worlds form the subset of doxastic alternatives whose chance of occurrence is believed to be most likely. We assign no special term to those doxastic alternatives whose chance of occurrence is not believed to be most likely.

### 4.3.2 A likely doxastic modal base

Having introduced this terminology, we can now return to our truth condition for *want*. Our intuition is that the desirability comparison should be limited to α’s belief worlds. Thus we change Villalta’s semantics so that all q-worlds and all p-worlds that are compared are members of α’s likely doxastic modal base, indicated with the notation ‘dox-lik(α,w)’. (Note that we do not indicate which interpretation we intend for the doxastic modal base in the definedness condition since we are presently focusing on the truth condition.)

(50) *want* with a likely doxastic modal base

\[
\text{[want}_C]\text{[}_p\text{](}_a\text{)(}_w\text{)} = \text{defined iff } \forall q \in g(C): \text{Dox}(\alpha, w) \cap q \neq \emptyset \\
\text{if defined, } [\text{[want}_C]\text{[}_p\text{](}_a\text{)(}_w\text{)} = 1 \text{ iff } \forall q \forall w'[w' \in q \& q \in g(C) \& w' \in \text{Dox-lik}(\alpha, w)] \rightarrow \\
\exists w''[w'' \in p \& w'' \in \text{Dox-lik}(\alpha, w) \& w'' \prec_{\text{DES}_a,w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Dox-lik}(\alpha, w)] \rightarrow \neg \exists w' \forall q[w' \in q \& q \in g(C) \& w' \in \text{Dox-lik}(\alpha, w) \& w' \prec_{\text{DES}_a,w} w'']
\]

However, this change to the truth condition is not sufficient to account for the examples we have been considering. For instance, Lisa believes that it is most likely for John to teach syntax next semester and unlikely that someone like Lara would. This means that there are no q-worlds in dox-lik(α,w). So restricting the desirability comparison to Lisa’s belief worlds restricts it to only
those worlds where John teaches syntax. The same is true for Stalnaker’s sick example. All my belief worlds are those where I was sick. There are no I-was-healthy-worlds in dox-lik(α,w). A presupposition failure is thus generated. In short, if α does not believe that all alternative propositions contain most likely worlds, restricting the comparison to α’s belief worlds is unsuccessful.

4.3.3 A likely doxastic ordering source

Let us improve our analysis of want’s truth condition by using a doxastic conversational background as an ordering source rather than as a modal base. Accordingly, let us eliminate a modal base of any flavor from want’s semantics. Instead, let us say that want compares the contextually relevant alternative propositions. More specifically, a likely doxastic ordering source picks out the worlds that α believes are most likely for each of the compared alternative propositions. A most likely world is one which α believes to be most likely for a given proposition, independent of the overall likelihood of that proposition.45 Thus the desirability comparison is between the most likely p- and the most likely q-worlds.

The core intuition of our analysis for want:

A likely doxastic ordering source picks out the most likely worlds for each of the contextually relevant propositions. The desirability comparison is between these most likely worlds.

We formalize this proposal with the following entry. It has no definedness condition, only a truth condition. This condition states that context picks out the alternative q-propositions that are compared to the complement p. The attitude holder’s likely doxastic ordering source identifies

45 Defined as such, a most likely world may or may not be a belief world.
the most likely q-worlds and most likely p-worlds from these propositions for the desirability comparison. If for every most likely q-world, there is a more desirable p-world, ‘α want p’ is predicted to be true.

\( (51) \) want with a likely doxastic ordering source

\[ [\text{want}_\alpha](p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, g_{\text{dox-lik}}(\alpha, w)) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, w)) \& w'' <_{\text{DES}_\alpha, w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, w))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, g_{\text{dox-lik}}(\alpha, w)) \& q \in g(C) \& w' <_{\text{DES}_\alpha, w} w''] \]

This entry is essentially the same as we gave in the rough sketch of our proposal in (47). The only difference here is that the intended interpretation of the doxastic ordering source is indicated. Additionally, we have now made clear what classifies a world as “best”: it is a most likely world. A world w' is a best p-world if it is a p-world and there is no p-world more likely to α than w':

\( (52) \forall w': w' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, w)) \text{ iff } w' \in p \& \neg \exists w'': w'' <_{\text{likely}_\alpha, w} w' \)

Using a likely doxastic ordering source, our semantics is likelihood restricted: the semantics evaluates only those worlds in p and all the q-alternatives that are deemed most likely by α, rather than all p- and all q-worlds.

A likelihood restricted semantics for want successfully provides the right truth values for the teaching scenario. For (41b), “Lisa wants JOHN to teach syntax…”, context identifies the q-alternative as “Lara teaches syntax on Tuesdays and Thursdays”. The likely doxastic ordering source identifies those worlds where Lara teaches well as the most likely q-worlds. And applying the likely doxastic ordering source to the complement p, the most likely worlds are given as those where John teaches poorly. Taking a most likely q-world where Lara teaches well, the
semantics can find no most likely p-world, where John teaches poorly, that outranks it. Thus (41b) is appropriately predicted to be false. The semantics also gives the right truth value for (41a), “Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS”. The most likely p-worlds are those where John teaches syntax poorly on Tuesdays and Thursdays. And the most likely q-worlds are also those where John teaches poorly on Mondays, Wednesdays, and Fridays. However, since it is more desirable to Lisa that syntax is taught on Tuesdays and Thursdays rather than on Mondays, Wednesdays, and Fridays, each most likely q-world is outranked by a most likely p-world, so that (41a) is accurately predicted to be true.

The right truth value is also given for the rain example in (48). Of the worlds where John carries his umbrella, the most likely are those where it rains. And of the worlds where John does not carry his umbrella, the most likely are those where it rains. Comparing these most likely p- and q-worlds, each most likely q-world is outranked by a most likely p-world, so that (48) is correctly predicted to be true.

This success with the teaching scenario and rain example is in part due to our giving up a modal base. Suppose we used the likely doxastic ordering source to rank the worlds of a circumstantial modal base. For the teaching scenario, a circumstantial modal base makes accessible worlds where John teaches syntax and worlds where Lara teaches syntax. But only those worlds where John teaches syntax are most likely (or even likely). So the semantics would find (41b) to be valueless, since there are no q-worlds for the desirability comparison. On the other hand, since the likely doxastic ordering source is applied to the contextually relevant propositions one-by-one, each proposition can have most likely worlds to participate in the desirability comparison.
4.3.3.1 When want’s complement is known to be true or false

Yet despite these successes, the semantics is unsuccessful in accounting for Stalnaker’s sick example. Let us show how by specifically detailing the propositions that belong in the likely doxastic ordering source. First, since I was sick, $g_{\text{dox-lik}}(I,w)$ contains “I was sick”. And let us say that because I was sick, I was unable to go for a bike ride (which I wanted to do). So $g_{\text{dox-lik}}(I,w) = \{\text{I was sick, I did not bike}\}$. Now we must apply this ordering source to p, “I was sick” and the q-alternative “I was healthy”. Applying the ordering source to p, the right worlds will be ranked as most likely: those worlds where I did not go on a bike ride. But the wrong worlds of the q-proposition “I was healthy” will be ranked as most likely. Let us say q contains worlds such as $w_1$, where I was healthy and went on a bike ride, and worlds like $w_2$, where I was healthy and did not go on a bike ride. Since $w_1$ makes true no ordering source propositions, but $w_2$ makes true one of them, $w_2$ will be ranked as more likely. This is opposite our intuition. We judge the most likely worlds of “I was healthy” as those where I went on a bike ride. The problem is that what is most likely for q (me going on a bike ride) is opposite what is most likely for p (me not going on a bike ride). However, since I believe that I was sick, the likely doxastic ordering source will pick out the q-worlds that look most like the most likely p-worlds as the most likely q-worlds.

4.3.3.2 Revising the likely doxastic ordering source

We need to revise our analysis of want to account for instances where $\alpha$ believes that p is true or false. Let us fix our semantics by looking at the details of Stalnaker’s example. We need the proposition “I was sick” to be temporarily suspended from my likely doxastic ordering source and replaced with the propositions “I was healthy” and “I went on a bike ride”. Then the right q-worlds, where I was healthy and biked, will be promoted as most likely.
Perhaps the description of what we need to solve this problem sounds familiar. It is familiar because it is similar to Heim’s \( \text{rev}_p \) function. Recall that Heim introduces this function for the semantics of *wish* and *be glad*, since *wish* presupposes the irreality of its complement and *be glad* its factivity. Thus the doxastic modal base needs to be revised for these predicates so that it makes accessible worlds where the complement or its negation are true, respectively (cf. section 3.1, (20)).

But there is a bit of a discrepancy between Heim’s \( \text{rev}_p \) function and the function we have described needing. Heim’s \( \text{rev}_p \) suspends all propositions in the context that conflict with \( p \). In other words, it changes the context to one of its supersets, where all the propositions that conflict with \( p \) are absent. We have described needing a function that not only removes propositions from the context but adds new ones in. Since this is not what \( \text{rev}_p \) does, it seems that we need to design a new function. But we are not inclined to make such an introduction; it is better to use existing machinery so as to keep the ontology clean.

We can use \( \text{rev}_p \) wholesale, and bypass the need to create a new function, if we structure the propositions of our ordering source in a precise way. To show this, let us make this example explicit. The relevant worlds are:

\[
\begin{align*}
\text{w}_1 &: \text{ I get sick and do not bike} \\
\text{w}_2 &: \text{ I get sick and do bike} \\
\text{w}_3 &: \text{ I am healthy and do not bike} \\
\text{w}_4 &: \text{ I am healthy and do bike}
\end{align*}
\]

A few paragraphs ago, we said that in a world where I got sick and did not go on a bike ride, like \( \text{w}_1 \), my likely doxastic ordering source would contain the propositions \{\( p_1 \): I was sick, \( p_2 \): I did

\begin{footnote}
Heim subscripts the function with the Greek letter \( \phi \).
\end{footnote}
not bike}. We propose that this ordering source is too streamlined. It should not just contain propositions about what I believe happened, but about what I believe is most likely, even if the propositions are not made true. So, for instance, a biconditional proposition such as “I was sick ↔ I did not bike” should be in the ordering source, so that

\[ g_{\text{dox-lik}}(I,w) = \{ p_1: I \text{ was sick}, \\
 p_2: I \text{ did not bike}, \\
 p_3: I \text{ was sick } \leftrightarrow \text{ I did not bike} \} \]

Let us apply \( \text{rev}_q \) to this ordering source.

\[
\text{Rev}_{I \text{-was-healthy}}(p_1: I \text{ was sick}, p_2: I \text{ did not bike}, p_3: I \text{ was sick } \leftrightarrow \text{ I did not bike}) \\
= (p_3: I \text{ was sick } \leftrightarrow \text{ I did not bike})
\]

“I was sick” is removed as it conflicts with \( q \), and “I did not bike” is also removed, as the biconditional specifies that not biking necessarily occurs when I am sick. This gets us closer to what we want but is still not enough. If we apply this revised ordering source to the proposition \( q \), “I was healthy”, no worlds will be ranked as most likely. Neither a world like \( w_1 \), where I was healthy and biked, nor a world like \( w_2 \), where I was healthy and did not bike, make true any ordering source propositions, so neither is ranked as more likely than the other.

We respond to this problem by proposing that “I was healthy ↔ I biked” is a proposition that populates \( g_{\text{dox-lik}}(I,w) \) before any revision takes place. This proposal seems reasonable. Even if I believe that I was sick, I still have beliefs about what is most likely when I am healthy. Thus let us say that \( g_{\text{dox-lik}}(I, w) = \{ p_1: I \text{ was sick}; p_2: I \text{ did not bike}; p_3: I \text{ was sick } \leftrightarrow \text{ I did not bike}; p_4: I \text{ was healthy } \leftrightarrow \text{ I biked} \}. \)
We want to work through Stalnaker’s example, but before we do this, let us make clear what our analysis of want is. We have proposed one change to our last iteration of want in (51), that rev\_p revises the likely doxastic ordering source according to the q-alternatives:

(53) want with a likely doxastic ordering source revised for q

\[
[want_C]\tilde{\delta}(p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) \& q \in g(C)] \rightarrow \\
\exists w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w)) \& w'' <_{\text{DES}\alpha,w} w'] \& \forall w''[w'' \in p \& w'' \in \\
\text{Best}(p, g_{\text{dox-lik}}(\alpha,w))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) \& q \in g(C) \& \\
w' <_{\text{DES}\alpha,w} w'']
\]

Now let us apply this semantics to Stalnaker’s example. The complement p is “I was sick” and there is one q-alternative, “I was healthy”. We explained that

\[g_{\text{dox-lik}}(I, w) = \{p_1: \text{I was sick};
\]
\[p_2: \text{I did not bike};
\]
\[p_3: \text{I was sick} \leftrightarrow \text{I did not bike};
\]
\[p_4: \text{I was healthy} \leftrightarrow \text{I biked}\}

This set must be revised to be compatible with q.

\[\text{Rev}_{\text{I was healthy}}(g_{\text{dox-lik}}(I, w)) = \{p_3: \text{I was sick} \leftrightarrow \text{I did not bike};
\]
\[p_4: \text{I was healthy} \leftrightarrow \text{I biked}\}\]

Next, this revised ordering source is applied to q to find its most likely worlds. Worlds like w\_4, where I was healthy and biked, are ranked as more likely than worlds like w\_3, where I was healthy and did not bike, because the former makes true one ordering source proposition (p\_4), the latter neither. The likely doxastic ordering source is applied to p to find its best, i.e. most likely worlds. Worlds like w\_1, where I was sick and did not bike, are ranked as most likely, whereas worlds like w\_2, where I was sick and biked, are ranked as not most likely. Thus the desirability
comparison is between most likely q-worlds like w₄, where I was healthy and biked, and p-worlds like w₁, where I was sick and did not bike. Since I wanted to go on a bike ride, w₄ < w₁. This means that for the q-world w₄, there is no p-world that outranks it. So “I want to have been sick” is predicted to be false. Success! We have an analysis of want that accounts for Stalnaker’s example.

Our semantics for want is not complete, though. We need to make another change. Suppose that α believes that one of the q-alternatives is true. In such a case, the likely doxastic ordering source needs to be revised according to p. This is an easy fix: we can use revₚ a second time in the semantics, so that it revises the likely doxastic ordering source in the instance where it ranks the p-worlds. This gives us the following iteration of our entry for want:

(54) want with two revised likely doxastic ordering sources

\[\text{[[want}_C\text{]]}_p(a)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, rev_q(g_{\text{dox-lik}}(a, w))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, rev_p(g_{\text{dox-lik}}(a, w))) \& w'' <_{\text{DES}_a,w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, rev_p(g_{\text{dox-lik}}(a, w)))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, rev_q(g_{\text{dox-lik}}(a, w))) \& q \in g(C) \& w' <_{\text{DES}_a,w} w'']\]

With this semantics, the appropriate p- and q-worlds can be ranked as most likely, whether α believes that p or one of its q-alternatives is true. There is one note we want to make about this entry: in most uses of want, the revₚ function is unnecessary. For instance, we showed that our entry of want in (51), which is like our final entry here except that it makes no use of revₚ, is sufficient to account for the teaching scenario. But this does not mean that our version of want with two instances of revₚ gives the wrong truth values for this scenario. With this example, revₚ is either unused machinery or makes changes that have no adverse effects.

Let us work through the teaching scenario again to demonstrate this. We take our relevant sentence to be “Lisa wants JOHN to teach syntax”. Because of the focus, the q-alternative is
identified as “Lara teaches syntax”. Let us say that Lisa’s (unrevised) likely doxastic ordering source is \{p_1: John teaches syntax; p_2: John teaches ↔ he teaches poorly; p_3: Lara teaches ↔ she teaches well\}. Applying rev_p to this ordering source, no changes are made because no propositions conflict with p. Thus rev_p is essentially unused. But if we apply rev_q to the ordering source, a change is made: “John teaches syntax” is removed from the ordering source: \(\text{rev}_{\text{Lara-teaches}}(g_{\text{dox-lik}}(\text{Lisa,w})) = \{p_2: \text{John teaches ↔ he teaches poorly}; p_3: \text{Lara teaches ↔ she teaches well}\}\). Applying this revised ordering source to q, worlds where Lara teaches well are given as more likely than worlds where she teaches poorly. Thus the semantics finds the correct worlds as most likely. In this way, we see that even if rev_p is not necessary to provide meanings for a want-clause, its presence in want’s semantics yields no problems. Thus we take our entry of want in (54), with two instances of a revised likely doxastic ordering source, to represent a satisfactory proposal for want.

4.3.4 Final proposal for want: Accounting for Karttunen’s generalization

But we do not accept this entry as the final iteration in our analysis of want. Just as Heim believes that the semantics of want should account for Karttunen’s generalization, so do we.\(^{47}\) As our semantics is written, it does not account for Karttunen’s generalization. The reason is because it has two instances of rev_p. Because of this, the semantics does not suffer a presupposition failure even if α does not believe the presuppositions in the complement of want. To see this, take the following example.

(55) Patrick wants it to stop raining.

\(^{47}\) See footnote 16 for comments on this view.
Let us assume that Patrick is deciding whether to go to the zoo; he will go if it is not raining, but won’t if it is. Let us further assume that Patrick does not believe it is raining, so that we judge (55) as valueless. Unfortunately, our semantics for *want* in (54) predicts this sentence is true.

First, we establish p and q:

\[
\begin{align*}
p & : \text{it stops raining} \\
q & : \text{it doesn’t stop raining}
\end{align*}
\]

and the relevant worlds:

\[
\begin{align*}
w_1 & : \text{it is not raining and Patrick goes to the zoo} \\
w_2 & : \text{it is not raining and Patrick does not go to the zoo} \\
w_3 & : \text{it is raining and Patrick goes to the zoo} \\
w_4 & : \text{it is raining and Patrick does not go to the zoo}
\end{align*}
\]

Next, Patrick’s likely doxastic ordering source:

\[
g_{\text{dox-lik}}(\text{Patrick}, w) = \{p_1: \text{it is not raining}, p_2: \text{it is raining }\leftrightarrow \text{ I do not go to the zoo}, p_3: \text{it is not raining }\leftrightarrow \text{ I go to the zoo}\}
\]

Because this ordering source is revised according to p, it removes p₁, since it conflicts with the proposition “it stops raining”:

\[
\text{rev}_{\text{it-stops-raining}}(g_{\text{dox-lik}}(\text{Patrick}, w)) = \{p_2: \text{it is raining }\leftrightarrow \text{ I do not go to the zoo}, p_3: \text{it is not raining }\leftrightarrow \text{ I go to the zoo}\}
\]

Applying this revised ordering source to p “it stops raining” to find the most likely p-worlds, worlds like w₁, where Patrick goes to the zoo because it is not raining are ranked as better than worlds like w₂, where Patrick does not go to the zoo and it is not raining. (We assume that such ranking occurs since “it stops raining” entails “it’s not raining anymore”.) In other words, the
best p-worlds are those where it’s not raining and Patrick goes to the zoo. To get the best q-worlds, we revise $g_{\text{dox-lik}}(\text{Patrick, } w)$ for q, “it doesn’t stop raining”. The ordering source revised for q is the same as the ordering source revised for p:

$$\text{rev-it-doesn't-stop-raining}(g_{\text{dox-lik}}(\text{Patrick, } w)) = \{p_2: \text{it is raining } \leftrightarrow \text{ I do not go to the zoo},$$

$$p_3: \text{it is not raining } \leftrightarrow \text{ I go to the zoo}\}$$

So the most likely q-worlds are given as those like $w_4$, where it is raining and Patrick does not go to the zoo, and they are better than those q-worlds like $w_3$, where it is raining and Patrick does go to the zoo. Using the bouletic ordering source to compare these most likely p- and q-worlds, q-worlds like $w_4$ are outranked by p-worlds like $w_1$, since Patrick prefers not going to the zoo in non-rain worlds than he does not going to the zoo in rain-worlds. In other words, the semantics predicts that (55) is true. This is an unwanted outcome: we want the semantics to give it as valueless since Patrick does not believe that it is raining.

We can remedy this problem by writing a definedness condition that stipulates that Karttunen’s generalization is met. We write this condition to say that the complement of $\text{want}$ must be defined in $\alpha$’s likely doxastic modal base:

(56) $\text{want}$, final version

$[\text{want}_C]^{p}(\alpha)(w) = \text{defined if} \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow p \text{ is defined in } w'$$

if defined, $[\text{want}_C]^{p}(\alpha)(w) = 1$ if $\forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C)]$

$\rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_\alpha, w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w)))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C) \& w' <_{\text{DES}_\alpha, w} w'']$
With the addition of this condition, the semantics gives the right truth value for an example like (55). If Patrick does not believe it is raining, (55) is undefined, and the semantics gives it no truth value.

A semantics for want that has two instances of rev_p can accommodate want-clauses where the complement is true or false. But why should we want the semantics to be able to do this? When the complement is false, wish that is strongly preferred to want:

(57) Complement is false: Mary did not call John. John tells her:
(57a) # I want you to have called me.
(57b) I wish that you had called me.

When the complement is true, glad that is preferred to want:

(58) Complement is true: Mary called John. John tells her:
(58a) ? I want you to have called me.
(58b) I’m glad that you called me.

It is worth pointing out that although there is some defectiveness to the want-sentence when the complement is true, as in (58a), it is not as bad as when the complement is false, as in (57a).

So the question at hand is why we want to have a semantics for want that allows it to take complements that are generally used with other desire predicates. We temporarily put this question on hold. We return to it in section 5.4, after we have finished discussing the semantics of other desire predicates, including wish that and glad that.

4.3.5 Summary

We now have an analysis of want that accounts for the examples discussed throughout this chapter, most notably 1) examples where α believes that p is true or false, as with Stalnaker’s
sick example, and 2) examples where focus-marking of the complement alters between sentences, as with Villalta’s teaching scenario. We developed this analysis building on ideas from intuitions in the literature, that 1) want is comparative, 2) α’s doxastic set must have some presence in the semantics of want, and 3) the semantics of want must abide by Karttunen’s generalization. Having developed this analysis of want, we are ready to define other desire predicates. We do so in the following section, 5. After this, we evaluate our analysis of want in section 6 by comparing it to the Kratzerian baseline we established in section 2.4, example (10), and existing proposals for want in the literature, both quantificational and non-quantificational.

5. Semantic entries for wish that, glad that, and disappointed that

We briefly discuss how we can modify our analysis of want to define other desire predicates. In line with the literature, we look at a handful of other desire predicates: wish that in section 5.1, glad that in section 5.2, and disappointed that in section 5.3. (We noted in Chapter 1, section 3.2 why we include the complementizer as part of the predicate, cf. footnote 1 of this chapter.) Our approach for modifying our entry of want to define the other desire predicates is similar to that of Heim and Villalta: our changes concern the irreality or factivity of the complement, as well as the desirability of the complement with respect to its alternatives. In addition to this tradition, we make changes to glad that and disappointed that to reflect a feature concerning the likelihood of the alternatives. Once we develop these entries, we turn to the question of why wish that and glad that are sometimes preferred to want, in section 5.4.
5.1 *Wish that*

Like Heim and Villalta, we focus on the entry of *wish that* which takes irrealis complements. In Chapter 1, we showed that this entry of *wish that* is semantically focus sensitive. For reference, we repeat that example here (cf. Chapter 1 (37)).

(59) Victoria is planning on working over the weekend on Sunday. Although Sofía wishes that Victoria wouldn’t work at all, she wishes she would work on Saturday rather than on Sunday.

(59a) Sofía *wishes* that Victoria would WORK on Saturday.  
     (False)

(59b) Sofía *wishes* that Victoria would work on SATURDAY.  
     (True)

The truth values differ because the constituent that is focused affects whether the complement is wished for. Like *want*, we attribute the semantic focus-sensitivity of *wish that* to it having a comparative semantics. So like Heim and Villalta, we provide a definition for *wish that* by taking our comparative entry for *want* and modifying it as necessary.

First, let us consider the definedness condition in *want*’s semantics, which stipulates that Karttunen’s generalization is met. To see whether it is worth maintaining this same definedness condition in the semantics of *wish that*, let us verify whether this generalization applies also to *wish that*.

(60) Patrick is under the misconception that it’s raining and he wishes it would stop raining.

As with the similar *want*-sentence (cf. the discussion surrounding (13)) the presupposition that it is raining is not projected beyond (60). We take this to mean that *wish that* abides by Karttunen’s generalization. So we propose to keep the definedness condition we use for *want* in the semantics of *wish that*.

Now we consider the truth condition in *want*’s semantics. With two instances of rev\(_p\), it allows for the possibility that either p or one of its q-alternatives is believed to be not most likely.
Because *wish that* is irrealis, it is always the case that \( p \) is not a member of \( \alpha \)’s likely doxastic ordering source. Thus we want to keep \( \text{rev}_p \) to revise the likely doxastic ordering source according to \( p \). It also seems reasonable to say that a \( q \)-alternative may also be believed to be irrealis, or not most likely. For instance, suppose Sofía is asked whether she wishes she could be a popstar or a movie star. Both are highly unlikely, so neither proposition is made true in dox-\( \text{lik}(\text{Sofía},w) \). Thus we want \( \text{rev}_p \) to revise the likely doxastic ordering source according to \( q \). In effect, we find no reason to change the truth condition of *want* to define *wish that*.

Although we find no reason to change the definedness condition or truth condition, we do not think the semantics for *wish that* is the same as *want*. *Wish that* is irrealis, so its complement is necessarily not most likely. In other words, no \( p \)-worlds are belief worlds. For this reason, we create an additional conjunct in the definedness condition that says that when ‘\( \alpha \) wish that \( p \)’, \( \alpha \) believes that \( p \) is not most likely:

\[
(61) \ \text{wish that} \\
[wish that_c] \equiv (p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,w) \rightarrow p \text{ is defined in } w' \\
& \forall w': w' \in p \rightarrow \exists w'': w'' \in \neg p & w'' <_{\text{dox-lik}(\alpha,w)} w' \\
\text{if defined, } [\text{wish that_c}] \equiv (p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) & q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,w))) & w'' <_{\text{DES}_{\alpha,w}} w'] \text{ & } \forall w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,w))))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) & q \in g(C) & w' <_{\text{DES}_{\alpha,w}} w']
\]

Thus we distinguish *wish that* from *want* by stipulating that the complement of *wish that* must be not most likely.

Before moving forward, we want to make a final distinction. We are not actually treating *wish that* as irrealis. Instead, we say that the attitude holder must believe that the complement is irrealis. The attitude holder’s beliefs may not align with reality, i.e. he may believe something to
be highly unlikely even when it is highly likely. In this way, we are actually treating wish that as believed irrealis, which is to say that the attitude holder believes the complement is highly unlikely.48

5.2 Glad that

In Chapter 1, we showed that glad that is semantically focus sensitive. We repeat that example here (cf. Chapter 1, (31c)-(31d)).

(62) The students wanted semantics rather than syntax to be taught. However, they wanted someone other than Brady to teach.

(62a) The students were glad that BRADY taught semantics. (False)
(62b) The students were glad that Brady taught SEMANTICS. (True)

(62a) is false, but (62b) true, demonstrating that glad that is semantically focus sensitive. As proposed in Chapter 1, we attribute this sensitivity to glad that having a semantics of comparison. Thus we modify want’s semantics to provide an appropriate entry for glad that. Let us begin as before, by considering want’s definedness condition. Let us see whether Karttunen’s generalization applies to glad that.

(63) Patrick is under the misconception that it was raining, and he is glad that it stopped raining.

As with want and wish that, the presupposition that it is raining is not projected beyond (63). Thus we find it appropriate to keep want’s definedness condition in the semantics of glad that.

48 We recognize that there is some contention to this distinction. One might have the intuition that a wish that-clause is defined so long as the conversational participants take the complement to be irrealis, even if the attitude holder does not. This is similar to the contention we noted surrounding Karttunen’s generalization, cf. footnote (16).
Next we consider the truth condition we defined for want. In this condition, \( \text{rev}_p \) is used to revise the likely doxastic ordering source according to \( p \) and the \( q \)-alternatives. Since \( \text{glad that} \) is factive, there is no need to revise the ordering source according to \( p \). This allows us to get rid of the first instance of \( \text{rev}_p \). Since \( \text{glad that} \) is factive, it needs another change: it requires a definedness condition to reflect that \( p \) must be believed to be true:

\[
[[\text{glad that}_C]]^g(p)(\alpha)(w) = \text{true} \iff \forall w': w' \in f_{d-o}(\alpha, w) \rightarrow p \text{ is defined in } w'
\]

\[
& \quad \& f_{d-o}(\alpha, w) \subseteq p \\
\text{if defined, } [[\text{glad that}_C]]^g(p)(\alpha)(w) = 1 \iff \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{d-o}(\alpha, w))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, g_{d-o}(\alpha, w)) \& w'' \prec_{\text{DES}_{\alpha,w}} w''] \& \forall w''[w'' \in \text{Best}(p, g_{d-o}(\alpha, w)) \rightarrow \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{d-o}(\alpha, w))) \& q \in g(C) \& w' <_{\text{DES}_{\alpha,w}} w'']
\]

It may seem like our semantics can be further refined: \( \text{glad that} \) is factive, so the comparison can be between the best \( q \)-worlds and the actual world \( w \), rather than the best \( p \)-worlds. But we do not want to make this change. We propose that \( \text{glad that} \) is factive not because the complement is true but because the attitude holder believes that the complement is true. For instance, suppose that Patrick thinks it is raining, and this makes him glad, so he says “I’m glad that it’s raining”. However, in the actual world \( w \), there is no rain at all. If the semantics for \( \text{glad that} \) compared the \( q \)-alternatives to \( w \), it would predict that (63) is false, since \( w \) does not outrank all the \( q \)-worlds. For this reason, we maintain that the comparison is between the best \( q \)- and the best \( p \)-worlds.

In line with this distinction, we must alter our terminology. We are not truly treating \( \text{glad that} \) as factive, since we say that the attitude holder may be glad that \( p \) so long as he believes that \( p \) is true (and his belief may not match reality). So we propose to classify \( \text{glad that} \) as \text{believed}
factive rather than simply factive. (This is similar to our distinction above that wish that is believed irrealis, rather than simply irrealis.)

Presently, our semantics for glad that differs from want in two ways: it has an additional conjunct in the definedness condition and it only uses revp once. We identify one other change that needs to be made to the semantics of glad that. Consider again Villalta’s picnic scenario (cf. (23)). Sofía is bringing a dessert to the picnic. Victoria most prefers for her to bring a chocolate cake, then an apple pie, then ice cream. However, Victoria knows that it is incredibly unlikely for Sofía to bake and bring a chocolate cake. It is most likely that Sofía will bring ice cream, and somewhat less likely for her to bring apple pie. Sofía ends up bringing an apple pie. Given this background, consider the following.

(65) Victoria is glad that Sofía brought an apple pie.

Our judgment is that (65) is true. (This is contrary to Villalta’s statement that a similar disappointed that-clause is true, cf. (26).) Although Victoria favors chocolate cake more highly than apple pie, it does not seem to be relevant in this situation. It is too unlikely. Of course, it is true that Victoria would have been happier if Sofía brought chocolate cake. However, given the unlikelihood of this alternative, it is moot in consideration of this glad that-clause. What is relevant for assessing the truth of (65) is the alternative of Sofía bringing ice cream. This is because it is the most likely thing that Sofía would have brought if she did not bring apple pie. And because Victoria prefers apple pie over ice cream, (65) is true.

In this way, the comparison that glad that makes is dependent on the likelihood of the alternatives. Alternatives whose likelihood is too low are irrelevant. Only those alternatives whose likelihood is sufficiently high for them to be realistic are included in the comparison. This represents a significant difference between glad that and want. With want, all contextual
alternatives are compared to the complement, regardless of likelihood. This is why a clause like “Victoria wants Sofía to bring apple pie” is false. Victoria prefers chocolate cake over apple pie, and it makes no difference that the likelihood of her bringing chocolate cake is so low. This demonstrates that \textit{want} compares all contextually relevant alternatives, regardless of likelihood. On the other hand, \textit{glad that} does not: it compares \( p \) only to those alternatives that are most likely.

Thus we need to alter our semantics for \textit{glad that}. Rather than having the comparison be made to a set of alternatives, comparison needs to be made between \( p \) and \( \neg p \). Because of the likely doxastic ordering source, only those \( \neg p \) worlds that are believed to be most likely will be included in the desirability comparison. Not most likely \( \neg p \) worlds thus play no role in assessment of the truth value of a \textit{glad that}-clause.

\textbf{(66) glad that} (second version)

\[
[\text{glad that}_C]^\mathcal{G}(p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,w) \rightarrow p \text{ is defined in } w' \\
\quad \land f_{\text{dox-lik}}(\alpha,w) \subseteq p \\
\quad \land \neg p \not\in g(C) \\
\text{if defined, } [\text{glad that}_C]^\mathcal{G}(p)(\alpha)(w) = 1 \text{ iff } \forall w'[w' \in \text{Best}(\neg p, \text{rev}_{\neg p}(g_{\text{dox-lik}}(\alpha,w)))] \rightarrow \\
\exists w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w)) \land w'' <_{\text{DES}_{\alpha,w}} w'] \land \forall w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w))] \\
\rightarrow \neg \exists w'[w' \in \text{Best}(\neg p, \text{rev}_{\neg p}(g_{\text{dox-lik}}(\alpha,w))) \land w' <_{\text{DES}_{\alpha,w}} w'']
\]

This entry makes the right prediction for (65) as the scenario is described. The most likely \( \neg p \) worlds are those where Sofía brings ice cream. And since they are less desirable than the most likely \( p \)-worlds, i.e. those worlds where she brings apple pie, (65) is predicted to be true.

Now let us suppose a slightly different for the picnic scenario. Let us suppose that Sofía was equally likely to bring chocolate cake, apple pie, or ice cream to the picnic. As described before, Victoria most prefers chocolate cake, then apple pie, then ice cream. In this case, we
judge (65) as false. The improved entry for *glad that* in (66) makes this same prediction. P is “Sofía brings apple pie” and not-*p* is “Sofía does not bring apple pie”. Because Victoria believes it is equally likely for Sofía to bring chocolate cake or ice cream, the likely doxastic ordering source identifies the most likely not-*p* worlds as those that make true either “Sofía brings chocolate cake” or “Sofía brings ice cream”. And since there are not apple pie worlds that are more desirable to Victoria than chocolate cake worlds, (65) is accurately predicted to be false.

5.3 *Disappointed that*

Finally, we use our semantics for *want* to define *disappointed that*. As with the other predicates, we repeat our example from Chapter 1 (38) to illustrate that *disappointed that* is semantically focus sensitive.

(67) Sofía is glad that Victoria worked over the weekend – she needed to get her project done – but she is disappointed that she worked on Saturday; she would’ve preferred for her to work on Sunday.

(67a) Sofía is disappointed that Victoria WORKED on Saturday.   \(\text{(False)}\)

(67b) Sofía is disappointed that Victoria worked on SATURDAY. \(\text{(True)}\)

Because the truth values of (67a) and (67b) differ, we assume that *disappointed that* has a comparative semantics. So we take our semantics for *want* and see how to modify it to define *disappointed that*. As with the other desire predicates, we can see that Karttunen’s generalization applies to *disappointed that*:

(68) Patrick is under the misconception that it was raining and he’s disappointed that it stopped raining.
The presupposition does not project beyond (68). So we find it worthwhile to keep the definedness condition for want in the semantics of disappointed that.

Now we look at the truth condition for want to see what we need to change for disappointed that. Based on straightforward intuitions about the meaning of disappointed that, we can easily identify a few changes that need to be made to the truth condition. Revₚ need not revise the likely doxastic ordering source for p; and p should be less desirable than the compared alternatives, rather than more desirable:

\[(69) \text{disappointed that} \quad \text{(first version)}\]

\[\text{[disappointed that}_c]^{g}(p)(\alpha)(w) = \text{defined} \iff \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \to p \text{ is defined in } w' \]

\[\& f_{\text{dox-lik}}(\alpha, w) \subseteq p \]

\[\text{if defined, } \text{[disappointed that}_c]^{g}(p)(\alpha)(w) = 1 \iff \forall w'[w' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, w))] \to \exists q \exists w''[q \in g(C) \& w'' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_\alpha, w} w']\]

We can identify one other change to make to the truth condition. As with glad that, we do not want all contextually relevant alternatives to be included in the desirability comparison. Instead, we only want those alternatives that are deemed most likely to be compared to the complement. To see why, take again Villalta’s picnic scenario (first given in (23)). Victoria has asked Sofía to bring a dessert to the picnic. She most prefers for her to bring chocolate cake, then apple pie, then ice cream. However, it is highly unlikely for Sofía to bring chocolate cake. It is most likely that she will bring ice cream, and somewhat less likely that she will bring apple pie. Against this background, consider the following:

(70) Victoria is disappointed that Sofía brought an apple pie. \quad (Villalta 2008: 477)

We previously cited this example in (26) of this chapter, noting that Villalta judges it as false. However, we believe that it should be true. Our reason is the same as we gave for the
corresponding *glad that*-clause (cf. (65)). What is relevant for a *disappointed that*-clause is not all the contextually relevant alternatives, rather the most likely ways that the complement would have turned out. Because it was highly unlikely for Sofía to bake and bring a chocolate cake, the comparison class for (70) is simply {Sofía brings an apple pie, Sofía brings ice cream}. And because Victoria prefers apple pie over ice cream, she is not disappointed that Sofía brought an apple pie.

Thus we improve our entry for *disappointed that* by making the comparison between p and not-p, requiring that not-p is contextually relevant.

\[(71) \text{disappointed that} \quad \text{(second version)} \]
\[
[[\text{disappointed that}_C]]^\theta(p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,w) \rightarrow p \text{ is defined in } w' \\
& \& f_{\text{dox-lik}}(\alpha,w) \subseteq p \\
& \& \neg p \in g(C) \\
\text{if defined, } [[\text{disappointed that}_C]]^\theta(p)(\alpha)(w) = 1 \text{ iff } \forall w'[w' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w))] \rightarrow \\
\exists w''[w'' \in \text{Best}(\neg p, \text{rev}_{\neg p}(g_{\text{dox-lik}}(\alpha,w))) \& w'' <_{\text{DES}_w} w']
\]

We have one final distinction to make, similar to the distinction we made concerning *wish that* and *glad that*. We do not want to treat *disappointed that* as factive, since the attitude holder’s beliefs may not align with reality. Thus we treat it as **believed factive**. It is for this reason that we do not reduce the right-hand side of the desirability comparison to w. The attitude holder may believe something to be true that is not actually true in w. (It is for this same reason that we made no such simplification in our entry for *glad that*.)

At this point, it is clear how we can alter the semantics of *want* to define other desire predicates. Depending on the believed truth or believed likelihood of the predicate’s complement, we can eliminate an instance of rev_p from the truth condition. We can also use additional conjuncts in the definedness condition to stipulate what kind of relationship the
attitude holder’s beliefs should have to the predicate’s complement. Finally, we can alter the
arguments of the desirability comparison to show whether p or the compared alternatives are
more desirable to α. And for the emotive factives, we make the comparison between p and not-p,
to accommodate the fact that believed likelihood of the contextually relevant alternatives affects
which alternatives are relevant for the desirability comparison.

This work is by no means a comprehensive analysis of the meaning of desire predicates.
There are countless desire predicates, and differences between them extend well beyond the
semantic differences we have modeled to subtleties about their pragmatics. However, we take
our analyses here to offer helpful starting points to defining other desire predicates. We revisit
these definitions in Chapter 3, section 6, as we consider the pragmatic focus-sensitivity of these
predicates. Specifically, we look at examples where a person’s sequences of utterances alter
according to whether they use focus-marking (cf. Chapter 1, section 4). As we look at such
examples, we propose further minor changes to our semantics for wish that, glad that, and
disappointed that, using the entries we presented here as our starting points.

5.4 When wish that and glad that are preferred to want

We return now to the question we raised at the end of section 4.3. We noted that with two
instances of rev_p, our semantics for want is able to give truth values whether p is true or false.
However, we asked why we should want the semantics to be able to do this. In general, wish that
and glad that are preferred to want when the complement is false or true, respectively. (We first
gave (72) and (73) as (57) and (58), respectively.)

(72) Complement is false: Mary did not call John. John tells her:
(72a) # I want you to have called me.
(72b) I wish that you had called me.
(73) **Complement is true:** Mary called John. John tells her:
(73a) ? I want you to have called me.
(73b) I’m glad that you called me.

*Wish that* is strongly preferred to *want* when the complement is false: (72a) is highly unacceptable. On the other hand, the preference for *glad that* over *want* is not as strong when the complement is true. (73a) is odd but not wholly unacceptable. We can ameliorate the oddity of (73a) if we give it some context. Suppose that Mary tells John she regrets calling him. He consoles her, saying, “Don’t feel bad. I want you to have called me”. In this case, it seems acceptable to use *want*. However, we acknowledge that when the complement is believed to be true, *glad that* is more natural, requiring no context to justify its use.

Before we address the concern of why *wish that* and *glad that* are preferred over *want*, we need to complete the paradigm of the complements that these predicates take. The complement to *wish that* and *glad that* are not always false or true, respectively. When their complements are about future events, the complement is highly unlikely or highly likely, respectively. And in cases where the complement is about a future event, there is no preference for *wish that* or *glad that* over *want*:

(74) **Complement is highly unlikely:** Mary swears that she will not call John. John tells her:
(74a) But I want you to call me.
(74b) I wish that you would call me.

(75) **Complement is highly likely:** Mary promises to call John. John tells her:
(75a) Good. I want you to call me.
(75b) I’m glad that you’ll call me.
Just as the sentences with *wish that* and *glad that* are acceptable, so too are the sentences with *want*. Thus we need to refine the question we originally asked. Why are *wish that* and *glad that* preferred over *want* when the complement is false or true, respectively? And why is there no preference for either of these predicates over *want* when the complement is about a future event?

Our answer is tied to tense marking. *Wish that* and *glad that* take finitival complements; *want* takes infinitival complements. We propose that because *want* takes infinitival complements, no beliefs about the truth of its complement are indicated. On the other hand, taking finitival complements, beliefs about the truth of the complements to *wish that* and *glad that* are indicated. Thus if a person believes that p is false or true, *wish that* and *glad that* are preferred, respectively, to *want*. However, when a person has no beliefs about whether the complement is true or false, there is no preference for *wish that* or *glad that* over *want*. This explains why *wish that* and *glad that* are not preferred to *want* when the complement is about a future event, cf. (74) and (75).

This proposal is supported by the data. For instance, consider (76), where the *glad that*-sentence is acceptable, but there is something odd about the *want*-sentence. ((76a) is a variant on Lassiter’s 2011b, 117: (4.38a) example, which we discuss later in this chapter, as example (90). The difference is that Lassiter’s example has *good that* as matrix predicate.)

(76) John spilled white wine on the carpet. Mary tells him:
(76a) I’m glad that you spilled WHITE wine on the carpet.
(76b) ? I want you to have spilled WHITE wine on the carpet.

The difference between these sentences is explained by our proposal: p is believed to be true, so *glad that* is preferred to *want*. If we alter this scenario so that p is not believed to be true, *want* is acceptable.
John is serving red, white, and rosé wine to his guests. His friend Danny asks for a glass, indifferent to the type. Mary reminds John to choose wisely, since Danny is known to be clumsy, always spilling his drinks. John thinks to himself:

(77a) If it’s inevitable that he’ll spill his drink, I want Danny to spill WHITE wine on the carpet.

Now there is no infelicity to this example. And this aligns with our proposal: p is not believed to be true, so there is no reason to use glad that rather than want. In fact, a similar glad that-clause is infelicitous in this example:

(77b) ? If it’s inevitable that he’ll spill his drink, then I am glad that Danny will spill WHITE wine on the carpet.

We can explain the infelicity of this sentence based on the fact that Danny spilling white wine is not perceived to be highly likely, as compared to the alternatives of him spilling red wine or rosé wine.

Thus we propose that because of tense marking, wish that and glad that are preferred over want when the complement is believed to be false or true, respectively. If the complement is about a future event, there is no preference for wish that or glad that over want.

We now have an explanation for why wish that and glad that are preferred to want when the complement is false or true, respectively, cf. (72)-(73). But we have no explanation for why wish that is more strongly preferred to want, when the complement is believed false, than glad that is preferred to want, when the complement is believed true, cf. (72)-(73). We thus explain this difference according to two factors: 1) expectation, and 2) emotion.

First, we address expectation. Wish that implies the expectation that the complement will not occur, whereas want implies no expectation about whether the complement will occur, cf. (74). Using wish that in (74b), John implies that he has no expectation for Mary to call him.
Using \textit{want} in (74a), no such expectation is conveyed. (74a) is compatible with John believing that it is highly unlikely for Mary to call him, highly likely, somewhat likely, etc. Thus we propose that if the attitude holder has the expectation that the complement will not occur, \textit{wish that} is preferred to \textit{want}.

In contrast, there is no expectation about the likelihood of the complement for \textit{glad that}. John may be glad that Mary called him whether he believed it was highly likely for her to do so, highly unlikely, etc. Thus \textit{glad that} implies no expectation about the likelihood of its complement. In this way, it does not differ from \textit{want}, since neither make any implication about the likelihood of their complements.

Thus we propose that \textit{wish that} is more strongly preferred to \textit{want} when the complement is believed false because \textit{wish that} implies the expectation that the complement is highly unlikely. On the other hand, since \textit{glad that} implies no such expectation, it is not as strongly preferred to \textit{want} when the complement is believed true.

The second reason we believe that \textit{wish that} is more strongly preferred to \textit{want} than \textit{glad that} is based on emotion. Gladness is an emotion, so \textit{glad that} is a direct expression of emotion.\textsuperscript{49} On the other hand, there are no wanting or wishing emotions, so \textit{want} and \textit{wish that} are not direct expressions of emotion. Thus \textit{want} might be preferred to \textit{glad that} if there is no desire to directly convey information about the attitude holder’s emotions. On the other hand, since neither \textit{wish that} nor \textit{want} are direct expressions of emotion, there is no reason to favor \textit{want} over \textit{wish that}.

Thus we propose not only that the expectation implied by \textit{wish that} favors its use over \textit{want}, we also propose that because \textit{want} and \textit{glad that} are not both emotives, there is a reason to

\textsuperscript{49} Of course, we have not done anything with our semantics for \textit{glad that} to show that an emotion is expressed. This is partially due to us following the tradition of the literature, which generally does not seek to capture the emotive aspect of these predicates’ meaning. Perhaps we could reflect the directly emotional aspect of \textit{glad that} by altering the flavor of the bouletic modal base to be one that is specifically concerned with the emotion of gladness.
prefer want over glad that even when the complement is believed to be true. We offer this as an explanation of why it is less defective to use want rather than glad that when the complement is believed true, cf. (73), as compared to the more highly defective use of want rather than wish that when the complement is believed false, cf. (72).

6. Evaluating the merits of our proposal

We have proposed a semantic entry for want, and taking this entry as a starting point, provided entries for other desire predicates: wish that, glad that, and disappointed that. In this section, we evaluate the merits of our proposal by focusing specifically on want. First, we compare our proposed semantic entry to the ordering semantics baseline we established in section 2.4 of this chapter. Then we explore our new representation of α’s beliefs and likelihood in the semantics of want. We show how our likely doxastic ordering source is related to Heim’s sim_w function. We then contrast our proposal with utility-probabilistic accounts of want, looking at Goble (1996) and Lassiter (2011b).

6.1 Comparison with the ordering semantics baseline

How well does our entry of want maintain the tradition of ordering semantics? To answer that question, we compare our entry

(78) our proposed semantics for want

\[
\text{[\text{want}_c]}^{f}(p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow p \text{ is defined in } w'
\]

if defined, \([\text{want}_c]^{f}(p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C)]
\]

\[\rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_\alpha, w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C) \& w' <_{\text{DES}_\alpha, w} w'']
\]
to the ordering semantics baseline (first given in section 2.4, (10)):

(79) *want* as a better possibility modal

\[ [\text{want}]_{C}(p)(\alpha)(w) = 1 \text{ iff } \exists q \forall w': w' \in f_{\text{circ}}(w) \& w' \in q \& q \in g(C) \rightarrow \exists w'': w'' \in f_{\text{circ}}(w) \& w'' \in p \& w'' \preceq \text{boul}(\alpha, w) \]

First, we note a general similarity between these two entries: both are comparative. One slight difference of this aspect is that the baseline only compares the complement to one q-alternative; our entry compares the complement to a set of q-alternatives. However, such a difference is not outside the bounds of standard ordering semantics.

On the other hand, the fact that we do not treat *want* as a quantifier over a modal base is a significant departure from the ordering semantics framework, as well as standard modal logic. Modals are classically thought of as using accessibility relations (within modal logic), or, as quantifying over modal bases (within ordering semantics). However, as we discussed in section 4.3, we want *want* to make comparison between the most likely worlds of each of the contextually relevant alternative propositions. It is for this reason that we cannot use a modal base of any flavor, whether circumstantial or doxastic. Thus we find it appropriate to break from this tradition. Along this point, let us introduce some terminology. Since our definition for *want* (and other desire predicates) uses no modal base, it is not properly quantificational. Thus we term our approach **quasi-quantificational**.

Although there are other differences between these two entries, there is little else to say about them. Our definedness condition, the function rev_{p}, and our definition of a best p-world do nothing out of the ordinary for ordering semantics. Thus we think that our entry for *want* is a satisfactory representation of its meaning within the ordering semantics framework.
Before moving on, we want to point out a conceptual similarity between our work and Kratzer’s (1991) classifications in modal flavor. In speaking about our doxastic ordering source, we specified its flavor as “likely doxastic”, so that it is concerned with what the attitude holder believes is most likely. Although Kratzer (1991) does not make distinctions in kinds of doxastic modality, we believe that likely doxastic modality overlaps with a modal flavor within Kratzer’s classification: stereotypical modality. Stereotypical modality is concerned with “the normal course of events” (Kratzer 1991: 644). Kratzer says little else about what determines the normal course of events. For instance, the normal course of events might by determined by objective facts. Or, the normal course of events might be determined by an entity’s beliefs about what is normal. In the latter case, it seems that stereotypical modality is the same thing as likely doxastic modality: both are concerned with what an entity believes is normal, or most likely. In this way, our work on likely doxastic modality might also be categorized as work on stereotypical modality.

6.2 Comparison with Heim

Just as likely doxastic modality is similar to stereotypical modality, it is also similar to Heim’s $\text{sim}_w$.$^{50}$ Recall the role that $\text{sim}_w$ plays in Heim’s semantics (we elaborated on this in section 3.1, cf. (17)). It finds the $\phi$- and not-$\phi$-worlds that are maximally similar to not-$\phi$- and $\phi$-worlds, respectively. Heim defines ‘maximally similar’ as a relationship between worlds: a world $w'$ is maximally similar to a world $w''$ if there is no world more similar to $w''$ than $w'$. As we noted, neither the precise mechanism of $\text{sim}_w$ nor the intuition behind it is fully explained. Thus

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$^{50}$ On the assumption that ‘similarity’ is not a primitive, but is derived from world’s membership in propositions.
we interpreted similarity to be based on membership in propositions. For instance, if \( w_1, w_2 \in p_1, p_2, p_3 \), and \( w_3 \in p_1, p_2 \), then \( w_1 \) is more similar to \( w_2 \) than \( w_3 \) and vice versa. We explained \( \text{sim}_w \) as necessary in Heim’s semantics because it ensures that the comparison is based on the desirability of the complement, and not other propositions.

The likely doxastic ordering source preserves Heim’s intuition that desirability depends on a notion of similarity. The difference is that in our implementation of this intuition, similarity is specifically tied to an individual’s beliefs about likelihood. Is it most likely that John will teach poorly or well next semester? Using Lisa’s likely doxastic ordering source, the worlds where he teaches poorly are ranked as most likely, i.e. as most similar to her world of evaluation. Thus, we provide a form of similarity that is established by what an individual believes to be likely. While this is different from Heim’s potentially more objective similarity, the underlying intuition is the same.

### 6.3 Comparison with utility-probabilistic accounts

We continue to evaluate our analysis of *want* by comparing it to utility-probabilistic accounts. The general idea of utility-probabilistic accounts is that modals are expressions of the expected utility of propositions. Expected utility is determined by assessing not only the goodness of each world in a given proposition, but also the probability of each world in that proposition. This is significantly different from our likelihood restricted model: we look only at the goodness of worlds which are deemed most likely; utility-probabilistic approaches consider the goodness of all worlds. Furthermore, utility-probabilistic approaches associate goodness and likelihood with numerical values; whereas our model uses the relative ranking of worlds.

---

51 Recall the problem we faced with this definition of similarity. For (41), in section 3.4.1, we were unable to determine whether a most similar world not-\( p \) to “John teaches syntax on Tuesdays and Thursdays” is one where John teaches on Mondays, Wednesdays, and Fridays, or one where Lara teaches on Tuesdays and Thursdays.
Several authors use utility-probabilistic approaches to define modals. For instance, Goble (1996) analyzes deontic *ought* according to a utilitarian logic, and Finlay (2009, 2010) analyzes priority *ought* using a utility-probabilistic model. Levinson (2003) defines *want* within a utility-probabilistic framework. Lassiter (2011b) defines a range of modal auxiliaries and attitude predicates, including *want*, according to a utility-probabilistic model.

The purpose of this section is to examine utility-probabilistic approaches to see whether they have any advantages over our likelihood restricted ordering semantics for *want*. We begin this section by explaining how a utility-probabilistic model works, explaining Goble’s (1996) utilitarian model for deontic *ought*. We start here since his model is relatively basic and serves as a good introduction to such approaches. Then we look at a utility-probabilistic model for *want*. We focus on Lassiter’s (2011b) model since his entry for *want* is focus sensitive, comparing *want*’s complement to a set of alternatives.\(^{52}\) We examine Lassiter’s semantics in light of Villalta’s teaching scenario. We close by considering how our model and Lassiter’s model perform, looking at Stalnaker’s sick example, where the complement is false, and Levinson’s (2003) insurance scenario, where highly unlikely worlds play a role in determining what the attitude holder wants. Making this comparison, we highlight our preference for our likelihood restricted ordering semantics over Lassiter’s utility-probabilistic semantics.

### 6.3.1 Goble: A basic utility-probabilistic model

Goble (1996) defines *ought* as it relates to moral obligations (treating *moral* as synonymous with *objective*), terming his model a “utilitarian deontic logic”. In short, Goble defines *ought* so that the expected value of its prejacent is compared to the expected value of its

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\(^{52}\) Levinson (2003) uses a probabilistic semantics to define *want* as comparing its complement to its negation (cf. Heim 1992, Rubinstein 2012).
negation. If the expected value of the prejacent is greater than the expected value of its negation, ‘ought p’ is predicted to be true. Expected values are calculated for propositions by taking into account the goodness and likelihood of all worlds in a proposition, and these values are represented numerically.

Let us specify precisely how Goble’s model calculates expected values. First, a domain of worlds must be identified. For Goble, the domain is the union of that proposition that is expressed by ought’s prejacent, as well as the negation of its prejacent, i.e. it is all the worlds that make either true p or not-p.\(^53\) A value function v assigns each world in the domain a number to represent its intrinsic goodness (commonly referred to as ‘utility’ in utility-probabilistic models).\(^54\) For deontic ought, the intrinsic goodness of a world represents the deontic goodness of the world.\(^55\) A probability function p assigns each world in the domain a value to indicate the probability of the world’s occurrence conditional on the entire domain. This value is a real number between 0 and 1. Because the probabilities of all worlds in a given proposition must sum to 1, the probabilities of all worlds in the domain must sum to 1. (These values thus represent the absolute probabilities of the worlds.) These probability values are then conditionalized on either p or not-p, depending on which proposition the world is a member of. (These values thus represent the conditional probabilities of the worlds.)

Taking the numbers assigned by v and p, the weighted value of a world is calculated: it is the product of its utility and its conditional probability on a proposition P. The weighted values

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\(^{53}\) In the terms of ordering semantics, Goble’s domain is a circumstantial modal base.

\(^{54}\) Goble proposes that the value that v assigns must fall between certain established upper and lower bounds. This boundedness is particular to Goble’s model. He proposes to use bounds since he does not make the Limit Assumption; he treats propositions as having an infinite number of worlds. Providing bounds on the utility values ensures that the expected values of the propositions may be defined.

\(^{55}\) Goble’s “intrinsic goodness” aligns more or less with the term “goodness” from ordering semantics.
of all p-worlds are summed together to give the expected value of p; likewise for not-p. In formal notation, the expected value V of a proposition P is calculated in the following way:

\[
V_w(P) = \sum[p(w_j) \cdot v(w_j) \text{ for all } w_j \in P] / p(P)
\]

Calculating the expected values of p and not-p provides sufficient information to determine the value of ‘ought p’: according to Goble, ‘ought p’ is predicted to be true if the expected value of p exceeds the expected value of not-p, and false otherwise. We formalize this as a semantics for ought (using > to mean ‘greater than’):

(81) ought in Goble’s utilitarian deontic logic

‘ought p’ = 1 iff \( V_w(p) > V_w(\neg p) \)

Let us work through an example to show how this semantics gives truth values for ought-clauses. We use Goble’s example of a player in a game. In this game, the player selects a ball that is either scarlet or crimson, but is unaware of the ball’s shade of red. Then the player is given a token that he must place in one of three cups. One is scarlet, another crimson, the third blue. If the token is placed in the cup that matches the selected ball’s shade of red, the player wins. The player loses if the token is in the wrong shade of red cup. The play is considered a draw if the token is placed in a blue cup. Depending on the probability and utility values assigned to winning and losing, Goble’s semantics for ought gives different truth values for (82).

(82) The player ought to place the token in a red cup.

The not-p alternative is “the player places the token in a blue cup”. Since a draw is worth
nothing, its utility is 0. The odds of a placing the token in a blue cup and it resulting in a draw are 1. Let us say that the odds of placing the token in a red cup that matches the selected ball are 50%. In other words, the odds of winning and losing are 50/50. Let us further say that the utility of winning is low, e.g. +10, and a loss is severe, e.g. -1,000. In this case, (82) is predicted to be false by Goble’s semantics. However, if we assume different utility values, so that a win is valued at +1,000 and a loss at -10, but maintain the probabilities of winning or losing as 50/50, (82) is predicted to be true according to Goble’s semantics for ought. These values are intuitive. We want to advise against (82) when losing is so costly and winning rather inconsequential, but we want to endorse (82) when the value of winning far outweighs the value of losing.

We use matrices to show that Goble’s semantics for ought predicts that (82) is false when the chance of winning or losing is 50/50, and winning has a utility of +10, losing -1,000 and a draw 0. In matrix 1, each row corresponds with a possible play: placing the token in a red cup, or placing it in a blue cup. The columns list the possible outcomes for each of these plays: winning, i.e. the cup matches the ball’s shade of red, losing, i.e. the cup is different from the ball’s shade of red, and drawing, i.e. the ball is placed in the blue cup. Each cell has three values. The first is the utility of the world. The second is the probability of the world conditional on the play, i.e. proposition it is a member of. The third, the product, is the weighted value of the world. As stated, we fill in the matrix so that a win has +10 utility, a loss -1,000 and a draw 0. The conditional probability of winning or losing on “playing red” is .5/.5, and drawing has probability 1 conditional on “playing blue”. (The cells of the matrix with nonzero probabilities can be viewed as representing a unique world; cells with 0 probabilities are placeholders, not representing a possible world. For purposes of clarity, we have grayed out the cells that do not represent possible worlds.)
Matrix 1. Weighted value of worlds in p and not-p for (82)

<table>
<thead>
<tr>
<th></th>
<th>Winning</th>
<th>Losing</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>placing token in red cup</td>
<td>$10 \times .5 = 5$</td>
<td>$-1000 \times .5 = -500$</td>
<td>$0 \times 0 = 0$</td>
</tr>
<tr>
<td>placing token in blue cup</td>
<td>$10 \times 0 = 0$</td>
<td>$-1000 \times 0 = 0$</td>
<td>$0 \times 1 = 0$</td>
</tr>
</tbody>
</table>

The product in each cell gives us the weighted values for the worlds, e.g. the weighted value of the winning world is 5. (The cells which do not represent possible worlds necessarily have a weighted value of 0.) To get the expected value of the proposition “the player places the token in a red cup” we sum together all the weighted values of the worlds it contains. We do the same for the proposition “the player places the token in a blue cup”. These values are summed in matrix 2.

Matrix 2. Expected value of p and not-p for (82)

<table>
<thead>
<tr>
<th></th>
<th>Expected Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>placing token in red cup</td>
<td>$5 + -500 + 0 = -495$</td>
</tr>
<tr>
<td>placing token in blue cup</td>
<td>$0 + 0 + 0 = 0$</td>
</tr>
</tbody>
</table>

Thus we see that the expected value of placing the token in a red cup is -495, whereas the expected value of placing the token in a blue cup is 0. This is why (82) is predicted to be false when winning has utility +10, losing -1,000, and both outcomes are equally probable. If we were to assign different utilities for winning and losing, e.g. +1,000 and -10, respectively, but maintain the same probabilities, Goble’s semantics for *ought* predicts that (82) is true, since the expected value of placing the token in a red cup exceeds the expected value of placing the token in a blue cup. (We trust the reader can alter the numbers in the above matrices to verify this.)

We have now outlined the basics of how a utilitarian model uses expected values to define a modal such as *ought*. Now let us consider how Goble might define *want*. As a first pass, let us say that he would define it the same as *ought*, so that ‘α want p’ is predicted to be true if the expected value of its complement is greater than the expected value of its negation:
(83) _want_, as inspired by Goble’s logic for _ought_

\[ \alpha \text{ wants } p \equiv 1 \text{ iff } V_{wi}(p) > V_{wi}(\neg p), \text{ where } V_{wi}(P) = \frac{\sum [p(w_j) \cdot v_{wi}(w_j) \text{ for all } w_j \in P]}{p(P)} \]

To make this semantics a better definition for _want_, we propose the following. Goble is firm that his utilitarian deontic logic assesses utilities and probabilities objectively, so that v and p do not assign values with respect to the _ought_-subject’s beliefs about likelihood or preferences.\(^{56}\) Since _want_ is an attitude verb, let us say that the utilities of worlds are determined according to the attitude holder’s preferences. Accordingly, let us use the term “desirability” rather than “utility” or “intrinsic goodness” and “expected desirability” rather than “expected utility”. Additionally, we allow for the possibility that probabilities are subjectively determined for _want_, i.e. that they are based on what the attitude holder believes, rather than what is true of the actual world.\(^{57}\) Along these lines, we term this analysis of _want_ as “utility-probabilistic” rather than “utilitarian”.

Just like Goble’s semantics for _ought_, this definition of _want_ in (83) has the attractive advantage of giving the right truth values for _want_-clauses based on the likelihood and goodness of p and not-p. For example, consider (85) in the context of Goble’s ball-and-cup scenario.

---

\(^{56}\) “What matters is whether or not ‘s ought to do A’, not whether or not s thinks that s ought to do A. What determines whether or not the subject s ought to do A are facts about s and A and the rest of the world and other alternative possible worlds that determine the consequences of s’s doing or not doing A and the respective values of those alternative worlds. These facts can be quite independent of s’s own psychological and epistemological states, including, e.g., what s believes about the world(s), what evidence s has about the world(s), and what s believes about the consequences of doing or not doing A, etc. They can be independent even of what s might reasonably believe about these things or what s should believe about them given s’s situation in the world. This is because the functions for intrinsic value given by v [the value function] may be taken to be independent of the subject’s attitudes, and likewise for the probability function p” (Goble 1996: 354).

\(^{57}\) Making these allowances, (81) is essentially the same as Levinson’s (2003) entry for _want_. Levinson defines _want_ so that it compares the expected value of the complement to its negation, and probabilities and utilities are determined according to the attitude holder’s beliefs and preferences. One slight difference is that the evaluation function g, which assigns utility values, is stipulated to be different from _want_-clause to _want_-clause. His definition follows:

\[(84) \forall w \in [[d \text{ wants } \phi \text{ with respect to } g]] \text{ iff } \sum_{w' \in W} g(w') \cdot P_{d,w}(w' | [[\phi]]) = 1 > \sum_{w' \in W} g(w') \cdot P_{d,w}(w' | [[\phi]] = 0) \]

(Levinson 2003: 234)
(85) The player wants to place the token in a red cup.

Let us say that the desirability of winning is +10, a loss is -1,000 and a draw 0. The conditional probability of losing and winning on “playing red” is .5/.5. The conditional probability of drawing on “playing blue” is 1. These are the same values that we entered in matrices (1) and (2) above. So as shown there, the expected desirability of playing red is -495 and the expected desirability of playing blue is 0. Thus as with the ought-variant of this sentence, (85) is predicted to be false with such probability and desirability values. And this truth value is intuitive.

Just like Goble’s semantics for ought, the Goble-inspired semantics for want can give a different truth value for (85) if the desirability and probability values are altered. For instance, suppose the desirability of winning is +250, losing -100 and drawing 0. The conditional probabilities of winning and losing are .3/.7; drawing 1. We will not represent this information in a matrix, but trust the reader can use the formula in (80) to calculate the values and see that under these conditions, “playing red” has an expected desirability of 5 and “playing blue” an expected desirability of 0. So (85) is predicted to be true under these conditions.

There is a problem with this Goble-inspired semantics for want: it lacks focus-sensitivity. Just as we showed that Heim’s (1992) and Rubinstein’s (2012) semantics for want do not predict accurate truth values for Villalta’s teaching scenario, neither can a utility-probabilistic semantics that only compares the complement to its negation. Take again this pair of sentences from the teaching scenario:

(86a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.
(86b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.  
(Villalta 2008: 496)
The semantics for *want* in (83) cannot identify the right not-p proposition for both (86a) and (86b). Thus like non-utility-probabilistic semantics, utility-probabilistic semantics for *want* must also be focus sensitive.

In light of these concerns, we turn to Lassiter’s semantics for *want*. Although it is probabilistic, it differs from Goble’s logic. First, it compares *want* to a set of contextually relevant alternatives. Second, it incorporates a threshold value so that the complement is not wanted in virtue of its expectation simply being greater than the compared expectation, but significantly greater. Let us thus turn to this semantics.

### 6.3.2 Lassiter: A utility-probabilistic semantics for *want*

As noted, Lassiter designs *want* so that it compares the expectations (Lassiter’s preferred term to “expected value”\(^58\)) of the complement to a set of contextually relevant alternatives.

Lassiter designs *want* in this way based on his observation that *want* is semantically focus sensitive (although he does not use the term “semantically focus sensitive”). Additionally, he requires the difference between the complement’s expectation and that of its alternatives to be significant:

\[(87) \text{Lassiter’s semantics for *want*} \quad \text{(Lassiter 2011b: 182)}\]

\[x \text{ wants } \phi \text{ is true iff } E(\phi) \geq \theta_{\text{want}}, \text{ where } \theta_{\text{want}} \text{ is a value significantly greater than } E(\text{ULT}(\phi))\]

‘\(E(\phi)\)’ represents the expectation of the proposition \(\phi\), and it is calculated just the same way we explained expected utilities above: it is the sum of the product of the goodness and probability of

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\(^{58}\) Lassiter also states his preference for a term like “probability-weighted preference” over “expected utility” in order to show the relationship between his model with more standard deontic and bouletic logic. He believes that using “expected utility” indicates a special connection to “economic behavior, subjective utility, subjective probability, or even decision-making” (Lassiter 2011b: 159). Lassiter does not want to make such a connection because he believes his model can also apply to non-subjectivist concepts, such as moral obligation.
each world in the proposition $\phi$. ‘$E(\text{ULT}(\phi))$’ represents the expectation of the union of all the alternatives to the complement, which includes the complement itself. In other words, it is the sum of the product of the goodness and probability of each world in the union of $\text{want}$’s complement $\phi$ and all of its contextually relevant alternatives. $\theta$ is a threshold value, which is contextually determined to be significantly greater than the expectation of the union of the alternatives (where “significance” is also contextually determined). Thus Lassiter defines $\text{want}$ so that the expectation of the complement must be equal to or greater than the threshold value $\theta$. Roughly, this means that his semantics says that ‘$x \text{ want } \phi$’ is predicted to be true if the expectation of $\phi$ is significantly better than the expectation of all the possible ways that $\phi$ could turn out.

Lassiter semantics also differs from Goble’s logic because Lassiter’s is subjective: he states that the expectations are determined according to the attitude holder’s beliefs and preferences. So in line with our distinction concerning our Goble-inspired semantics for $\text{want}$, we say that Lassiter’s semantics assigns desirability values rather than utility values, and that it calculates the expected desirability of a given proposition.

Let us now turn to the specifics of how values are assigned to worlds in Lassiter’s model, as it differs slightly from Goble’s logic. All worlds in the domain are organized along an interval order $\geq_{\text{D}}^{W}$. This order associates worlds with a number to represent their desirability to the attitude holder $x$. A function $\text{prob}$ assigns absolute probability values to each world in the domain, i.e. it assigns worlds their probability of occurrence with respect to the domain as a whole. (These values are not required to sum to 1, but they are normalized if they do not.)

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59 Objects organized by an interval order have values which are determined by arbitrary scales, e.g. the Fahrenheit scale. It is arbitrary; it could have been designed so that the freezing temperature is denoted by ‘$0^\circ\text{F}$’ rather than ‘$32^\circ\text{F}$’. Arbitrarily designed, interval scales do not validate the following sorts of inferences: $90$ is three times greater than $30$, so $90^\circ\text{F}$ is three times warmer than $30^\circ\text{F}$. 

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absolute probability values are then translated to conditional probabilities, where the propositions they are conditionalized on are either $\phi$ or $\text{UALT}(\phi)$. The product of the desirability value and conditional probability values gives the weighted value of each world. The weighted values of all worlds in a proposition are summed to get the expected value of the proposition. Then the propositions themselves are ranked on an interval order $\geq_D$.

To see how Lassiter’s semantics for want work, let us look again at Goble’s ball-and-cup game. The relevant sentence, first given in (85), is:

(88) The player wants to place the token in a red cup.

According to Lassiter’s semantics, (88) is predicted to be true if $\phi$, “placing the token in a red cup” is equal to or greater than $\theta$, which must have a value that is significantly greater than the expectation of $\text{UALT}(\phi)$, “placing the token in a red or blue cup”. As before, we will say that winning has a desirability of 10, losing -1,000 and drawing 0. The conditional probability of playing red and matching the shade of red is .5, the conditional probability of playing red and not matching is .5. The conditional probability of a draw resulting in a draw is 1.

There are three relevant worlds to determining the expectations of “placing the token in a red cup” and its contextual alternative “placing the token in a blue cup”:

- $w_1$: a winning world: the token is placed in a cup that matches the shade of the ball’s red
- $w_2$: a losing world: the token is placed in a cup that is a different shade of red than the ball
- $w_3$: a draw world: the token is placed in a blue cup

According to Lassiter’s semantics, these worlds are ranked on an interval scale and are associated with desirability values. $W_1$, a winning world, has desirability 10 and $w_2$, a losing
world, has desirability -1,000. W₃, a draw world, has desirability 0. The function prob assigns absolute probabilities: w₁ has probability .25, w₂ probability .25 and w₃ probability .5.⁶⁰ These probabilities need to be conditionalized on the propositions they are members of. And as stated, these propositions are either ϕ, “placing the token in a red cup”, or ∪ALT(ϕ), “placing the token in a red or blue cup”. Thus the probability of w₁ conditional on ϕ is .5; w₂ conditional on ϕ is .5; w₃ conditional on ϕ is 0. The probability of the worlds conditional on ∪ALT(ϕ) is the same as their absolute probabilities: w₁ has probability .25; w₂ .25 probability; w₃ .5 probability. Let us enter this information in a matrix. As before, the rows represent the compared propositions, the columns the possibilities for each proposition. In each cell, the first numerical value represents the world’s desirability, the second its conditional probability and the third its weighted value. (As in matrix 1, we gray out cells that represent impossible worlds. There are less gray cells than in matrix 1 since the second row is the union of the complement and its alternative, i.e. every cell of this row represents a possible world.)

Matrix 3. Weighted value of worlds in ϕ and ∪ALT(ϕ) for (88)

<table>
<thead>
<tr>
<th></th>
<th>Winning</th>
<th>Losing</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>placing token in red cup</td>
<td>10 x .5 = 5</td>
<td>-1,000 x .5 = -500</td>
<td>0 x 0 = 0</td>
</tr>
<tr>
<td>placing token in red or blue cup</td>
<td>10 x .25 = 2.5</td>
<td>-1,000 x .25 = -250</td>
<td>0 x .5 = 0</td>
</tr>
</tbody>
</table>

We sum across the rows to get the expected values of ϕ and ∪ALT(ϕ).

Matrix 4. Expectation of ϕ and ∪ALT(ϕ) for (88)

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>placing token in red cup</td>
<td>5 + -500 + 0 = -495</td>
</tr>
<tr>
<td>placing token in red or blue cup</td>
<td>2.5 + -250 + 0 = -247.5</td>
</tr>
</tbody>
</table>

⁶⁰ Essentially, this probability distribution indicates that the odds of playing red or playing blue are 50/50, since the probability of all worlds in ‘playing red’ sums to .5, and the probability of all worlds in ‘playing blue’ sums to .5. We could have sliced up the probabilities in a different way so that these odds would be different. We address this topic in section 6.3.4.
Thus we see that the expectation of playing red is -495, and the expectation of the union of the alternatives is -247.5. We will say that $\theta = 50 + \mathbb{E}(\bigcup \text{ALT}(\phi))$, so that $\theta$ is -197.5. (We arbitrarily choose 50 as the minimally significant difference.) Since the expectation of the complement, -495, is not equivalent to or greater than this threshold value, (88) is predicted to be false. This is a success: we judge (88) as false under such conditions. If we were to maintain the same probabilities, but give winning a desirability value of +1,000, losing -10 and drawing 0, (88) would be predicted true on Lassiter’s semantics, also in line with our intuition. (We trust the reader can verify this truth value.) Thus although Lassiter’s semantics operates differently from the Goble-inspired semantics for want, it gives the same truth values for (88) under the same kinds of conditions.

Lassiter’s semantics is also successful because it is focus sensitive. It identifies the appropriate alternatives to compare to the complement. To show this, we consider the sentences of the teaching scenario:

(89a) Lisa wants John to teach syntax on TUESDAYS AND THURSDAYS.
(89b) Lisa wants JOHN to teach syntax on Tuesdays and Thursdays.

Using the focus-marking, the semantics recognizes that the alternative to $\phi$ in (89a) is “John teaches syntax on Mondays, Wednesdays, and Fridays”, and that the alternative for (89b) is “Lara teaches syntax on Tuesdays and Thursdays”. In addition to recognizing the right alternatives, the semantics calculates the appropriate truth values for these sentences, predicting that (89a) is true and (89b) as false.

Let us work through (89b) with Lassiter’s semantics. (We choose this sentence since it was problematic, cf. section 3.4, where (89b) is given as (41b)). There are four relevant worlds for (89b):
w₁: John teaches poorly
w₂: John teaches well
w₃: Lara teaches poorly
w₄: Lara teaches well

These worlds are organized along an interval order, and are assigned the following desirabilities:
w₁ has desirability -100; w₂, desirability 10,000; w₃ desirability -1,000; w₄, desirability 1000.⁶¹

Prob assigns these worlds absolute probabilities: w₁ has a probability of .98; w₂ .01; w₃ .0001;
and w₄ .0099. If we conditionalize the probabilities of w₁ and w₂ on ϕ, w₁ has probability .99 and
w₂ probability .01 (These probabilities are correct to two decimal places.) The conditional
probabilities of w₁, w₂, and w₃ and w₄ on ÚALT(ϕ) are the same as their absolute probabilities.
As before, we put this information in a matrix. (Note that this matrix has two extra columns that
bear no relevance to row 1, but are necessary to represent all information for row 2. They are
thus grayed out.)

Matrix 5. Weighted values of worlds in ϕ and ÚALT(ϕ) for (89b)

<table>
<thead>
<tr>
<th></th>
<th>John teaches poorly</th>
<th>John teaches well</th>
<th>Lara teaches poorly</th>
<th>Lara teaches well</th>
</tr>
</thead>
<tbody>
<tr>
<td>John teaches</td>
<td>-100 x .99 = -99</td>
<td>10,000 x .01 = 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John or Lara</td>
<td>-100 x .98 = -98</td>
<td>10,000 x .01 = 100</td>
<td>-1,000 x .0001 = -1</td>
<td>1,000 x .0099 = 9.9</td>
</tr>
<tr>
<td>teaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We sum across the rows to get the expectations of the propositions ϕ and ÚALT(ϕ).

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⁶¹ In this scenario, the desirability of John teaching well is so much better than the desirability of Lara teaching well because it is a world where John has changed for the better. This enhances its desirability to Lisa. Related to this, because Lara would change for the worse in a world like w₃, the desirability of her teaching poorly is much lower than the desirability of John teaching poorly. (We base these values on the idea that John is normally a bad teacher and Lara generally a good teacher.)
Matrix 6. Expectations of $\phi$ and $\cup\text{ALT}(\phi)$ for (89b)

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>John teaches</td>
<td>$-99 + 100 = 1$</td>
</tr>
<tr>
<td>John or Lara teaches</td>
<td>$-98 + 100 + -.1 + 9.9 = 11.8$</td>
</tr>
</tbody>
</table>

Given these small values, let us say that $\theta = 1 + E(\cup\text{ALT}(\phi))$, so that $\theta = 12.8$. Since the expectation of “John teaches” is 1, and this is not equal to or greater than $\theta$, (89b) is predicted to be false, in line with our judgment. We do not work through it here, but the semantics also gives the right truth value for (89a). (For example, suppose there is a .5 probability of John teaching on Tuesdays and Thursdays, and a .5 probability of him teaching on Mondays, Wednesdays, and Fridays. The desirability of him teaching Tuesdays and Thursdays is 100 and the desirability of him teaching Mondays, Wednesdays, and Fridays is 10. Giving the worlds such values, the expectation of the complement exceeds $\theta$.)

6.3.3 Comparison between Lassiter’s semantics and our likelihood restricted semantics

Now that we have explained the basics of how utility-probabilistic semantics operate, we can compare its performance to the performance of our likelihood restricted semantics. First we look at Stalnaker’s sick example and then Levinson’s (2003) insurance example. This comparison sets us up to answer the question of which model is better.

We have gone over Stalnaker’s sick example several times throughout this chapter. I know that I was sick, but “I want to have been sick” is false. We also showed how our semantics for want accounts for this example, in section 4.3. It compares the most likely worlds of the proposition expressed by the complement and its contextual q-alternative “I was not sick”. The most likely worlds are identified by the likely doxastic ordering source, which is revised according to $p$ and $q$ with the $\text{rev}_p$ function.
How does Lassiter’s semantics for *want* account for this example? To answer this, let us work through the example. As we mentioned in section 4.3, there are four relevant worlds:

- \( w_1 \): I was sick and did not bike
- \( w_2 \): I was sick and biked
- \( w_3 \): I was healthy and did not bike
- \( w_4 \): I was healthy and biked

These worlds are arranged on an interval order so that \( w_4 < w_3 < w_2 < w_1 \). Let us say that \( w_4 \) has desirability \(+100\); \( w_3 \) desirability \(-20\); \( w_2 \) desirability \(-200\); and \( w_1 \) desirability \(-500\). Prob assigns these worlds values to represent their probability. However, since \( w_1 \) is the actual world, it is assigned probability 1; all other worlds receive a probability of 0. What this means is that the expectation of \( \cup \text{ALT}(\phi) \) is equal to the expectation of \( \phi \). The threshold \( \theta \) will be set to be a value greater than \( E(\cup \text{ALT}(\phi)) \), i.e. greater than \( \phi \), so the sentence is trivially predicted to be false. As before, we use matrices to show how these expectations are calculated. As with other matrices, the cells contain (in this order) the desirability, probability and weighted desirability values of the worlds. (As with matrix 5, the third and fourth columns represent information that cannot be made true in the first proposition, so we have grayed out the third and fourth cells of the first row.)

Matrix 7. Weighted values of worlds in \( \phi \) and \( \cup \text{ALT}(\phi) \) for Stalnaker’s sick example

<table>
<thead>
<tr>
<th></th>
<th>I was sick and did not bike</th>
<th>I was sick and biked</th>
<th>I was healthy and did not bike</th>
<th>I was healthy and biked</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was sick</td>
<td>-500 x 1 = -500</td>
<td>-200 x 0 = 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was sick or healthy</td>
<td>-500 x 1 = -500</td>
<td>-200 x 0 = 0</td>
<td>-20 x 0 = 0</td>
<td>100 x 0 = 0</td>
</tr>
</tbody>
</table>

We sum across the rows to get the expectation of each proposition.
Matrix 8. Expectations of $\phi$ and $\bigcup \text{ALT}(\phi)$ for Stalnaker’s sick example

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was sick</td>
<td>$-500 + 0 = -500$</td>
</tr>
<tr>
<td>I was sick or healthy</td>
<td>$-500 + 0 + 0 + 0 = -500$</td>
</tr>
</tbody>
</table>

Looking at these matrices, it should be clear that since the complement is known to be true, the expectation of “I was sick or healthy” is equal to the expectation of “I was sick”. So 0, which is a value greater than $E(\bigcup \text{ALT}(\phi))$, is greater than $\phi$. Thus “I want to have been sick” is trivially predicted to be false. This is the case for Lassiter’s semantics every time the complement is known to be true: the $\text{want}$-clause is predicted to be false. This problem stems from the fact that prob assigns probability values based on what the attitude holder believes is true, so that the probabilities, and hence weighted values, of all other worlds are necessarily 0.\(^{62}\)

Lassiter is aware of this problem with his semantics, and he proposes a solution. He says that prob can be linked to an earlier information state where the complement is not true, so that it may assign nonzero probability values to all relevant worlds.

Lassiter does not develop this solution in response to an evaluation of Stalnaker’s sick example, rather in response to an example with finite-complement $\text{good}$. (This example is relevant to our evaluation of Lassiter’s semantics for $\text{want}$ since Lassiter says that $\text{good}$ can be given the same semantics as $\text{want}$.\(^{63}\))

(90) It is good that you spilled WHITE wine on the carpet. \;(Lassiter 2011b: 185)

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\(^{62}\) Goble’s model faces the same issue. Since the complement has probability one, the expectation of not-$\phi$ is necessarily 0. Truth values are similarly trivial: if the expectation of the complement is positive, ‘$\alpha$ want $\phi$’ is predicted to be true. If the expectation of the complement is negative, ‘$\alpha$ want $\phi$’ is predicted to be false. The desirability of not-$\phi$ plays no role in determining whether $\phi$ is wanted.

\(^{63}\) Presumably Lassiter does not give the same example with $\text{want}$, as such a clause is odd. We touched on this topic in section 5.4: (76)-(77). (With the exception that these sentences exemplified the contrast between $\text{glad that}$ and $\text{want}$.)
The judgment is that (90) is true, since we compare the possibility of spilling white wine to red or rosé wine, and of these alternatives, spilling white wine is best. However, since Lassiter’s semantics trivially predicts all *good*- (and *want*-)clauses are false when the complement is known to be true, it is predicted to be false.

This is why Lassiter proposes that *prob* can assign probability values according to an earlier information state. He supports this idea by looking at the behavior of epistemic modal auxiliary *might*. He repeats an example from von Fintel and Gillies (2008: 87, also in Lassiter 2011b: 186):

(91) Sophie is looking for some ice cream and checks the freezer. There is none in there. Asked why she opened the freezer, she replies:

(91a) There might have been ice cream in the freezer.
(91b) PAST(*might*(ice cream in freezer))

Sophie’s explanation in (91a) is valid. With it, she expresses that at a time prior to her utterance of (91a), she believed it was possible for ice cream to be in the freezer. Although the possibility is known to be false at her time of utterance, its probability was nonzero earlier, when she looked in the freezer. And Sophie can express this with (91a), because the embedded past tense outscores *might*, as shown in (91b).

Based on this sort of reasoning, Lassiter says that when *good* (and by extension, *want*) is factive, *prob* is linked to a previous information state to assign its values. More specifically, the information state that *prob* is linked to is the most recent information state where the relevant alternatives have realistic, nonzero probabilities. On top of this, Lassiter allows for the information state to be tied to someone who is not necessarily the attitude holder. So for (90),
prob is tied to the most recent information state where someone believes that spilling white, red, and rosé wines are realistic probabilities, assigning values based on this earlier time.

Allowing prob to be flexible, let us turn back to Stalnaker’s sick example. We link prob to the most recent information state where the attitude holder was not sick, so that it can assign a nonzero probability value to worlds w₂, w₃, and w₄. Specifically, let us say that w₁ has absolute probability .495; w₂ .005; w₃ .005; w₄ .495. With these values, the expectation of ϕ is -497 and the expectation of UALT(ϕ) is -199.1. If we say that θ = E(UALT(ϕ)) + 50, then θ = -149.1. This means that “I want to have been sick” is predicted to be false, since E(ϕ) is not equal to or greater than θ.

It is indeed a solution to allow prob to be linked to earlier information states: it allows the semantics to give the right truth value for Stalnaker’s sick example. However, we do not find the solution wholly appealing. First, Lassiter supports the idea that prob can be linked to earlier information states because modal auxiliaries may be outscoped by embedded tense. The same is not true of attitude predicates:

(92a) It is good that Sophie opened the freezer.
(92b) PAST(is good(Sophie, open the freezer))

(92a) cannot be glossed parallel to (91a); embedded past tense does not outscope good. (The same is true of want.)⁶⁴ Therefore, Lassiter’s proposal is not syntactically supported.

The other problem with this solution is that it is conceptually unappealing. Because of the flexibility of Lassiter’s solution, the want- or good-clause is no longer based solely on what the attitude holder wants or believes at a given time t. Rather, it is tied to other times and potentially

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⁶⁴ For reference:
(93a) Sophie wants to have opened the freezer.
(93b) PAST(want(Sophie open freezer))
other people. For instance, since *good* is factive in (91), let us say that prob assigns probabilities with respect to the speaker’s information state at time $t_1$. However, the rankings of the worlds are based on the attitude holder’s desires, and these desires are based on time $t_2$. So *good* in (91) is relative to two different times, or more precisely, information states, and two different people. This is much less elegant than how our semantics operates. For our likelihood restricted ordering semantics entry for *want*, the desirability ranking and the likelihood rankings are both based on the attitude holder at the time of utterance. (We have no temporal parameter in our semantics for *want*, but if there were one, the desirability and likelihood rankings would be anchored to this same time.) Although we have not provided a semantics for *good that*, it would be similar to our semantics for *want*, and share this same elegance.

These problems aside, we see how Lassiter accounts for examples where the complement to *want* (or one of the complement’s alternatives) is true: prob assigns probability values based on an earlier information state.

We continue to compare Lassiter’s utility-probabilistic semantics with our likelihood restricted model by examining Levinson’s (2003) insurance example.

(94) **Scenario: Insurance** (based on description in Levinson 2003)
The probability of damage to John’s house is 0.01. The premium for buying house insurance is $50. With insurance, John would owe nothing if his house were damaged. If John had no insurance and his house were damaged, he would have to pay $100,000 out of pocket.

In short, the likelihood of damage to John’s house is extremely low. But given how detrimental it would be for John to pay for damage to an uninsured house, Levinson states that the following is true.
(94a) John wants to buy insurance.

Similarly, Lassiter’s semantics predicts that (94a) is true. To see why, let us work through the example. There are four relevant worlds in the situation:

\[ w_1: \text{John buys insurance and his house is not damaged} \]
\[ w_2: \text{John buys insurance and his house is damaged} \]
\[ w_3: \text{John does not buy insurance and his house is not damaged} \]
\[ w_4: \text{John does not buy insurance and his house is damaged} \]

Arranged along an interval order, \( w_3 < w_1 < w_2 < w_4 \). Let us say that the desirability value for \( w_1 \) is -100; \( w_2 \) -5,000; \( w_3 \) +500; \( w_4 \) -100,000. As described, the probability of no house damage is .99, the probability of house damage is .01. Let us say that the chance of John buying insurance is 50/50, so that the absolute probability of \( w_1 \) is .495; \( w_2 \) .005; \( w_3 \) .495; and \( w_4 \) .005. We put these values in a matrix to calculate each of these world’s weighted values. (We grayed out the cells that are unnecessary for the first row.)

<table>
<thead>
<tr>
<th></th>
<th>insurance: y</th>
<th>insurance: y</th>
<th>insurance: n</th>
<th>insurance: n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>house damaged: n</td>
<td>house damaged: y</td>
<td>house damaged: n</td>
<td>house damaged: y</td>
</tr>
<tr>
<td>buys insurance</td>
<td>-100 x .99 = -99</td>
<td>-5,000 x .01 = -50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>buys insurance or does not buy insurance</td>
<td>-100 x .495 = -49.5</td>
<td>-5,000 x .005 = -25</td>
<td>500 x .495 = 247.5</td>
<td>-100,000 x .005 = -500</td>
</tr>
</tbody>
</table>

We sum across the rows to get the expectations of \( \phi \), “buying insurance”, and \( \text{\textsc{U}} \text{\textsc{A}} \text{\textsc{T}}(\phi) \), “buying insurance or not buying insurance”.

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Matrix 10. Expectation of $\phi$ and $\text{ULT}(\phi)$ for (94a)

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>buys insurance</td>
<td>$-99 + -50 = -149$</td>
</tr>
<tr>
<td>buys or does not buy insurance</td>
<td>$-49.5 + -25 + 247.5 + -500 = -327$</td>
</tr>
</tbody>
</table>

We will say that $\theta = \mathbb{E}(\text{ULT}(\phi)) + 50$, so that $\theta = -277$. Since the expectation of $\phi$, -149, exceeds this value, the semantics predicts that (94a) is true; John wants to buy insurance.

By contrast, it seems like our likelihood restricted ordering semantics does not give the right truth value for (94a). The reason is that the semantics compares only those worlds of the contextually relevant propositions that $\alpha$ believes are most likely. Because John believes that it is very unlikely for his house to be damaged, our semantics compares only $p$-worlds like $w_1$, where John’s house is not damaged, to $q$-worlds (where he does not buy insurance) like $w_3$, where John’s house is also not damaged. So the worlds our semantics pays attention to are:

- $w_1$: John buys insurance and his house is not damaged
- $w_2$: John buys insurance and his house is damaged
- $w_3$: John does not buy insurance and his house is not damaged
- $w_4$: John does not buy insurance and his house is damaged

And since John wastes no money buying insurance in $w_3$, it is a better world than $w_1$, where he wastes money on insurance. This means that there are $q$-worlds for which there are no better-ranking $p$-worlds. Thus our semantics evaluates (94a) as false.

If we think that (94a) should be true, our semantics is unsatisfactory for this example. In fact, it is unsatisfactory for every scenario where there are not most likely worlds whose goodness (or badness) is so weighty. In other words, our semantics suffers since it only makes comparison between most likely worlds (which in this case, are worlds $w_1$ and $w_3$).
However, we do not think that anything needs to be changed about our semantics for *want* to account for such examples. First of all, we are not clear on the judgment that (94a) is true. Is it actually the case that John *wants* to buy house insurance? It certainly seems to be the case that as a rational person who wants to be safe in the event of a disaster, John *should* buy house insurance. It is best for him. But it is not so obvious that this same reason determines whether John *wants* to. Suppose that John does not want to spend money on insurance. He does not want to spend time comparing all the different insurance plans available to him. He doesn’t want to think about it; he doesn’t want the hassle. Given these considerations, it seems more accurate to say that John does not want to buy house insurance. So we think it is fine for a semantics of *want* to evaluate (94a) as false.65

But let us suppose that John is a rational person, who is willing to put up with the hassle of finding the right insurance plan and spending money on it. In this case, we judge (94a) as true. Similarly, we want our semantics to also predict that it is true. So it is a problem for our semantics to evaluate it as false.

65 Lassiter (2011b: 136) addresses this line of thought, noting that the attitude holder might say “I want not to buy insurance”, and in the spirit of helping him save money, his financial advisor might say “You ought not to buy insurance.” Yet Lassiter does not think that either sentence should be true in the situation:

“But neither of these sentences expresses an inference which is *appropriate* to draw in this situation. [Italics ours.] Even though I would presumably prefer not to buying insurance if I knew that my house would not burn down, I may still want to buy insurance because I am uncertain whether it will. In particular, if I think that there is a decent chance that my house will burn down at some point, I may want to buy insurance even though all of the worlds in which I buy insurance are (by [the ranking of $w_3 < w_1 < w_2 < w_4$]) suboptimal. Or again, if my financial advisor thinks that there is a significant risk of fire, he would presumably advise me that I ought to buy insurance, knowing full well that the best possible worlds (relative to my financial health) are ones in which I do not. These examples indicate that in considering what we ought to do, or what we want to do, we do not just look at the best possible worlds. Instead, whether or not I want to or ought to buy insurance will presumably depend on my judgment about how likely it is that my house will burn down, as well as factors such as the cost of insurance vs. the value of the house. Simply put, non-optimal worlds matter, and probability matters” (Lassiter 2011b:136).
However, we think that, as is, our semantics can predict that (94a) is true without us making any changes to it. Here is why. As before, we list the four relevant worlds of \( p \) and \( q \), labeling them with respect to their likelihood.

\[
\begin{align*}
w_1: & \text{ John buys insurance and his house is not damaged } & \text{ most likely } p\text{-world} \\
w_2: & \text{ John buys insurance and his house is damaged } & \text{ not most likely } p\text{-world} \\
w_3: & \text{ John does not buy insurance and his house is not damaged } & \text{ most likely } q\text{-world} \\
w_4: & \text{ John does not buy insurance and his house is damaged } & \text{ not most likely } q\text{-world} \\
\end{align*}
\]

To repeat, our semantics only looks at \( w_1 \) and \( w_3 \), as these are the most likely worlds of \( p \) and \( q \). But this limitation need not affect which worlds the attitude holder considers. It is possible for \( \alpha \) to consider worlds like \( w_2 \) and \( w_4 \). For instance, suppose that John performs a calculation of the expectations of the relevant propositions, so that he looks at worlds \( w_1, w_2, w_3, \) and \( w_4 \). Based on this calculation, he sees that it is dangerous to not have house insurance. For this reason, he decides that he wants to have house insurance, i.e. his bouletic ordering source contains the proposition “I buy house insurance”. Because \( w_1 \) is a member of this proposition, but \( w_3 \) is not, \( w_1 \) outranks \( w_3 \).

Or suppose that John does not perform a calculation of the expectations. However, he considers the possibility of his house being damaged and having no insurance, i.e. he thinks about the world \( w_4 \). John generally values his peace of mind, so that “I have peace of mind” \( \in \text{g}_{\text{des}}(\text{John},w) \). Because this proposition is in his bouletic ordering source, worlds where John feels unsafe, like \( w_3 \), are less desirable than those worlds where he feels safe, e.g. \( w_1 \). So as before, \( w_1 \) outranks \( w_3 \).

Our point here is that although our semantics is limited to comparing only the most likely worlds of the relevant propositions, the attitude holder need not be. He can consider whichever
worlds he wants to. And as we showed, the worlds that he considers may affect what he wants, i.e. may determine propositions that constitute his bouletic ordering source. These propositions then affect the ranking of the most likely p- and most likely q-worlds. So even though our semantics only looks at most likely worlds for examples like (94a), “John wants to buy house insurance”, it will predict that it is true. Our semantics predicts that (94a) is true any time John’s bouletic ordering source promotes the most likely p-world \( w_1 \) as better than the most likely q-world \( w_3 \).

In this way, our semantics is flexible. It allows for truth values to alter according to what the attitude holder values. Does \( \alpha \) want to do what is best for him? It depends. Does \( \alpha \) think about the future? Does \( \alpha \) plan for disaster? Is \( \alpha \) responsible? Is \( \alpha \) rational? Does he calculate the expectations? What does \( \alpha \) care about?

6.3.4 Utility-probabilistic or likelihood restricted ordering semantics?

At this point, we have a basic understanding of the differences between our likelihood restricted ordering semantics for want and a utility-probabilistic semantics for want such as Lassiter’s. We explain why we prefer our model by pointing out two kinds of concerns we have about Lassiter’s semantics specifically. We then point out two concerns we have for all utility-probabilistic semantics in general.

6.3.4.1 Two concerns with Lassiter’s semantics

Both of our concerns with Lassiter’s semantics concern \( \text{prob} \). First, we think that the way prob operates in Lassiter’s semantics is inelegant. In the discussion surrounding (91), we pointed out that Lassiter allows for the possibility that prob is linked to a time different from the time of
utterance of the want-clause, and may also be linked to someone other than the attitude holder. We showed that this is inelegant in comparison to our semantics, since for us, likelihood is based on what the attitude holder believes at the time of utterance. There is no need to access the beliefs of other people at other times than when the want-clause is uttered. (This is implicit in our model, as we have not used any time parameter in our semantics for want.)

Second, we find a quirk with Lassiter’s prob that negatively impacts its appeal. When prob assigns its values, the conditional probabilities of all worlds for a given proposition must sum to 1. This is standard. However, when prob assigns absolute probabilities, i.e. distributes 1 across all worlds in UALT(ϕ), an arbitrary decision must be made. Specifically, an arbitrary decision about the likelihood of ϕ with respect to all other propositional alternatives needs to be made. Look back at Goble’s example of a player in a game. In all instances where we assigned absolute probabilities, we designed the probabilities of all worlds in ϕ to sum to .5, and the sum of all worlds in the alternative proposition summed to .5 also. In other words, we set it up so that the odds of the player playing red or blue were 50/50.

We made the same 50/50 split between ϕ and not-ϕ with Levinson’s insurance example. We assigned the conditional probabilities in the normal way. When it came to assigning the worlds their absolute probabilities, i.e. their probabilities conditional on UALT(ϕ), “John buys insurance or does not buy insurance”, we said the odds of John buying house insurance is 50/50.

There is a circularity here. We stipulate the probability of the player playing red or blue or John buying insurance or not in order for prob to assign absolute probability values. But this is exactly the question we are trying to answer! How will the attitude holder act? Does the player want to play red or blue? Does John want to buy insurance or not? In this model, such choices are based on a calculation of the expectation of the alternatives. So the calculation should not
stipulate out of the blue what the odds are of how the attitude holder will act. It should determine these odds.

This is not just a problem for this example. It is a problem for any example where the complement to want and its alternatives are an evaluation of how the attitude holder acts, i.e. where the attitude holder is also the subject of want’s complement. In such cases, the odds of the attitude holder doing x or not doing x must be stipulated in order for prob to assign all worlds their probability values. (For reference, the problem is not present when the complement concerns the actions of someone other than the attitude holder, as with Villalta’s teaching scenario.)

Even odder still, it makes no difference how we alter the odds between the compared propositions. To see this, take again (94a), “John wants to buy insurance”. The relevant worlds are:

$w_1$: John buys insurance and his house is not damaged
$w_2$: John buys insurance and his house is damaged
$w_3$: John does not buy insurance and his house is not damaged
$w_4$: John does not buy insurance and his house is damaged

As before, we say that the desirability of $w_1$ is -100; $w_2$ -5,000; $w_3$ +500; $w_4$ -100,000. The probability of no house damage is .99, and the probability of house damage is .01. This allows us to calculate the probabilities of the worlds conditional on $\phi$ or not-$\phi$. Conditional on $\phi$, the probability of $w_1$ is .99, the probability of $w_2$ .01. Conditional on not-$\phi$, the probability of $w_3$ is .99; $w_4$ .01.

The quirky part comes when we need to assign the worlds their absolute probabilities, i.e. the probabilities of the worlds conditional on “John buys house insurance or not”. As noted, we
must make an arbitrary decision for how to divide the probability of 1 between “John buys house insurance” and “John does not buy house insurance”. For the first run through this example, let us say that the chance of John buying insurance is 99/1, so that all worlds in “John buys insurance” sum to .99, and all worlds in “John does not buy insurance” sum to .01. This means that the absolute probability of \( w_1 \) is .9801; \( w_2 .0099 \); \( w_3 .0099 \); and \( w_4 .0001 \). As before, we put these values in a matrix to calculate each of these world’s weighted values. (We gray out the cells that are unnecessary for the first row.)

Matrix 11. Weighted values of worlds in \( \phi \) and \( \cup \) \( \text{ALT}(\phi) \) for (94a) with a 99/1 split between \( \phi \) and \( \cup \) \( \text{ALT}(\phi) \)

<table>
<thead>
<tr>
<th>buys insurance</th>
<th>insurance: y house damaged: n</th>
<th>insurance: y house damaged: y</th>
<th>insurance: n house damaged: n</th>
<th>insurance: n house damaged: y</th>
</tr>
</thead>
<tbody>
<tr>
<td>buys insurance</td>
<td>-100 \times .99 = -99</td>
<td>-5,000 \times .01 = -50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>buys insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or does not buy</td>
<td>-100 \times .9801 = -98.01</td>
<td>-5,000 \times .0099 = -49.5</td>
<td>500 \times .0099 = 4.95</td>
<td>-100,000 \times .0001 = -10</td>
</tr>
<tr>
<td>insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We sum across the rows to get the expectations of \( \phi \) and \( \cup \) \( \text{ALT}(\phi) \).

Matrix 12. Expectations of \( \phi \) and \( \cup \) \( \text{ALT}(\phi) \) for (94a) with a 99/1 split between \( \phi \) and \( \cup \) \( \text{ALT}(\phi) \)

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>buys insurance</td>
<td>-99 + -50 = -149</td>
</tr>
<tr>
<td>buys or does not buy</td>
<td>-98.01 + -49.5 + 4.95 + -10 = -152.56</td>
</tr>
</tbody>
</table>

In this case, we will say that \( \theta = 1 + \mathbb{E}(\cup \text{ALT}(\phi)) \), so that \( \theta = -151.56 \). Because \( \mathbb{E}(\phi) \) exceeds this value, (94a) is predicted to be true.

Because we want to show that it makes no difference how we split up the probability of 1 between the complement \( \phi \) and each of the compared alternatives, we look at this example a second time. Let us now suppose that John has a 1/99 chance in buying house insurance. The
conditional probabilities of the worlds are the same: conditional on \( \phi \), \( w_1 \) has probability .99; \( w_2 \) probability .01. Conditional on not-\( \phi \), \( w_3 \) has probability .99; \( w_4 \) has probability .01. Assuming John has a 1/99 chance of buying house insurance, the absolute probability of \( w_1 \) is .0099; \( w_2 \) is .0001; \( w_3 \) .9801; and \( w_4 \) .0099. We maintain the same desirability values for these worlds: \( w_1 \) has desirability -100; \( w_2 \) -5,000; \( w_3 \) +500; \( w_4 \) -100,000. To calculate the weighted values of the worlds, we enter the numbers into a matrix.

Matrix 13. Weighted values of worlds in \( \phi \) and \( \text{UALT}(\phi) \) for (94a) with a 1/99 split between \( \phi \) and \( \text{UALT}(\phi) \)

<table>
<thead>
<tr>
<th>buys insurance</th>
<th>insurance: y house damaged: n</th>
<th>insurance: y house damaged: y</th>
<th>insurance: n house damaged: n</th>
<th>insurance: n house damaged: y</th>
</tr>
</thead>
<tbody>
<tr>
<td>buys insurance</td>
<td>-100 x .99 = -99</td>
<td>-5,000 x .01 = -50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>buys insurance or does not buy insurance</td>
<td>-100 x .0099 = -0.99</td>
<td>-5,000 x .0001 = -0.5</td>
<td>500 x .9801 = -490.05</td>
<td>-100,000 x .0099 = -990</td>
</tr>
</tbody>
</table>

We sum across the rows to get the expectations.

Matrix 14. Expectations of \( \phi \) and \( \text{UALT}(\phi) \) for (94a) with a 1/99 split between \( \phi \) and \( \text{UALT}(\phi) \)

<table>
<thead>
<tr>
<th></th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>buys insurance</td>
<td>-99 + -50 = -149</td>
</tr>
<tr>
<td>buys or does not buy insurance</td>
<td>-0.99 + -0.5 + -490.05 + -990 = -1481.54</td>
</tr>
</tbody>
</table>

Since the difference between the expectations is so much greater, we will say that \( \theta = 500 + \mathbb{E}(\text{UALT}(\phi)) = -981.54 \). Because \( \mathbb{E}(\phi) \) exceeds this value, (94a) is again predicted to be true.

Thus we see that in Lassiter’s semantics, we must arbitrarily decide how to divide the probability of 1 between \( \phi \) and each of the compared propositions in order to assign the worlds their absolute probabilities. We also see that it makes no difference in how we make this split, as the semantics predicts the same truth values regardless of how the probability of one is divided.
across the compared propositions. (So long as none of the relevant propositions is given a probability of 0. We explained above that when one proposition has a probability of 0, the want-clause is trivially predicted to be false, cf. the discussion surrounding matrices 7 and 8.)

Unlike the first concern about prob that we raised, Lassiter has no discussion about this feature of prob. Although Lassiter discusses Levinson’s insurance example in two places (Lassiter 2011a, 2011b), he does not show how his own semantics accounts for this example. Rather, he applies Levinson’s semantics to Levinson’s insurance example. Levinson’s semantics is roughly the same as the one we designed in the style of Goble, i.e. it compares p to not-p (see footnote 56, example (84)). Comparing p to not-p, rather than comparing p to \( \cup \text{ALT}(p) \), Levinson’s semantics does not face the same circularity Lassiter’s semantics does. The reason is because the probability of the worlds in not-p is assigned conditional on not-p. So there is no need to divide the probability of one between p and not-p in order to figure out the absolute probability of the worlds. Thus Lassiter uses Levinson’s semantics to show that a probabilistic semantics excels over standard quantificational models, and before he develops his own semantics for want. Upon developing his focus sensitive semantics for want, he does not show how it accounts for the insurance example, or any example where the complement to want is about how the attitude holder acts. This is true of all his later work (Lassiter 2012a, 2012b, 2013, 2014, 2015a, 2015b, Goodman and Lassiter 2015, Lassiter and Goodman 2013, 2015a, 2015b, Nadathur and Lassiter 2015, Potts et al. 2015). Throughout it, none of the examples concern how the attitude holder acts. Thus it is unclear how Lassiter would account for this issue of circularity with prob’s value assignments.
6.3.4.2 Two general concerns with utility-probabilistic models

As mentioned, we have two general concerns about utility-probabilistic models for \textit{want}.

First, we are skeptical that truth value should be determined solely by a calculation of the expectations. Second, we are skeptical that it is desirable for a semantics for \textit{want} to evaluate every single world that makes true any one of the contextually relevant propositions.

We are skeptical about a semantics that necessarily ties truth values to a calculation of the expectations. Recall again our discussion in section 6.3.3, surrounding Levinson’s insurance example and (94a), “John wants to buy house insurance”. We debated whether we consistently judge this sentence as true. We agreed that in cases where John is rational or cares about feeling safe, he will want to buy insurance, so that (94a) is true. But in cases where John is indifferent to such concerns, we think that (94a) is false. And in support of our likelihood restricted semantics, we showed that it predicts truth values in line with our judgments. This is because although the semantics looks at only the most likely worlds, \( \alpha \) may consider non-most likely worlds. This consideration may help determine the propositions that populate \( \alpha \)’s bouletic ordering source. So our semantics predicts truth values that align with our judgments. On the other hand, a utility-probabilistic semantics such as Lassiter’s necessarily gives truth values that align with expected values. And because there are highly undesirable worlds where John does not buy insurance, Lassiter’s semantics predicts only that (94a) is true. We take this as a reason why it is undesirable to connect truth values for \textit{want} simply to a calculation of the expectations.

Our second concern for utility-probabilistic models is that the semantics for \textit{want} must evaluate all p- and all q-worlds. In section 4.2, we showed why we want our ordering semantics to be restricted to the most likely p- and most likely q-worlds. We make the same argument for a utility-probabilistic semantics here. As Lassiter’s semantics for \textit{want} is designed, it looks at
every world in all the contextually relevant propositions, assigning each a desirability and probability value. However, looking at all these worlds, we question how it assigns truth values. For instance, take the sentence “John wants to buy a gun”. There are two relevant propositions: p, John buys a gun, and not-p, John does not buy a gun. In p, there is a world where John’s toddler child discovers the gun. In playing around with it, the worst disaster happens. There is another undesirable p-world where John is injured by the gun he buys. There is an undesirable p-world where his neighbor is injured by a gun he buys. There is a desirable p-world where he rescues his family. There is a desirable p-world where he is hero for his neighborhood. In not-p, there is an undesirable world where a dangerous criminal breaks into John’s house and because he has no gun, John cannot protect his family. There is an undesirable not-p world where he cannot protect his neighborhood. There is an undesirable not-p world where a law is passed that everyone must own a gun. Our point is the same as we made in section 4.2: there is an infinity of worlds that make true the relevant propositions. Why do we want a semantics for want to evaluate every single one of these worlds? What if the attitude holder does not think about these worlds? Or if he is not even aware of them? How then can the semantics assign desirability values based on what the attitude holder wants? Does this question matter? If the semantics is designed to look at every single p- and every single q-world, does it matter what the attitude holder thinks about? This is exactly the cause of concern: we are skeptical that a semantics that looks at all p- and all q-worlds offers a plausible representation of what happens when ‘α want p’ is true. On the other hand, we think that our likelihood restricted semantics does offer a plausible representation, because it is restricted to only looking at a subset of worlds in p and the q-alternatives, specifically those that the attitude holder considers.
We recognize that the reader may not accept our arguments and may not find our likelihood restricted ordering semantics to be more desirable than a utility-probabilistic semantics. The reader may think that utility-probabilistic models offer more plausible representations of what occurs when we as speakers determine the truth value of want-clauses. If so, we hope that the reader at least takes our arguments here as ways to improve utility-probabilistic models for want. For example, utility-probabilistic semantics could easily be limited in the p- and q-worlds it evaluates. Like our likelihood restricted semantics, such semantics could also be limited to looking only at the p- and q-worlds that α believes are most likely.

We do not view our discussion here to be thorough or definitive. Whether ordering semantics or probabilistic semantics are better for defining modals is a rich source of debate. We offer our perspective here as another contribution to the topic. We revisit this topic in Chapter 3, section 7.

7. Conclusion and future directions

We covered a lot of ground in this chapter. We began by with an on overview on key literature, first discussing traditional modal logic and ordering semantics. Then we looked more specifically at literature on want and other desire predicates: Heim (1992), Villalta (2008), and Rubinstein (2012). In discussing this literature, we highlighted issues with these approaches, specifically by focusing on their analyses of want. This led us to developing our own analysis of want, which we term “likelihood restricted”, since it looks only at the most likely p- and q-worlds, and “quasi-quantificational”, since it does not use a modal base. We then used this entry of want as a starting point to define other desire predicates, wish that, glad that, and disappointed
that. Following this proposal, we evaluated its merits, focusing on our entry of want. We compared it to traditional ordering semantics, as well as probabilistic approaches, highlighting our preference for our likelihood restricted approach.

There are several questions that this research raises. We gave up a modal base for want, wish that, glad that, and disappointed that. What other predicates do not need a modal base? All desire predicates? What about other root modals? Epistemic modals? Other questions concern doxastic conversational backgrounds. We made distinctions between likely doxastic and possible doxastic modality. Where else is this distinction helpful? Do other modal flavors need similar refinement? What about the fact that we assigned a doxastic conversational background the role of ordering source, rather than modal base? Another question concerns Karttunen's generalization. We have not really explained how it works; we have merely encoded it in our semantics. Why is it true of attitude predicates? An even larger question is how satisfactory our semantics for want and other desire predicates is. Does it capture the fact that the emotive factives express emotions? If not, how might we encode this meaning into their semantics? Should we thus alter the flavors of their bouletic ordering sources, to reflect that an emotion is felt when α is glad that p or disappointed that p (cf. footnote 49)? Or should we stipulate definedness conditions for their semantics?

We respond to some of these questions in the next two chapters. In Chapter 3, we look at more data with focus and desire predicates to see how well the entries we developed here account for this data. In Chapter 4, we see how well we can use the semantic entries we develop for desire predicates work in defining directive verbs.
CHAPTER 3
NONCOMPARATIVE DESIRE PREDICATES

1. Introduction

In this chapter, we look at examples where the felicity of a person’s sequences of utterances are affected by focus marking, such as in (1). (We presented this example in Chapter 1, section 3: (66)-(67).)

(1) Scenario: Dinner, with want
Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. This is a tough decision for Sofía because she wants to order all three of the entrees. Victoria tries to encourage Sofía to make a decision by asking her if she wants to eat the chicken. Sofía responds:

(1a) Yes, I want to eat the chicken.
(1b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

(2a) Yes, I want to eat the CHICKEN.
(2b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

If Sofía’s response lacks focus marking, as in (1a), then it is felicitous for her to utter (1b). However, if Sofía focus-marks chicken as in (2a), it is infelicitous for her to then utter (2b) (which is identical to (1b)). This poses a problem for the comparative analyses of want found in

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1 Additionally, we provided an alternate example where the focus-marking does not emphasize a word in position of default focus, cf. Chapter 1, (68)-(69).
the literature (Heim 1992, Villalta 2008, Rubinstein 2012), as well as for our proposed entry for *want* in the last chapter. Such analyses predict that the felicity of (1b)/(2b) is the same after either response in (1a) or (2a), regardless of focus marking. For example, according to the proposed analysis of *want* developed in Chapter 2 (entry given in section 4.3: (56)), for Sofía to state that she wants the chicken is for her to assert that all most likely beef and most likely lamb worlds are outranked by most likely chicken worlds. So (1b)/(2b) is predicted to be infelicitous after both (1a) and (2a).

The purpose of this chapter is to provide a proposal for why focus marking in the scope of *want* and other desire predicates affects the felicity of following utterances. As in the last chapter, we first focus on data with *want* and then turn to other desire predicates. We begin by examining the scenario in (1) and (2), considering various explanations for the differences in felicity. We pursue an analysis where *want* is not comparative in all instances of its use. Thus we extend our analysis of *want* from the last chapter by providing a second entry of *want* as a noncomparative, universal quantifier. We support the proposal that *want* has two entries of differing quantification by looking at Davis’ (1984, 1986) distinction between two kinds of desire. His work provides conceptual support for the notion that there are two kinds of desire, and based on additional data, we propose that *want* can express both of these kinds of desire. We propose that our comparative entry of *want* from Chapter 2 expresses a comparative desire and that a second, universally quantifying entry of *want* expresses noncomparative desire. Thus we turn to defining this second entry. As a baseline, we consider an ordering semantics of simple necessity. Applying this entry to the dinner scenario, we see that we need to make further refinements to define noncomparative *want*. After formalizing our final iteration of this noncomparative entry of *want*, we show how it relates to the comparative entry of *want*. Then we
turn to data similar to (1) and (2) where desire predicates wish that, glad that, and disappointed that are matrix verbs. We examine this data to determine whether these predicates also have two entries of varying force. After looking at these verbs, we turn back to evaluating our proposal for want, by comparing our quantificational entry to a utility-probabilistic entry, as we did in the last chapter for comparative want.

The chapter is laid out as follows. In section 2, we explore different accounts for the dinner scenario, establishing our intended analysis. In section 3, we give an overview of Davis’ (1984, 1986) work on two kinds of desire and offer a baseline semantics for noncomparative want. In section 4, we develop our entry for noncomparative want. In section 5, we establish the kinds of desire that each of want expresses, and the look at the forms of interaction between these entries. In section 6 we look at other desire predicates. We compare our quantificational approach to a utility-probabilistic one in section 7. We close in section 8.

2. Incompatible desires

In this section, we explore different ways to account for the dinner scenario, as given in (1) and (2) of this chapter. We begin by showing how our comparative semantics for want, as developed in the last chapter, accounts for the scenario. We then examine four possible explanations for the differences in the sequences’ felicity.

For purposes of reading ease, we copy the scenario here, maintaining the same numbering as given in this chapter’s introduction.

(1) Scenario: Dinner, with want
Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. This is a tough decision for
Sofía because she wants to order all three of the entrees. Victoria tries to encourage Sofía to make a decision by asking her if she wants to eat the chicken. Sofía responds:

(1a) Yes, I want to eat the chicken.
(1b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

(2a) Yes, I want to eat the CHICKEN.
(2b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

And we give our proposed entry for want from Chapter 2 (cf. section 4.3: (56)):

(3) \textit{want} \hspace{1cm} \text{(as developed in Chapter 2)}

\[ \llbracket \text{want}_C \rrbracket^\mathfrak{p}(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow \text{p is defined in } w' \hspace{1cm} \] 
\[ \text{if defined, } \llbracket \text{want}_C \rrbracket^\mathfrak{p}(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) & q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) & w'' <_{\text{DES}_\alpha, w} w'] & \forall w''[w'' \in p & w' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w)))] \rightarrow \exists w'' \forall q[w'' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) & q \in g(C) & w' <_{\text{DES}_\alpha, w} w''] \] 

This entry of want makes the wrong predictions for the dinner scenario. Applying the semantics for want in (3) to (1a), (1a) means that all most likely q-worlds are outranked by most likely chicken-worlds. Let us take the q-alternatives to be “Sofía eats beef” and “Sofía eats lamb”. Let us suppose that the most likely chicken-worlds are those where the chicken is cooked properly and Sofía enjoys it, and likewise for the most likely beef- and lamb-worlds. Thus (1a) means that for all worlds where Sofía orders and enjoys properly prepared beef or properly prepared lamb, there are better worlds where she eats and enjoys chicken that is cooked properly. The same meaning is given for (2a); the focus marking identifies \{beef, lamb\} as the relevant alternatives to compare to chicken, so (2a) has the same meaning as (1a): all most likely beef- and lamb-
worlds are outranked by the most likely chicken-worlds.

Now let us consider the meaning that our semantics gives (1b)/(2b). Let us say that the q-alternative to the first clause is ‘not eating beef’. The most likely worlds where Sofía does not eat beef are those where she eats chicken or lamb. So the first clause of (1b)/(2b) means that all chicken- or lamb-worlds are outranked by most likely beef-worlds. As for the second clause, let us say that the q-alternative is ‘not eating lamb’. The most likely worlds where Sofía does not eat lamb are those where she eats chicken or beef. So the second clause means that all chicken- or beef-worlds are outranked by more desirable lamb-worlds. In other words, the first clause of (1b)/(2b) means that eating beef is better than eating chicken or lamb and the second clause means that eating lamb is better than eating chicken or beef.

Because our semantics for want gives the same meaning to both (1a) and (2a), it has no account for why there are different felicity values for a following utterance of (1b)/(2b). We want to be able to explain why the first sequence is felicitous, but the second is not. We thus consider different explanations, pursuing that which we find most compelling.

Our first possible explanation of the difference in felicity between each sequence is based on the q-alternatives for each of the (a)-sentences. We said that the complement in (1a) has two q-alternatives: “Sofía eats beef” and “Sofía eats lamb”. These are the same q-alternatives for (2a). It is clear that these should be the q-alternatives for (2a), as the focus marking generates this set of alternatives. But let us suppose that the q-alternative is different for (1a). Let us say that in (1a), Sofía is simply comparing “I eat chicken” to “I do not eat chicken”. In other words, propositions about beef and lamb do not figure into the picture. In this case, (1a) means that all most likely not-chicken worlds are outranked by most likely chicken worlds.

However, this approach offers us no real solution. Consider what is true in a most likely
not-chicken world. Sofía is sitting in a restaurant with the intent to eat. A most likely not-chicken world is not one where she eats no entree, and leaves the restaurant without eating. Rather, it is one where she orders an entree such as beef or lamb. So a most likely not-chicken world is one where Sofía eats the beef or the lamb. In this way, the meaning for (1a) is the same as that for (1b).

In other words, altering the q-alternative for (1a) does not alter the meaning of (1a). This means that our semantics for *want* provides the same meaning for (1a) and (2a), so that it cannot distinguish the felicity values. Let us thus consider other explanations.

In this second possible explanation, let us suppose that focus-marking is exhaustive when used in the scope of a comparative predicate like *want*. So to focus *chicken* in the complement of *want* is for Sofía to indicate that she does not have a desire for competing alternatives to the complement, i.e. beef and lamb. This explanation seems to work: not using focus in (1a), Sofía expresses a desire for eating chicken, but not to the exclusion of eating the other entrees. Thus she can utter (1b)/(2b) felicitously. But since she uses focus marking in (2a), she expresses that her desire is only to eat chicken, conveying that she has no desire to eat the beef or the lamb. This is why a following utterance of (1b)/(2b) is infelicitous.

Unfortunately, this explanation is problematic, as it fails to account for other data outside of this example. Focus is not necessarily exhaustive in the scope of *want*; it can also be used contrastively (cf. Chapter 1, section 2.1 for an overview on uses and effects of focus).

(4) I want CHICKEN and I also want BEEF.

This sentence is felicitous: Sofía can express desires for these entrees by using focus to contrast them with each other. Thus we cannot say that focus-marking is always exhaustive when in the scope of comparative predicates such as *want*.
As a **third possible explanation**, let us suppose that in general, a person is free to express conflicting desires from one clause to the next, without any overt signal such as “well actually” to indicate that he is changing his mind. However, if he focus-marks content in the complement of a preferential verb like *want*, some level of commitment to that preference is indicated. So a person must provide an overt signal such as “well actually” to indicate that he is changing his mind with a following utterance. Without such indication, the utterance is infelicitous.

This explanation accounts for the scenario. (1a) followed by (1b)/(2b) is felicitous because Sofía is free to change her mind since she has not used any focus-marking. But (2a) followed by (1b)/(2b) is infelicitous because in using focus-marking in (2a), Sofía indicates some level of commitment to eating chicken rather than eating beef or lamb.

As with the last explanation, this proposal accounts for the dinner scenario but is not otherwise supported. Consider similar pairs of sentences to (1a)-(1b) and (2a)-(2b) with *prefer*. Suppose that Victoria has asked Sofía if she prefers chicken or beef.

(5a) I prefer CHICKEN.
(5b) #(Well actually) I prefer beef.

(6a) I prefer chicken.
(6b) #(Well actually) I prefer beef.

Independent of focus-marking, it is infelicitous for Sofía to alter her preferences without signaling as much: without the parenthetical, (5b)/(6b) is infelicitous after both (5a) and (6a). Presence of focus-marking has no effect on the felicity of altered preferences without an overt signal.
Since all the other possible explanations have not proved successful, we turn to a **fourth possible explanation**. Let us suppose that *want* has two entries. The first is as developed in the last chapter: it compares the most likely worlds for each of the contextually relevant alternative propositions. The other entry of *want* is noncomparative, using a universal semantics. Roughly, it says that all bouletically accessible worlds make true the complement. Thus to express a desire with noncomparative *want* is to say that the object is desirable to the attitude holder. Further, let us say that when a person uses comparative *want*, he must overtly signal that he is changing his mind in order to felicitously express a preference for a q-alternative. No signal is needed with utterances when noncomparative *want* is used because there is no change of mind. A person can noncomparatively want different objects at the same time.

This provides the following explanation of the scenario. In (1a), Sofía uses noncomparative *want*, expressing that chicken is desirable to her, or more formally, that all of her bouletically accessible worlds are chicken worlds. However, in (2a), Sofía uses comparative *want*, so that she expresses a preference for chicken over the alternatives of beef and lamb. As for (1b)/(2b), both instances of *want* are noncomparative, so that Sofía expresses that beef and lamb are also desirable to her. This is why (1b)/(2b) is felicitous after (1a): there is no inconsistency with Sofía expressing finding all three entrees desirable. But (1b)/(2b) is infelicitous after (2a) because without using an overt signal, Sofía cannot express finding q-alternatives to p desirable after she has just expressed comparatively wanting p.

Unlike the other explanations we considered, this approach is appealing for reasons other than accounting for the dinner scenario. First, it maintains an intuition we raised concerning (1a). In the first explanation, we entertained the idea that (1a) does not make comparison between chicken and the other entrees, rather it expresses something about the desirability of chicken
without consideration of its alternatives. We think the intuition behind that explanation is realized in the idea that *want* has two entries. If Sofía uses noncomparative *want* in (1a), she expresses a desire for chicken without reference to the other entrees. In other words, she uses it to talk about chicken on its own.

A second source of support for this explanation is that philosophers such as Davis (1984, 1986, 2005), Schiffer (1976), Nagel (1970) and Dretske (1988) speak about two kinds of desire. While they do not characterize these desires in terms such as “comparative” and “noncomparative”, we can show how descriptions of two kinds of desire such as Davis’ are compatible with such a distinction. And we can also show that *want* can express both of these kinds of desire.

Thus we propose to proceed with this explanation, of *want* having two entries, as our analysis of the dinner scenario. In order to justify this analysis, we examine Davis’ (1984, 1986) distinction between two kinds of desire.

3. **Want expresses two kinds of desire**

In this section, we look at Davis’ (1984, 1986) work on two kinds of desire. We examine his characterizations of these two kinds of desire. Then we show that *want* can express both of these kinds of desire. We connect these expressions of desire with the two different entries for *want*, proposing that each entry of *want* uniquely expresses one kind of desire.
3.1 Davis’ two kinds of desire

Davis (1984, 1986) wishes to provide support for the common claim that desire is ambiguous.² He identifies two kinds of desire that desire expresses: appetitive desire and volitive desire. Davis characterizes both kinds of desire in order to show that desire can be used as an expression of both of these kinds of desire. Our main focus here is to show how Davis characterizes these two kinds of desire, so that we can show how want is an expression of both kinds of desire.

3.1.1 Appetitive desire

Davis’ explanation of appetitive desire begins with his claim that when desire expresses appetitive desire, it is synonymous with nouns such as appetite, hungering, craving, yearning, longing and urge. Davis characterizes appetitive desire by enumerating the kinds of objects it is directed towards and describing some features of such desire.

As might be surmised from the name, appetitive desire can be directed towards things we consume, e.g. food and drink. But this is hardly the extent of objects that can be appetitively desired. We can have appetitive desires for objects that are associated with physical drives, e.g. caffeine, nicotine, urinating, sleeping, and sex. And appetitive desire can include objects that have no clear physical drive, such as being wise, fulfilling obligations, the semester ending, or having lots of children. In other words, a diversity of objects can be appetitively desired.

Davis provides two sorts of features of appetitive desire. The first is that when a person has appetitive desire, the object of that desire is appealing. For instance, if I have an appetitive

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² To clarify: Davis’ work first appears in 1984 as a journal article. It is extended in 1986 as a book chapter. Outside of direct quotations, I cite both versions since there is significant overlap in content. It is also worth noting that Davis (2005) presents these same ideas in later work, maintaining the distinction between appetitive and volitive desire, providing the same definitions and examples given in his earlier work.
desire to eat lobster, then it is appealing to me. If lobster does not appeal to me, say because I have already eaten too much lobster, or do not like lobster, then I can have no appetitive desire for it.

The second feature of appetitive desire is that its objects are “viewed with pleasure”. It is difficult to define what it means to view something with pleasure, since Davis mostly defines this notion negatively. For instance, Davis says that view with pleasure does not mean enjoying watching something. Wayne might enjoy watching a tennis match, but this does not mean he views playing tennis with pleasure. Viewing an object with pleasure does not mean thinking the object will give pleasure. For instance, John might view with pleasure the prospect of a dignified funeral for his wife, but this does not mean that he expects to enjoy the funeral. View with pleasure does not mean that the thought itself is enjoyable. John may be very sad to think about his wife’s funeral. View with pleasure also does not mean that you are pleased that you will or might act in a certain way. For instance, Bob may view eating an ice cream sundae with pleasure, but because he is on a strict diet, he is not pleased with such desire. Instead, Davis offers the positive definition: “S views the prospect of VP-ing with pleasure” means that S has a desire to VP” (Davis 1986: 67).

3.1.2 Volitive desire

As with appetitive desire, Davis notes that desire as an expression of volitive desire takes NP or VP complements. When used volitively, desire is interchangeable with verbs like want, wish, and would like. In order to explain volitive desire, Davis contrasts it with appetitive desire. In turn, he further characterizes appetitive desire. The main distinction he makes between these
two kinds of desire is in terms of rationality: he says volitive desire has a stronger association with rationality than does appetitive desire.

Davis explains that volitive desires are typically based on motivating reasons, in contrast to appetitive desires. If I have a volitive desire to eat, I can explain the reasons that I have this appetite. These reasons not only explain but they also motivate my hunger. In contrast, I cannot give a motivating reason for or against appetitive desires. If my desire to eat is appetitive, I cannot give a motivating explanation for why I am hungry (although I can give a descriptive explanation of why I am hungry). Based on this distinction, Davis likens appetitive desires to aches and pains – they have no motivating reason for why they occur – and likens volitive desires to beliefs. While he does not explain precisely how volitive desires and beliefs are similar, we might infer that both are subject to reason, and thus can be explained.

Davis makes more explicit the connection between volitive desire and rationality by speaking of value judgments. To have a value judgment is for a person to believe that “something is or would be good, right, obligatory, just, prudent, and so on, tends to want it to exist” (Davis 1986: 71). In other words, a value judgment is the determination that a certain object is worthwhile. Such judgments relate to volitive desire because they provide a motivating reason for the desire: “the volitive desire to do A tends to result from the belief that it is desirable to do A, which is implied by the belief that one should or ought to do A, that A is the (best) thing to do” (Davis 1986: 71, italics his). While Davis states that value judgments often provide motivating reasons for volitive desires, he says there is no similar association between value judgments and appetitive desires. Although Bob may have a value judgment to pay back his loans, he may not find this prospect appealing nor view it with pleasure, so that he does not appetitively desire to pay back his loans.
It is important to clarify that although Davis associates volitive desire with value judgments, he does not establish this as a necessary feature of such desire (whereas he presents the features of appetitive desire as necessary). It is possible to have volitive desires that are inconsistent with value judgments. For instance, I may have the value judgment that I do work. But I may also have the appetitive desire to watch a movie. I might eventually give into this appetitive desire, and use it as a reason to volitively desire to watch a movie. In such a case, my volitive desire to watch the movie is not accompanied by a value judgment, i.e. the belief that it is the best thing to do. Similarly, volitive desire might not be accompanied by a value judgment in cases of impulsive action. Davis gives an example of Clay acting on his urge to smash down his tennis racket after his serve. In instances of such impulsive behavior, the appetitive desire generates the volitive desire without any accompanying value judgment. For this reason, although volitive desire is often associated with rationality and value judgments, these are not necessary features of volitive desire.

Another way that Davis distinguishes volitive desire from appetitive desire is in terms of intention. He states that volitive desire is entailed by intention, whereas appetitive desire is not.3 Similarly, Davis draws a connection between volitive desire and decision: “[d]eciding to do something entails forming the intention to do it, which results in desiring to do it” (Davis 1986: 75). So even if a volitive desire for p is not present, deciding to do p generates such desire. Davis makes no such connection for appetitive desire.

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3 Davis clarifies that all intentional action is not motivated by desire; such action may sometimes be motivated by obligation. He also clarifies that intention is distinct from desire because the former entails belief, the latter does not.
3.1.3 Interaction between both kinds of desire

We gave some examples in the last paragraph of how an appetitive desire may change a volitive desire or work to generate volitive desire. Davis points out more ways that these desires may interact. For instance, an appetitive desire may generate a volitive desire. Suppose I have the appetitive desire to eat. This may become a motivating reason for me to want to eat, i.e. generate my volitive desire to eat. Appetitive desire may also be directed on volitive desire. Davis gives the example of a sinner who has the appetitive desire to want to do good. So while his appetitive desire is not for good itself, it is to have the volitive desire to do good. Appetitive desire may also be directed on appetitive desire. Davis explains this with the example of having just overeaten but appetitively wanting to have an appetitive desire for food.

Just as appetitive desire may be directed on other desire, so too can volitive desire be directed on other desire. For instance, volitive desire can be directed on appetitive desire. Davis illustrates this with an example of wanting to have an appetite in order to enjoy eating food. Volitive desire can also be directed on volitive desire. Davis offers the example of a person who desires to live a moral life, and who believes that desiring to do what is good and not desiring to do what is bad is part of the moral life. In this case, the volitive desire to do good is directed on the volitive desire to do good.

Outside of these examples of desires being directed on each other, Davis also talks about inconsistency between appetitive and volitive desire. Since these desires are logically independent, it is possible for appetitive desire to be inconsistent with volitive desire. For example, one can have an appetitive desire for p without a volitive desire for p. Suppose I have the appetitive desire to eat food: eating is appealing to me and I view it with pleasure. However,

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4 This example seems to support the idea that a person can have two appetitive desires at the same time. (We suggested as much in our explanation #4 in section 2.1.) In this case, it appears that the person appetitively desires to do bad and also appetitively desires to have reason to do good.
because I am on a diet, I have the volitive desire to not eat: I have chosen that the best thing for me to do is to not eat. It is also possible to have a volitive desire for an object without also having an appetitive desire for that object. Davis provides the example of a psychiatrist who wants to understand his drug-addicted patients better. In this way, he has reason to want to do drugs, i.e., he has a volitive desire, but since drugs have no appeal to him and he does not view taking them with pleasure, he has no appetitive desire for drugs.

3.1.4 Generalizations about appetitive and volitive desire

We have given particulars of Davis’ characterizations of both kinds of desire. Let us summarize his work by turning to his generalizations. Davis says that appetitive desire is a more reliable indicator of enjoyment, and that volitive desire is a more reliable indicator of action. This is not to say that there is no connection between volitive desire and pleasure: regardless of which kind of desire a person experiences, “the satisfaction of a desire tends to be enjoyable” (Davis 1986: 71). The difference is that the tendency is stronger for appetitive desire. Likewise, although volitive desire is a better indicator of action, it does not mean that appetitive desire has no connection to action; regardless of the kind of desire, “the [appetitive] desire to do A tends to result in A” (Davis 1986: 71). The difference is that appetitive desire indirectly causes action by generating volitive desire. It is volitive desire that directly causes action.

We can further generalize about the differences between these two kinds of desire according to their relationship with the will. Davis says that appetitive desires are like “inner forces that act on the will”. This is consistent with the similarity he draws between appetitive desires and aches and pains. Although we might be able to describe how these desires have come to us, we have no motivating reason to feel them. They develop on their own, and having them is
the reason that the objects of such desires are appealing. On the other hand, volitive desire is a manifestation of the will. We develop volitive desires with rationality to motivate such desire. Although I may not have any appetitive desire to stop eating a bag of chips, my desire to be hungry for dinner motivates me to use my willpower to stop eating chips.

3.1.5 Verbal expressions of appetitive and volitive desire

Davis says that desire is ambiguous because it can express either that a person has an appetitive desire or a volitive desire. He illustrates this with an example of an extremely hungry woman. Her servant asks her if she has a desire to eat, and the woman responds negatively. Hearing her response, the woman’s husband asks her, “don’t you have any desire to eat?” Then the woman responds positively, since she does have an appetitive desire for food.\(^5\) Thus we could say that this woman desires to eat and desires not to eat. Davis highlights that because there are two meanings of desire, there is no paradox to what would otherwise seem to be a contradictory statement: she has the appetitive desire, but not the volitive desire.

Although Davis treats desire as ambiguous, he does not do the same for want. He says that want expresses volitive desire, and the word must be focused or modified by really if it is to express appetitive desire.\(^6\) He illustrates that really want can express appetitive desire with the following example. Suppose that Wayne is asked if he wants to play tennis. Wayne might

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\(^5\) It is interesting to note that familiarity plays a role in the kinds of desire people express to each other. There is nothing inappropriate about the woman’s response to her servant about not wanting to eat. The social distance permits her to express the volitive desire to her servant. However, it would be disingenuous, perhaps even dishonest of the woman, to give that same negative response to her husband. Given their relationship, it seems almost necessary that the woman expresses her appetitive desire to her husband, rather than her volitive desire. I do not know exactly what to make of this fact, but find the relationship between familiarity and expression of kinds of desire to be an intriguing prospect for future work.

\(^6\) However, in later work, Davis (2005) states that want is ambiguous just like desire, making no qualifications that want must be focused or modified by really. Yet he provides no examples to demonstrate the ambiguity of want.
expresses his appetitive desire to play tennis with really want, but decline because of his obligation to teach: “I really want to play, but I have to teach” (Davis 1986: 77).

3.2 Want expresses appetitive and volitive desire

In contrast to Davis’ (1984, 1986) claims, we show that bare, unmodified want is an expression not just of volitive desire but also of appetitive desire. The claim that want expresses volitive desire is less contentious, as Davis treats want (solely) as an expression of such desire. We agree that want expresses volitive desire, and take examples throughout Davis’ work to illustrate this. For instance, take Davis’ example of the psychiatrist whose patients are drug addicts. Although the psychiatrist lacks an appetitive desire to do drugs, he has the volitive desire to do drugs, to better understand his patients. Based on this desire, we can say that:

(7) The psychiatrist wants to do drugs so he can understand his patients better.

That want expresses volitive desire is also illustrated with Davis’ example of a person wanting to eat food to socialize, although he lacks an appetitive desire for food. Under such circumstances, a sentence like the following is true.

(8) John isn’t hungry, but he wants to eat so he can spend time with his friends.

Thus we agree that want expresses volitive desire.

Let us now turn to our claim that want can express appetitive desire. We do so by illustrating the same behavior for want that Davis exhibits for desire. Davis supports the ambiguity of desire with his illustration of a woman who first says she has no desire to eat and then expresses a desire to eat. Davis says that her statements are not contradictory because she is using the two senses of desire.
The same can be said of want. It is commonly observed, e.g. by Levinson (2003), Lassiter (2011b), and Portner and Rubinstein (2013), that conjoined clauses of the form ‘α want p and α not want p’ are felicitous.

(9) Does John want to go to Rome this summer? He does and he doesn’t. (Levinson, 2003: 232)

In light of work such as Davis’ (1996), Levinson explains that despite the seeming contradiction in (9), “John can be a perfectly consistent person having different kinds of desire towards the same thing” (Levinson 2003: 232). We agree with Levinson: (9) is felicitous because John can appetitively want to go to Rome without volitively wanting it, and vice versa.

But looking more closely at (9), it is not a good example of want’s ambiguity. The second sentence contains no instances of want. Thus we provide the following scenario, in the spirit of Davis’s example with desire.

(10) **Scenario: Ice Cream**, with want

Sofía and Victoria are walking downtown. They pass by vendors selling food such as hot dogs, hamburgers and ice cream. Sofía has been resisting the urge to get any food because she recently started a diet. However, as time passes, her willpower dissolves so that she gives in to her desire for food. She tells Victoria she is hungry so the two of them stop for food. Sofía orders a hamburger.

*Vendor*: Do you want anything else? Do you want any ice cream?

*Sofía*: No, I don’t want ice cream.

*Victoria*: What? Since when don’t you want ice cream?

*Sofía*: Well, I do want ice cream, but I don’t want to get any because I’m on a diet.
Here Sofía communicates what she volitively wants to the vendor, not to eat ice cream.

But in responding to Victoria, she communicates what she appetitively wants, to eat ice cream. So we can say that:

(10a) Sofía wants ice cream and she does not want ice cream.

And we propose that this sentence is felicitous because *want* has two senses.\(^7\)

Portner and Rubinstein (2013) elaborate on uses of *want* that further support the idea that *want* expresses appetitive desire. They say that *want* “expresses a visceral desire, and “I can’t help it” is valid as an explanation” for a *want*-statement (Portner and Rubinstein, 2013: 471). In other words, *want* expresses desires that are not rationally developed. This is consistent with Davis’ distinction that appetitive desire is not rational, unlike volitive desire.

Portner and Rubinstein also note that *want* can be used to speak of desires that a person is unaware of having. They contrast this with a verb such as *hope*.

(11) He doesn’t fully realize it yet, but Ron wants/??hopes to date Hermione.

(Portner & Rubinstein 2013: 471)

Davis’ description of an appetitive desire as an “inner force that acts on the will” explains this sort of example. Ron appetitively wants to date Hermione; this desire is not the product of rationality, rather it developed on its own. This explains why Ron can be unaware of his desire.

Thus we propose that *want* can express appetitive desire, in addition to volitive desire.

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\(^7\) It is curious that these examples are best given with an attitude holder who is female. It is hard to imagine a similar example where a male attitude holder expresses having no volitive desire for p to a stranger but then confessing to a friend that she has an appetitive desire for p. The fact that it is easier to illustrate a woman more openly vacillating than it is to use a man in such an illustration speaks to some social factor(s) I do not fully understand.
3.3 Two semantic entries for \textit{want}

We have now provided support for the claim that \textit{want} expresses appetitive and volitive desires. This claim follows our examination of Davis’ presentation of two kinds of desire. To summarize, we looked at Davis’ work in support of proposal that \textit{want} has two lexical entries. We made this proposal to account for the dinner scenario (cf. (1)-(2)). Looking at this scenario, we said that there is a comparative entry of \textit{want} and a non-comparative entry of \textit{want}. Our job now is to show how these different entries of \textit{want} align with the different kinds of desire that \textit{want} expresses. There are several proposals we can make, e.g. that each entry of \textit{want} uniquely expresses one of the two kinds of desire, or that the two entries express the two kinds of desire, or that one entry expresses the two kinds of desire, the other only expresses one kind. Among these options, let us take up the proposal that each entry uniquely expresses one kind of desire.

Let us first determine which kind of desire is expressed by the comparative entry of \textit{want} that we developed in the last chapter (cf. section 4.3: (56)). Since we intend to develop a second entry of \textit{want}, we name this entry \textbf{comparative want}:

(12) comparative \textit{want} \hspace{1cm} (as developed in Chapter 2)

\[
[w_{\text{C}}](p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [w_{\text{C}}](p)(\alpha)(w) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C)] \\
\rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_{\alpha, w}} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, w))) \rightarrow \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, w))) \& q \in g(C) \& w' <_{\text{DES}_{\alpha, w}} w'']
\]

Because this entry compares \(p\) to a set of \(q\)-alternatives, we propose to treat this entry of \textit{want} as an expression of volitive desire. This choice is motivated by the fact that as Davis describes it, volitive desire tends to be based on reason. It is often accompanied by a value judgment, that the object of such desire is the “best thing to do”. Our comparative entry of \textit{want} matches well with
this description since it compares a set of alternatives and ranks one as best. Perhaps the attitude
holder does not have a desire for the object *simpliciter*, but based on a rational process, he finds a
reason that promotes the complement of *want* as best. Perhaps he even views the object as
unsatisfying, but he can comparatively want it so long as it not as unsatisfying as the compared
alternatives. So although Wayne has the appetitive desire to play tennis right now, he has reason
to teach his class: it is his obligation as professor. Formally, this reason is represented as a
proposition that populates his bouletic ordering source, so that $g_{\text{DES}}(\text{Wayne}, w)$ is populated by
“I fulfill my obligations”. Since “I teach class” makes true this proposition but “I play tennis”
does not, “Wayne wants to teach class” is given as true so long as *want* has the volitive,
comparative reading.

Now we need an entry of *want* that expresses appetitive desire. This is where our
proposal, that there is a second, noncomparative entry of *want*, comes in. We have made some
remarks about the basic formalities of this entry: it is a simple necessity quantifier that makes use
of a bouletic modal base (cf. section 2.1, explanation #4). We will say that if a world is
bouletically accessible, it is a p-world. As with our comparative entry, we give this entry of *want*
three arguments: ‘p’ for its complement, ‘α’ for the attitude holder and ‘w’ for the world of
evaluation.8,9

\[(13) \text{noncomparative } \text{want } \quad \text{(first version)}\]
\[
|\text{want}|(p)(\alpha)(w) = 1 \iff \forall w': w' \in Boul(\alpha, w) \rightarrow w' \in p
\]

This entry is our first pass attempt in analyzing noncomparative *want*. At present, we believe that

---

8 This entry is the same as we gave for Hintikka’s analysis of *want* in Chapter 2, footnote 13: (11).
9 We subscript the modal base with ‘boul’ to follow the tradition of the literature. When Heim (1992: 192) gives her
Hintikka-style simple necessity semantics for *want*, she gives it a bouletic modal base using ‘bul’. By contrast,
Villalta (2008), and we in Chapter 2 subscript the bouletic ordering source in our comparative semantics for *want*
with ‘des’. We address the difference in notation in section 5.1.
it works well to express appetitive desire. Recall that the object of appetitive desire is appealing
to the attitude holder and is viewed with pleasure. These features match well with this entry: by
functioning as a modal base, α’s bouletic conversational background makes worlds accessible.
There is no rational component, no comparison to alternatives, simply the expression that the
complement of want is desirable to α. So applying this entry of want to the sentence “Wayne
wants to play tennis”, our semantics predicts it as true as long as all bouletically accessible
worlds are those where Wayne plays tennis, i.e. fboul(Wayne,w) contains “I play tennis”.

Right now we have a reasonable working proposal, that the comparative entry of want
expresses volitive desire and the noncomparative entry of want expresses appetitive desire. We
will further evaluate whether it is accurate to say that these entries are limited in expressing just
one of the two kinds of desire. At present, we turn our focus to refining the noncomparative entry
of want. We apply (13) to the dinner scenario, refining it as necessary.

4. **A semantics for noncomparative want**

   We refine our semantics for noncomparative want by starting with our entry in (13) and
   applying it to the dinner scenario. This application reveals that such a semantics is inadequate.
   We respond to this problem by making our noncomparative entry event-relative (cf. Hacquard
   2010). We then evaluate how this entry of want relates to belief and change the semantics to
   reflect this relationship. This gives us the final iteration of our entry for noncomparative want.

4.1 **Noncomparative want is event-relative**

   Let us apply the noncomparative entry for want in (13) to the dinner scenario. We repeat
   the scenario here, renumbering it.
(14) **Scenario: Dinner**, with *want*

Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. This is a tough decision for Sofía because she wants to order all three of the entrees. Victoria tries to encourage Sofía to make a decision by asking her if she wants to eat the chicken. Sofía responds:

(14a) Yes, I want to eat the chicken.
(14b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

(15a) Yes, I want to eat the CHICKEN.
(15b) And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

As stated in section 2, we assume that (14a) and (14b)/(15b) make use of the noncomparative entry of *want*. So let us apply the noncomparative semantics to those sentences. Applying the entry for *want* in (13) to (14a), (14a) means that in Sofía’s world of utterance, all bouletically accessible worlds are those where she gets chicken. In other words, her desires makes accessible worlds where she gets chicken.

Now we apply (13) to (14b)/(15b). The first *want*-clause means that in Sofía’s world of utterance, all bouletically accessible worlds are those where she eats beef. And the second *want*-clause means that all worlds that are bouletically accessible from Sofía’s world of utterance are lamb-worlds.

In other words, our noncomparative semantics for *want* says that all of Sofía’s bouletically accessible worlds are those where she gets all three entrees. But this is problematic. To be clear, this is not a problem because a world where Sofía gets all three entrees is unrealistic,
or non-most likely. Our noncomparative entry for want has no relationship to α’s beliefs or likelihood, e.g. by using a (likely) doxastic conversational background. So there is no problem that Sofía’s desires are only made true in unrealistic worlds.

The problem is that we have an intuition about Sofía’s desires that is not captured by a semantics that says she gets all three entrees in all bouletically accessible worlds. Our intuition is that Sofía does not want to get all three entrees for dinner, because eating all three would leave her stuffed and make her unhappy. We believe that each of the three entrees is desirable to Sofía, and Sofía is torn between these conflicting desires. This is why she exclaims “I can’t decide!”

Our intuition is fostered by the fact that such a feeling is not uncommon; we can imagine ourselves in a scenario where we want to see each of the competing desires fulfilled, although we know that the fulfillment of all desires would not itself be desirable.

Perhaps this intuition is not so clear, so let us illustrate the dilemma with an example based on one given by van Rooy (1999). John has both a wife and a mistress. He wants to be with both of them, but not at the same time. He knows that neither his wife nor his mistress would be happy if he didn’t end his relationship with the other. Although there’s a variety of ways John could experience these desires, one fair interpretation is that he feels both desires appetitively. It also seems fair to say that although it is appetitively desirable to John to maintain his relationship with his wife and it is appetitively desirable to John to maintain his relationship with his mistress, it is not appetitively desirable to John to maintain his relationship with both of them. He wants only one woman in his life. John’s dilemma is the same as Sofia’s. Taken individually, each of their appetitive desires make accessible worlds where one of the alternatives is realized, but these desires do not make accessible worlds where all of the alternatives are realized.
We need our semantics to reflect the possibility that we may have a desire for each of a set of alternatives without having a desire for the realization of all of them at once. Thus we propose to change our semantics for noncomparative want so that it has an event argument. The use of an event in the semantics of want is not in itself a new proposal: Portner (1997) and Schlenker (2005) both give want a situation and an event argument, respectively (where Portner’s situation is more or less comparable to an event). More recently, Hacquard (2010) proposes that all modal auxiliaries have, in addition to their world arguments, event arguments. (Accordingly, Hacquard introduces the term “event-relativity”, which we adopt here.)

Yet the motivations in this literature for using situations and events differ from our own. Portner (1997) proposes that want has a situation argument that makes accessible a set of situations to capture the fact that want licenses complements in the subjunctive mood. This is in contrast to verbs which license complements in the indicative mood, which he proposes have world arguments that make accessible a set of worlds.\(^\text{10}\) Schlenker’s (2005) examination of want is also made in the context of mood selection, but he treats want as event-relative not because of its mood selection but because it is an attitude verb: Schlenker treats all attitude verbs as event-relative.\(^\text{11}\) Hacquard (2010) proposes that modal auxiliaries have an event argument to account

\(^{10}\) More specifically, Portner notes that want can take complements in the subjunctive mood and for-infinitives as complements, both of which he proposes require “typically non-expandable modal contexts”. A non-expandable modal context is one which has non-maximal situations. Non-maximal situations are “spatiotemporal parts of possible worlds” (Portner 1997: 170), and contrast with maximal situations, i.e. full worlds. Portner proposes that such complements are licensed for want since want creates a non-expandable modal context, i.e. the propositions it expresses contain non-maximal situations. Portner proposes that the situation argument of an indicative selecting predicate is maximal, i.e. a full world, and makes accessible a set of worlds.

\(^{11}\) Schlenker asserts this in his 2005 paper based on argumentation in earlier work (Schlenker 2003). In this earlier work, he proposes that all attitude predicates are relative to “contexts of thought or of speech”, which are essentially time-specific instances in worlds. He renames these contexts “events” in Schlenker (2005), attributing this new terminology to comments from Barry Schein and James Higginbotham. Similar to Schlenker (2003), Schlenker (2005) proposes that the events that attitude verbs take as argument are either a speech or thought event, where the attitude holder expresses or has the attitude.
for the fact that they have different flavors. Which flavor the modal auxiliary has depends on the syntactic location of the event argument.

Our motivation for using an event argument is altogether different. We want to capture the fact that a person can experience multiple appetitive desires at the same time. This simultaneity is afforded to us by making noncomparative want event-relative because events permit co-occurrence and co-existence with other events. An event can happen during the same time and in the same place as another event. For instance, suppose that Sofía sits down at the table and bumps into it, feeling pain in her leg, hip and foot at the same time. In other words, Sofía has a pain in her leg, a pain in her hip, and a pain in her foot. Although she experiences all of this pain at the same time, each individual pain is distinct from one another. They are three distinct events. Likewise, we think that Sofía can simultaneously have the desire for chicken, the desire for beef, and the desire for lamb, and each desire is distinct from the others.

Thus we want to make our noncomparative entry of want event-relative. This allows the semantics to reflect the fact that a person can experience multiple appetitive desires at the same time, regardless of if they conflict with each other, or if he has no desire for all of the desires to be fulfilled at once. So we introduce an event argument in our semantics for noncomparative want. We use the event argument in place of the world argument, on the assumption that events are unique to individual worlds.

(16) noncomparative want (second version)

\[[\text{want}]\!(p)(\alpha)(e) = 1 \text{ iff } \forall w':w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p\]

Now let us apply this semantics to (14a) and (14b)/(15b). In uttering (14a), Sofía expresses that there is a desire event that consists of her desiring the chicken. The desire she experiences in this event makes accessible worlds where she gets chicken. Continuing in (14b)/(15b), Sofía
expresses that the desire she experiences at a successive event is for beef, and the desire she
experiences at another successive event is for lamb. This means that her desires make accessible
worlds where she gets beef and worlds where she gets lamb, respectively. She experiences these
three desire at the same time, but the experiences are three distinct events. Since there is no
conflict with experiencing multiple appetitive desires for competing alternatives, it is felicitous
to follow (14a) by (14b)/(15b).

But given this explanation, it might seem that (14b)/(15b) should also be felicitous after
(15a). If Sofía utters (15a) to express that chicken is more desirable to her than beef or lamb, why
should there be a conflict with her uttering (14b)/(15b), expressing that she simultaneously has
appetitive desires for beef and for the lamb? We put this question on hold momentarily, and will
return to address it in section 5.2, after we finish developing our noncomparative entry for want.

4.2 Noncomparative want and belief

Here we continue developing our noncomparative entry of want by examining whether it
accounts for Karttunen’s (1973b, 1974) generalization, which is that the attitude holder believes
the presuppositions in the complement of the attitude predicate. In the last chapter, we showed
that like Heim (1992), we agree with this generalization and take it to present a feature that must
be represented in the semantics of comparative want (cf. Chapter 2, footnote (16) for discussion
on the merits of this generalization). Looking at noncomparative want, we can see that
Karttunen’s generalization also applies.

In the last chapter, we illustrated Karttunen’s generalization with Heim’s (1992: 183)
example of Patrick wanting to sell his cello. However, we showed (Chapter 2, footnote 15) that
this is not the best example, as the presupposition itself is somewhat problematic. Thus we
illustrate the generalization with a different example (which we gave in Chapter 2, footnote 15, example (14)).

(17) Patrick wants it to stop raining.

Let us disambiguate this use of *want* as noncomparative. Suppose that there has been a drought for the past month, so Patrick knows that the rain is good. However, Patrick is desperately sleep-deprived and the rain is so loud that it is keeping him awake. He wants it to stop raining so he can fall asleep in peaceful quiet.

This background seems sufficient to establish *want* in (17) as noncomparative. Patrick does not think that it is better for it stop raining than it is for it to continue raining. He wants it to stop raining because this prospect appeals to him.

Now let us slightly change the story. Suppose that although Patrick thinks that it is raining, he is in fact hearing a very powerful and loud sprinkler hit his window. In this case, we can say that:

(18) Patrick is under the misconception that it is raining, and he wants it to stop.

The presupposition that it is raining is not projected beyond (18) because it is satisfied by the first clause. So we see that just as the presupposition within comparative *want*’s complement can be ascribed to the attitude holder, so too can it be ascribed to the attitude holder when *want* is noncomparative. So as with comparative *want*, we should account for (18) by incorporating Karttunen’s generalization into the semantics for noncomparative *want*. 
4.2.1 A definedness condition

Since we incorporated Karttunen’s generalization in our semantics for comparative want, we turn again to that semantics to see how we did it.

(19) comparative want

\[
\left[\text{want}_C\right]_\alpha(p)(w) = \text{defined} \iff \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow p \text{ is defined in } w'
\]

if defined, \[
\left[\text{want}_C\right]_\alpha(p)(w) = 1 \iff \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(\text{g}_{\text{dox-lik}}(\alpha, w))) \& q \in g(C)] \\
\rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(\text{g}_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_\alpha, \alpha, w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(\text{g}_{\text{dox-lik}}(\alpha, w)))] \\
\rightarrow \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(\text{g}_{\text{dox-lik}}(\alpha, w))) \& q \in g(C) \& w' <_{\text{DES}_\alpha, \alpha, w} w'']
\]

This entry incorporates Karttunen’s generalization with its definedness condition. If \(\alpha\) does not believe the presuppositions in \text{want}’s complement, the semantics gives the \text{want}-clause as valueless. We like this definedness condition, and see no problems with using it in a noncomparative semantics for \text{want}, so let us use incorporate it into this entry. In doing so, we need to make one change: we need to show that \(\alpha\)’s likely doxastic modal base is relative to an event \(e\) instead of a world \(w\).

(20) noncomparative want

\[
\left[\text{want}\right]_\alpha(p)(e) = \text{defined} \iff \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w'
\]

if defined, \[
\left[\text{want}\right]_\alpha(p)(e) = 1 \iff \forall w': w' \in \text{Boul}(\alpha, e) \rightarrow w' \in p
\]

At first glance, such a semantics may seem wrong. The definedness condition makes reference to \(\alpha\)’s likely doxastic worlds, and the truth condition to \(\alpha\)’s bouletic worlds. But this mismatch is not problematic. There is no requirement that the conversational backgrounds of a definedness condition must also feature into the truth condition of the semantics.

Rather, we view this semantics as justified because it gives the desired results. For
instance, suppose that Patrick does not believe it is raining and consider (18). Because Patrick does not believe the presupposition of (18), the semantics in (20) gives it as undefined. This is the desired result. Now suppose that Patrick does believe that it is raining and consider (18). The semantics in (20) gives the clause as defined, so now it can give a truth value for (18). If at event e, Patrick experiences a noncomparative desire for it to stop raining, i.e. all bouletically accessible worlds from event e are those where it stops raining, then (18) is predicted true. This is also the desired result. Since we have no further refinements to make for our semantics for noncomparative want, we take the entry we gave in (20) to be our final version of noncomparative want:

\[
\text{(21) noncomparative want (final version)} \\
[\text{want}](p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [\text{want}](p)(\alpha)(e) = 1 \text{ iff } \forall w': w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p
\]

5. **Noncomparative want and comparative want**

Now that we have developed a suitable entry for noncomparative want, we evaluate both our entries for want. First, we do so by examining our working proposal, that each entry of want uniquely expresses one kind of desire. Then we look at the interaction between our two entries for want.

5.1 **Each entry of want uniquely expresses one kind of desire**

Our working proposal is that noncomparative want uniquely expresses appetitive desire and comparative want uniquely expresses volitive desire. Here we justify this proposal by showing how our entries for want are best suited to expressing one of the two kinds of desire. We show this by looking at the four main differences between these two entries: 1) their
(non)comparative natures; 2) their relationships to belief; 3) their event arguments; and 4) their conversational backgrounds des and boul. Our discussion of their comparative natures, their relationships to belief and des and boul is straightforward: we show how these differences make each entry suited to expressing one of the two kinds of desire. Our discussion of the event argument is more involved, as it has ramifications on our comparative entry for want.

For ease of discussion, we repeat the two entries for want here.

(22) noncomparative want

\[ |want|[(p)\alpha]e \text{ = defined iff } \forall w': w' \in f_{dox-like}(\alpha,e) \rightarrow p \text{ is defined in } w' \]

if defined, \[ |want|[(p)\alpha]e = 1 \text{ iff } \forall w': w' \in Boul(\alpha,e) \rightarrow w' \in p \]

(23) comparative want

\[ |want_C|[(p)\alpha]w \text{ = defined iff } \forall w': w' \in f_{dox-like}(\alpha,w) \rightarrow p \text{ is defined in } w' \]

if defined, \[ |want_C|[(p)\alpha]w = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, rev_q(g_{dox-like}(\alpha,w))) \& q \in g(C)] \]

\[ \rightarrow \exists w''[w'' \in \text{Best}(p, rev_p(g_{dox-like}(\alpha,w))) \& w'' <_{\text{DES}_\alpha,w} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, rev_p(g_{dox-like}(\alpha,w)))] \rightarrow \exists w' \forall q[w' \in \text{Best}(q, rev_q(g_{dox-like}(\alpha,w))) \& q \in g(C) \& w' <_{\text{DES}_\alpha,w} w''] \]

5.1.1 Comparison vs. non-comparison

One of the most obvious differences between these two entries is that comparative want is comparative and noncomparative want is not. We believe that this difference renders comparative want inadequate as an expression of appetitive desire. This is because, as Davis describes it, appetitive desire for p is marked by the attitude holder “viewing p with pleasure” and finding p appealing. There is no reference to other alternatives to p. So a comparative semantics serves as a poor expression of appetitive desire.

We believe the same is true for our noncomparative entry of want and volitive desire: it is not a suitable entry for expressing such desire. Davis associates volitive desire with value
judgments and rationality, so that the object of such desire is seen as the “best thing to do”. As we previously noted, this notion of best-ness implies a ranking of alternatives. There is no ranking of alternatives in our noncomparative entry for want. This is why we think it serves as a poor expression of volitive desire.

5.1.2 Belief

A second way that the two entries differ is in their relationship to belief. For noncomparative want, α’s likely doxastic modal base is present in the definedness condition, to verify that the complement is defined in α’s belief worlds. But this is the extent of the relationship to belief: there is no doxastic conversational background in the truth condition. In effect, this means that if ‘α want_{noncomparative} p’, the semantics performs no calculations to determine what α thinks is most likely for p. So if Fred says that he noncomparatively wants to eat an entire chocolate cake, the semantics performs no calculations about what is most likely for p, e.g. “Fred gets a stomachache”, “Fred’s friends are embarrassed by him”. Rather, the semantics says that Fred’s event of desiring chocolate cake makes accessible worlds where he eats chocolate cake. Fred’s beliefs need play no role in what he noncomparatively wants.

This is quite different from the role of belief in the comparative entry of want. In this entry, a likely doxastic conversational background is used in the role of ordering source to pick out the most likely p-worlds and the most likely q-alternatives. So if α comparatively wants p, the semantics calculates the most likely ways that p and its q-alternatives turn out. In this way, α’s beliefs have an involved role in what α desires.

The difference in the relationship to belief not only makes noncomparative want a good expression of appetitive desire and comparative want a good expression of volitive desire, but it
also means that these entries are poor expressions of the other kinds of desire. To reiterate, Davis speaks about appetitive desires as inner forces that act on the will, and have no motivation in reason. So we want our semantics for appetitive desire to have little relationship to belief. On the other hand, Davis describes volitive desire as an act of the will, involving rationality and motivating reasons. So it is appealing that our comparative entry for want has a more developed relationship to belief, specifically with the likely doxastic ordering source.

5.1.3 ‘Des’ and ‘boul’

We turn now to a third difference between our two entries for want, specifically concerning the notation we use to indicate their bouletic nature. In the comparative entry of want, we subscript the ordering source that ranks the alternatives with ‘des’. But for our noncomparative entry of want, the modal accessibility relation is indicated with ‘boul’. Both abbreviations refer to words for desire, so is there any reason to differentiate them with distinct notation?

There is. Take again one of Davis’ examples (which we gave in section 3.1). Wayne is asked whether he wants to play tennis. He has the appetitive desire, so he can respond positively. So according to our noncomparative semantics for want, “I play tennis” is entailed by Wayne’s modal base which we notate as boul. But if Wayne thinks longer about his obligations as teacher, he might develop the volitive desire to not play tennis. So according to our comparative semantics for want, a proposition such as “I fulfill my obligations” populates his ordering source which we subscript with ‘des’. In this case, Davis cannot be said to volitively want to play tennis. In other words, “I play tennis” is entailed by boul(Wayne,e) but not by des(Wayne,w). This demonstrates that there is a significant difference in the kinds of propositions that populate these
two conversational backgrounds. This difference is not that \(\text{boul}(\alpha,e)\) is concerned with desires and \(\text{des}(\alpha,w)\) is not, rather that \(\text{boul}(\alpha,e)\) is concerned with desires that self-generate, for objects that appeal to \(\alpha\) without needing any thought. But \(\text{des}(\alpha,w)\) is concerned with developed desires, which \(\alpha\) generally has reason to have. (Related to this, when \(\alpha\) noncomparatively wants \(p\), it is not entailed that \(\alpha\) comparatively wants \(p\), and vice versa. We discuss the relation between these two kinds of desire in section 5.2.)

In other words, \(\text{des}\) is concerned with the desires that a person develops more intentionally, with reason, and \(\text{boul}\) is concerned with the desires that come to a person, regardless of how he thinks he should feel or what he thinks he should want. We note that this might not be the most intuitive way to label these kinds of desires: the reader might prefer that we use Greek ‘boul’ for more sophisticated desires, and maintain English ‘des’ for the simpler desires. We agree with this intuition, but maintain the notation as is to follow the tradition of the literature. Heim (1992: 192) uses ‘boul’ in giving a noncomparative entry for \(\text{want}\), and Villalta (2008) use ‘des’ for her comparative entry of \(\text{want}\).

Using two different forms of notation to refer to our desire-based conversational backgrounds, we see again that our entries for \(\text{want}\) are only suited to expressing one of the two kinds of desire. Using the ordering source ‘des’, comparative \(\text{want}\) expresses rationalized and motivated desires, i.e. volitive desire, and using the accessibility relation ‘boul’, noncomparative \(\text{want}\) expresses more primitive, e.g. appetitive, desire.

Before moving on to the fourth difference between our two entries for \(\text{want}\), let us briefly summarize section 5.1 so far. We further examined our working proposal, that each entry of \(\text{want}\) uniquely expresses one kind of desire: noncomparative \(\text{want}\) appetitive desire and comparative \(\text{want}\) volitive desire. We illustrated that this distinction is a necessary byproduct of how we
crafted our entries for *want*, specifically by looking at three of the main differences between these two entries: 1) comparison vs. non-comparison, 2) the role of belief, and 3) different kinds of bouletic modal bases ‘des’ and ‘boul’. Based on these differences, we have shown that our comparative entry for *want* is only suited to express volitive desire and the noncomparative entry to express appetitive desire. Thus we propose the following synonymy: noncomparative *want* can also be called *appetitive want* and comparative *want* can also be called *volitive want*. Having established this synonymy, we turn to the fourth way that these entries differ from each other: the event argument.

### 5.1.4 The event argument

At present, each of our entries for *want* differ in terms of event-relativity: noncomparative, i.e. appetitive, *want* has an event argument, comparative, i.e. volitive, *want* does not. More specifically, noncomparative *want* is relative to the event where the attitude holder has an appetitive desire for p. Comparative *want* is relative to the world where the attitude holder has a volitive desire for p. A question that naturally arises is whether this is a genuine difference. If an appetitive desire is an event, is it not also the case that a volitive desire is an event? And if a volitive desire is an event, shouldn’t comparative *want* also have an event argument?

The answer to these questions is positive. If we speak about appetitive desires as events, then we also need to speak about volitive desires as events. This means that our entry for volitive *want* should also have an event argument. As with our noncomparative entry for *want*, we make this entry of *want* event-relative by substituting an event argument for the world argument (as
with noncomparative want, we make this exchange on the assumption that events are unique to individual worlds).

(24) comparative want, modified to be event-relative  
\[ (\text{want}_c^\dagger)(p)(a)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(a,e) \rightarrow p \text{ is defined in } w' \]
if defined, \[ (\text{want}_c^\dagger)(p)(a)(e) = 1 \text{ iff } \forall w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(a,e))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(a,e))) \& w'' <_{\text{DES}_{a,w}} \text{w'}] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(a,e)))] \rightarrow \neg \exists w''\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(a,e))) \& q \in g(C) \& w'' <_{\text{DES}_{a,w}} \text{w''}] \]

Although we treat (the experience of) volitive desires as events, we do not think they are the same things as appetitive desire events. True, both are private to the individual, but the nature of these events differ. Recall that Davis (1984, 1986) distinguishes appetitive desire from volitive desire in terms of how they are generated. He says that appetitive desires are inner forces that act on the will, generated independent of motivating reason. In contrast, he says that volitive desires are tied to belief and reason, tending to be generated by motivating reason. We propose to further draw out this distinction by saying that appetitive desires are feelings and volitive desires are ways of thinking. The difference between feeling and thinking entails further distinctions between the two kinds of desire. It affects the attitude holder’s control over these desires and his experience of them.

Because we propose that appetitive desires are feelings, it follows that an attitude holder is not in control of them. They arise spontaneously; the attitude holder cannot prompt nor will the desires to occur. Similarly, the attitude holder cannot control how intensely the appetitive desires are felt, or how long they last. What this means is that an attitude holder’s report of appetitively desiring p may or may not overlap with his experience of the desire to a degree of significant intensity. By the time he reports on his appetitive desire for p, it may have already passed, or he may not feel it that strongly anymore. He can do nothing to summon the desire in
its full intensity. In fact, he can do nothing to summon the desire at all, since it is not in his control.

On the other hand, since we propose that volitive desires are ways of thinking, it is easier for an attitude holder to be in control of his volitive desires. He can control whether he experiences them because he generates them by his volition and reason. However, we want to make clear that we do not think of volitive desires merely as ways of thinking; to think about how p is more desirable than a set of q-alternatives does not mean that α wants p. (A may simply be entertaining this thought.) Rather, we propose that to have a volitive desire is to believe that p is more desirable than a set of q-alternatives. Additionally, we want to make clear that although we view volitive desires as ways of thinking, we do not think that the attitude holder is always aware of them. A may think that p is better than a set of q-alternatives without realizing it. So if α is not aware of his volitive desires, the desires are less within his control.

In terms of the nature or status of appetitive desire events and volitive desire events, we have nothing more to say. However, for the reader who is curious about events at the sentential level, we provide a derivation of a want-clause in Appendix A.

5.2 Interaction between the two entries of want

We conclude our proposal for noncomparative want by showing how this entry interacts with the comparative entry of want. Off the bat, we want to address a concern. It would seem that to noncomparatively want p is to entail comparatively wanting p. The reason is simple: if α noncomparatively wants p, then all of α’s bouletically accessible worlds are p-worlds. Thus they are not not-p-worlds. So p is better than not-p when α noncomparatively wants p. However, based on the way that we have designed our semantics for want, this entailment is not valid. We
have established that when α noncomparatively wants p, the desire is anchored to an event. And simultaneous to this event, α may experience several other events of noncomparatively desiring other objects. For instance, it is possible for α to noncomparatively want p while he also noncomparatively wants not-p. So there is no entailment that all of α’s bouletically accessible worlds are p-worlds when α noncomparatively wants p, as there may also be not-p worlds that are bouletically accessible to α based on another appetitive desiring event. Furthermore, want\textsubscript{noncomp} p does not entail want\textsubscript{comp} p because noncomparative want uses the accessibility relation ‘boul’, and comparative want uses the accessibility relation ‘des’. So p may be in ‘boul’ without being in ‘des’ and vice versa.

Since we propose that noncomparative want expresses appetitive desire and comparative want volitive desire, we expect that the relationship between these two entries of want to be much like the interaction Davis described for the two kinds of desire. We gave an overview of the different ways that Davis proposes these kinds of desire may interact in section 3.1. For instance, we noted that appetitive desire can generate and motivate volitive desire. Or, desire can be directed on desire, e.g. volitive desire can be directed on volitive or on appetitive desire, and appetitive desire can be directed on volitive or on appetitive desire. Another form of interaction is no interaction: since these two kinds of desire are logically independent, so that α may appetitively desire p but have no volitive desire for p, or vice versa.

In this section, we use many of Davis’ examples that illustrate how the kinds of desire interact to show that the two entries of want interact in the same way. Based on the dinner scenario, we will also illustrate another way that the entries interact. This exemplifies a form of interaction for appetitive and volitive desire that Davis does not address.

Just as an appetitive desires for p can generate the volitive desire for p, so too can the
truth of ‘α appetitively want p’ lead to the truth of a ‘α volitively wants p’. Suppose for instance that Sofía is working on a paper, but she has a very strong desire to go to a movie. In such case, (25) is true on the appetitive reading of want.

(25) Sofía wants to go to a movie.

However, let us suppose that (25) is false on the volitive reading because Sofía wants to get her paper done: “I see a movie” is outranked by the alternative “I finish my paper”. However, as Sofía is sitting at her desk, her mind keeps wandering to the thought of going to see a movie. She starts to justify her desire to see a movie, reasoning that if she takes a break, it will be easier for her to concentrate when she resumes working. Eventually Sofía reaches the point of volitively wanting to see a movie, since she has decided that taking a break will be better for her than taking no break. Now (25) is true on the volitive reading of want. So we see that just as appetitive desire can generate and motivate volitive desire, so too can a want-clause that is true on the appetitive reading become true on the volitive reading.

We can also demonstrate that just as appetitive desires can be directed on appetitive and volitive desires, and volitive desires on appetitive and volitive desires, so too can an appetitive want be directed on appetitive want or volitive want and volitive want on appetitive want or volitive want. We use Davis’ examples to demonstrate this (using John as our subject; Davis’ examples use no named attitude holder). Having just finished eating a huge meal, John may appetitively desire to have an appetitive desire for food. So (26) is true.

(26) John wants_app to want_app to eat food.

Now take John to be Davis’ sinner, whose appetitive desire is not to do right, rather to volitively desire to do right, i.e. to have reason to do the right thing. In this case, (27) is true.
(27) John wants\textsubscript{app} to want\textsubscript{vol} to do good.

Suppose now that John is going to eat food with some friends. He has no appetite, but wishes he did so that eating would be more enjoyable. (28) is true.

(28) John wants\textsubscript{vol} to want\textsubscript{app} to eat food.

Suppose that John wants to live the moral life. He thinks that part of living the moral life is to volitively want to do good. In this case, (29) is true.

(29) John wants\textsubscript{vol} to want\textsubscript{vol} to do good.

Thus we see that just as appetitive and volitive desire can be directed on either appetitive or volitive desire, so too can appetitive and volitive want have either appetitive or volitive want in their complements.

Finally, we illustrate that appetitive and volitive want function just like appetitive and volitive desires by showing that ‘a want p’ may be true on the appetitive reading and false on the volitive reading and vice versa. For instance, suppose that Wayne appetitively wants to play tennis; it appeals to him. However, because he has to prepare to teach, he volitively wants to not play tennis. In this case, (30) is true on the appetitive reading but false on the volitive reading.

(30) Wayne wants to play tennis.

And if we suppose that Wayne does not appetitively want to play tennis; it does not appeal to him, but he volitively wants to so he can spend time with his friend, then (30) is false on the appetitive reading but true on the volitive reading.

Thus we see that appetitive and volitive want interact in the same ways that Davis notes
appetitive and volitive desire interact.

There is another way that these entries for want interact, which Davis does not talk about. Recall the infelicitous sequence of the dinner scenario (given above as (2a)-(2b), (15a)-(15b)):

(31a) Yes, I want to eat the CHICKEN.
(31b) # And I want to eat the beef. And I want to eat the lamb. I can’t decide! They all look good.

At the end of section 4.1, we questioned why this sequence should be infelicitous. Let us put this problem in terms of our labels for comparative and noncomparative want. In (31a), Sofía expresses volitively wanting p, and in (31b), she express appetitively wanting one of p’s q-alternatives. We propose that the infelicity of the sequence is due to features of volitive desire.

In section 3.1, we noted that Davis associates volitive desire with intention and decision-making, stating that intention entails volitive desire and making a decision to do p results in a volitive desire for p. Note that Davis does not say there is mutual entailment, i.e. that volitive desire entails intention and volitive desire results in decision-making. Similarly, we do not think there is a two-way entailment. However, we propose that the one-way entailment creates a general expectation. We propose that if a person expresses a volitive desire for p, it creates the expectation that he is intent on and decided to act to attain p. So even though the semantics of volitive want expresses that p is more desirable than a set of q-alternatives, when a person uses volitive want, there is an expectation that he is committed to act towards attaining p (so long as p is actionable for α). We thus propose that this is why it is odd for α to follow an expression of volitively wanting p with an expression of appetitively wanting one of its q-alternatives: it is

12 If there is no action that α can take to ensure that p occurs, we propose that the expectation that α will act on p does not arise. For instance, if John volitively wants it to rain, we have no expectation for him to act on this desire, since he cannot control the weather. This is a preliminary idea, however. Future research might find that objects whose achievement cannot be acted on, such as the weather, cannot serve as objects of volitive desire.
inconsistent with our expectations. We expect $\alpha$ to be committed to act to attain $p$ if he volitively wants it, and to not be motivated by his appetitive desires for competing alternatives. Applying this explanation, Sofía’s utterance of (31a) gives rise to the expectation that she is committed to not getting beef or lamb. So (31b) is infelicitous because Sofía appears to be backing down from her commitment without sufficiently expressing as much.

Of course, this is not to say that any expression of ‘$\alpha$ want$_{volitive}$ $p$’ cannot be followed by ‘$\alpha$ want$_{appetitive}$ one of $p$’s $q$-alternatives’. Such sequences can be felicitous. As we noted earlier, if Sofía were to precede (31b) with some deliberative language such as “well actually, I don’t know”, there would be no inconsistency or infelicity. We propose that this language would suffice to indicate either that Sofía is unsure of her commitment, or wants to change it.

In complement to our proposal here, we believe that an expression of appetitive desire is no expression of commitment. If $\alpha$ expresses appetitively wanting $p$, we have no expectation that $\alpha$ is committed to act towards attaining $p$. Not only is this explanation in line with Davis’s (1984, 1986) work, as he makes no connection between appetitive desire and intention or decision-making, but it is also consistent with the data. In (14a) and (15) (also (1a) and (2)), Sofía successively expresses an appetitive desire for each of the three entrees, and there is no infelicity to this sequence.

Thus we propose that the interaction between appetitive and volitive want is further conditioned by commitment. Appetitive want expresses no commitment, but volitive want does. So the order in which want-clauses are uttered can have an effect on the felicity of sequences of want-clauses.

This ends our proposal for two entries for want. Our motivation for this proposal began with the dinner scenario, where we showed that we could not analyze all instances of want as
comparative. We then looked at Davis’ (1984, 1986) work to conceptually support the idea of two entries for want. Then we fleshed out the details of our analysis of noncomparative want, offering a formalization that captures our intuitions (the final version is first given in (20)). We proposed that this noncomparative entry could also be called appetitive want and the comparative entry volitive want. We examined the merits of this proposal, and ended with showing how these two entries of want interact.

6. Other desire predicates

Now that we have developed an analysis of the dinner scenario with want, we can turn to evaluating similar scenarios with other desire predicates. Specifically, we look at the desire predicates we studied in the last chapter: wish that, glad that, and disappointed that. Since we used the dinner scenario to posit lexical ambiguity for want, the natural question that follows is whether these desire predicates are also ambiguous, either in terms of having a comparative and a noncomparative entry, or in serving as expressions of both of the two kinds of desire. Our focus in this section is on the first question, whether these predicates are ambiguous with respect to having a comparative and a noncomparative entry. Looking at scenarios similar to the dinner scenario, we find no reason to treat any of these predicates as quantificationally ambiguous. Instead, we can explain the attested felicity patterns according to focus.

Before we look at these other desire predicates, let us be clear on the kind of data we use to test their ambiguity in quantificational force. Although we spent much time discussing the dinner scenario to show that want is ambiguous, we also supported this claim with two other kinds of data. The first is the ice cream scenario (given in (10)), where we showed that Sofía can express ‘want p and not want p’. We interpreted the felicity of this conjunction to derive from the
fact that *want* has two different lexical entries. The other kind of data we used is given in (11), which exemplifies that a person can want something without knowing it. We interpreted this example to support the notion that *want* expresses appetitive desire. Since our focus in this section is to determine whether other predicates are quantificationally ambiguous, we will only look at their behavior in the first two kinds of data, i.e. examples similar to the dinner scenario and to the ice cream scenario.

Our order in examining the other desire predicates is slightly different from the last chapter: here we begin with *glad that* in section 6.1, then look at *disappointed that* in 6.2, and conclude with *wish that* in 6.3.

### 6.1 *Glad that*

In Chapter 1, we provided the following variation of the dinner scenario with *glad that*, which we first gave in Chapter 1, (72)-(73).

\[(32) \textbf{Scenario: Buffet, with glad that}\]

Sofía is at an all-you-can-eat buffet. She is feeling hungry so she eats some of each of the three meats that are available: chicken Hollandaise, beef Bourguignon, and lamb kabobs. After she finishes her meal, Victoria asks her if she is glad that she ate the chicken.

\[(32a) \text{Yes, I'm glad that I ate the chicken.}\]
\[(32b) \text{And I'm glad that I ate the beef. And I'm glad that I ate the lamb.}\]

\[(33a) \text{Yes, I'm glad that I ate the CHICKEN.}\]
\[(33b) \text{And I’m glad that I ate the beef. And I’m glad that I ate the lamb.}\]

As with the similar *want*-sequence, (32a)-(32b) is felicitous. There is no infelicity with Sofía expressing that she is glad about having eaten the chicken, the beef and the lamb. However, the
second sequence has a slightly different pragmatics from the similar *want*-sequence. (33b) is odd after (33a), but it is not completely infelicitous.

Because the first sequence is felicitous, does it mean that, like *want*, *glad that* also has a noncomparative entry? To answer this question, let us look again at the comparative semantics we proposed for *glad that* in Chapter 2, (66).13

(35) *glad that* (as developed in Chapter 2)

\[
[[\text{glad that}_C]]^g(p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,w) \rightarrow p \text{ is defined in } w' \\
& f_{\text{dox-lik}}(\alpha,w) \subseteq p \\
& \neg p \in g(C) \\
\text{if defined, }[[\text{glad that}_C]]^g(p)(\alpha)(w) = 1 \text{ iff } \forall w'[w' \in \text{Best}(\neg p, \text{rev}_\neg p(g_{\text{dox-lik}}(\alpha,w)))] \rightarrow \\
\exists w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w)) & w'' \prec_{\text{DES}_{\alpha,w}} w'] \\
& \forall w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,w))] \\
\rightarrow \neg \exists w'[w' \in \text{Best}(\neg p, \text{rev}_\neg p(g_{\text{dox-lik}}(\alpha,w))) & w' \prec_{\text{DES}_{\alpha,w}} w']
\]

And let us apply this semantics to the sentences in this scenario. We take the first sequence, (32a)-(32b), looking first at (32a). The complement makes true “I ate the chicken”. Because Sofía ate chicken, beef, and lamb in the real world, the most likely p-worlds are those where Sofía eats all three meats.

Now we must establish what the most likely not-p, “I did not eat chicken”, worlds are. Because Sofía ate all three meats in the actual world, let us say that the most likely not-p-worlds are those where she eats the other two meats, the beef and the lamb. So for Sofía to say that she

\[13\text{ Since we have proposed that the two entries of *want* should be event-relative, we propose the same for *glad that*.}

(34) *glad that*, modified to be event-relative (updated from version in Chapter 2)

\[
[[\text{glad that}_C]]^g(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
& f_{\text{dox-lik}}(\alpha,e) \subseteq p \\
& \neg p \in g(C) \\
\text{if defined, }[[\text{glad that}_C]]^g(p)(\alpha)(e) = 1 \text{ iff } \forall w'[w' \in \text{Best}(\neg p, \text{rev}_\neg p(g_{\text{dox-lik}}(\alpha,e)))] \rightarrow \\
\exists w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,e)) & w'' \prec_{\text{DES}_{\alpha,w}} w'] \\
& \forall w''[w'' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha,e))] \\
\rightarrow \neg \exists w'[w' \in \text{Best}(\neg p, \text{rev}_\neg p(g_{\text{dox-lik}}(\alpha,e))) & w' \prec_{\text{DES}_{\alpha,w}} w']
\]
is glad that she ate the chicken is for her to say that those worlds where eats only the beef and the lamb are outranked by worlds where she eats all three meats.

Now we look at the meaning our semantics gives (32b). The most likely p-worlds of this clause are those where Sofía eats all three meats. Not-p is “I did not eat the beef”. We will say that the most likely not-p worlds are those where Sofía eats the lamb and the chicken. So this clause means that worlds where Sofía eats the lamb and the chicken are outranked by worlds where she eats all three meats. The meaning for the second clause of (32b) is similar: not-p is “I did not eat the lamb”, then it means that those worlds where Sofía eats only the beef and the chicken are outranked by worlds where she eats all three meats.

Given these meanings for (32a) and (32b), there is nothing contradictory about this sequence. It is perfectly felicitous for Sofía to express being glad about having eaten the chicken rather than not, having eaten the beef rather than not, and having eaten the lamb rather than not. In other words, the felicity of this sequence does not require us to analyze glad that as something other than comparative.

This finding might seem puzzling, since in the similar sentences of the dinner scenario, we are not able to treat want as comparative. We offer the following explanation: because glad that is believed factive (cf. Chapter 1), i.e. p is believed to be true, it is necessarily compared to an alternative that is believed to be false. What this means is that a not-p alternative for a glad that-clause cannot also serve as a complement to another glad that-clause (given the same context), because the complement to glad that must be true. This is why there is no infelicity in sequences of comparative glad that-clauses, as in (32a)-(32b): the complement of one glad that-clause is never the not-p alternative for another glad that-clause.
On the other hand, there is no requirement that the complement of want must be believed to be true or false. Similarly, there is no requirement that the q-alternatives must be believed to be true or false. So for a given want-clause, its complement p may serve as a q-alternative to another want-clause, in the same context. This opens up the possibility of inconsistency between one want-clause and the next.

We do not need to change our semantics for glad that to reflect the fact that not-p must be believed to be false. This follows from the conjunct in the definedness conditions that requires glad that to be believed factive, i.e. that the complement must be believed to be true. We can easily see that this feature follows whether the complement is about a past or future event. For example, in cases where p is in the past, and p is believed to be true, it follows that not-p is believed to be false. In cases where p is in the future, the definedness condition that p is most likely amounts to a requirement that p to be believed to become true. So it follows that not-p is believed to not become true. To see this, consider the following revision of the buffet scenario. Sofía and Victoria are going to an all-you-can-eat buffet, where the available meats are chicken, beef, and lamb. Thinking about these possibilities, Sofía tells Victoria the following:

(36) I’m glad that I will eat the chicken.

If Sofía utters this, it would be appropriate for Victoria to follow it by asking Sofía whether she intends to eat the chicken, since (36) indicates as much.

By contrast, suppose that in talking about the buffet options, Sofía tells Victoria that she does not plan on eating the chicken. Then she utters (36). In such a scenario, (36) is clearly infelicitous. If Sofía has no plans to eat the chicken, she cannot say that she is glad she will do it. This demonstrates that if it is about a future event, the complement to glad that must be believed to become true. Thus it follows that not-p is believed to become false.
Thus we need make no changes to our semantics for *glad that* to indicate that if \( p \) is believed true, not-\( p \) must be believed to be false. Similarly, no changes need to be made to indicate that if \( p \) is believed to become true, not-\( p \) must be believed to not become true. This follows.

So let us return now to the buffet scenario in (32)-(33). We have an explanation of why the first sequence, of (32a)-(32b), is felicitous. But why is the second sequence, (33a)-(33b) odd? For reference, we want to highlight again that this sequence is not as defective as the corresponding *want*-sequence (cf. (2a)-(2b) and (15a)-(15b)). The *glad that*-sequence is odd, but not wholly defective. Thus we propose a different reason than we gave for the *want*-sequence. We propose that the oddness of (33a)-(33b) is due to the focus-marking rather than anything about the semantics of *glad that*. To see why, consider the meaning that our semantics gives (33a). Focus identifies not-\( p \) as “I do not eat chicken”. We will say that the most likely not-\( p \) worlds are those where Sofía eats beef and lamb and no chicken. So (33a) means that worlds where Sofía eats only the lamb and the beef are outranked by worlds where she eats all three meats. In other words, (33a) has the same meaning as (32a). And (33b) has the same meaning as (32b), since they are the same sentence. Thus our semantics for *glad that* does not explain why this sequence is odd; it predicts it to have the same felicity as (32a)-(32b).

This is why we turn to an explanation based on focus. Given the context, a natural interpretation of Sofía’s utterance in (33a) is that the focus is exhaustive, where the comparison class is taken to be \{beef, lamb\}. In other words, a natural interpretation of Sofía’s utterance in (33a) is that she is only glad that she got the chicken and she is not glad that she got the beef or the lamb. However, upon hearing Sofía’s continuation in (32b)/(33b), it is clear that she is not using focus exhaustively. What is the role of the focus then? It is not used constrastively, because
if it were, Sofía would also focus-mark beef and lamb (cf. Chapter 1, section 2.1). In this way, focus seems to have no role at all. This is why we propose that this sequence is odd: the purpose of the focus-marking is unknown.

Thus we account for the buffet scenario not by defining a new semantics for glad that but by pointing to the defectiveness of the focus-marking. But we might still wonder whether glad that has a noncomparative entry. To this end, we turn to other data. At the beginning of this section, we proposed to examine the behavior of other desire predicates in the ice cream scenario (cf. (10)), to see if they permit seemingly contradictory conjunctions like want does: ‘α want p and α not want p’ is felicitous. Thus we adapt this scenario to accommodate the believed factivity of glad that.

(37) Scenario: Ice Cream, with glad that

When Sofía is buying a hamburger from a street vendor, he asks whether she also wants ice cream. After some visible deliberation, Sofía gives in and orders some ice cream. Victoria orders some food too, and they sit on a nearby bench to eat it. Sofía finishes her ice cream, seeming to enjoy it. As Victoria and Sofía get up to walk away, the vendor leans out from his truck and asks Sofía whether she is glad she got ice cream. Being frank with the vendor, Sofía responds

Sofía: Well actually, I’m not glad.

Victoria: What? I thought you were glad you got ice cream.

Sofía: Well, I am glad that I got ice cream, but I’m not glad because I wanted to stick to my new diet!

Our focus here is on the felicity of the last line, Sofía’s response to Victoria. It is odd, but it is not wholly infelicitous. We can accommodate the oddness of Sofía’s response if we interpret her to mean something like “I am glad that I got ice cream because I enjoyed it”. In fact, if Sofía had said that, her response would not be odd at all, rather, felicitous.
(38) Well I am glad that I got ice cream because I enjoyed it, but I’m not glad because I wanted to stick to my new diet!

But we do not interpret the felicity of this conjunction to mean that glad that is quantificationally ambiguous like want. Their behavior is different. To see this, consider again the similar line from the ice cream scenario with want (first given in (10)).

(39) Sofía: Well, I do want ice cream, but I don’t want to get any because I’m on a diet.

After the first want-clause, no further explanation is needed for Sofía to justify why she wants ice cream. If she were to elaborate, some redundancy would not be surprising: I want ice cream because I want ice cream. Or she may elucidate by saying that it appeals to her. Either way, we do not expect Sofía to give full-fledged justification for wanting ice cream because we understand that she is expressing appetitive desire, and it may have no rationalization.

Can the same be said for glad that? Is it satisfactory for Sofía to respond that she is glad that she got ice cream because she is glad that she got ice cream? We do not think so. Giving such an explanation, Sofía would seem cryptic, as if she is choosing not to divulge her reasons.

Instead, we interpret (38) to mean that different instances of glad that can be interpreted relative to different ordering sources, even in the same sentence. For instance, the first instance of glad that in (38) is relative to an ordering source that contains propositions like: {I enjoyed what I ate}, and the second instance of glad that is interpreted relative to an ordering source that is something like: {I follow my diet}. So this scenario shows us that different instances of comparative glad that can be interpreted relative to different ordering sources, even in the same sentence. However, it does not show us whether glad that is ambiguous between two different quantificational forces.
Thus we do not take the ice cream scenario to support the idea that *glad that* is quantificationally ambiguous like *want*.

In this section, we explained the felicity patterns of *glad that* in the buffet scenario (parallel to the dinner scenario). We showed that we can treat all instances of *glad that* as comparative, since the complement must be believed true, and as a byproduct, the compared alternative, not-\(^{-}p\), must be believed false. We explained the odd sequence based on the focus-marking. In considering an example of ‘*glad that* \(p\) and not *glad that* \(p\)’, we proposed not that *glad that* is quantificationally ambiguous, but that the ordering source of *glad that* can vary from one instance to the next. Thus we learned new features about *glad that* as a comparative predicate but have no definitive answer as to whether *glad that* is quantificationally ambiguous.

6.2 *Disappointed that*

As with *glad that*, we consider *disappointed that* in a parallel scenario to the dinner scenario (cf. Chapter 1 (74)-(75)):

(40) **Scenario: Buffet**, with *disappointed that*
Sofia is at an all-you-can-eat buffet. She eats some of each of the three meats that are available: chicken Hollandaise, beef Bourguignon, and lamb kabobs. But she does not seem happy. Victoria did not think the chicken was good so she asks Sofia if she is disappointed that she ate the chicken.

(40a) Yes, I’m disappointed that I ate the chicken.
(40b) And I’m disappointed that I ate the beef. And I’m disappointed that I ate the lamb.

(41a) Yes, I’m disappointed that I ate the CHICKEN.
(41b) And I’m disappointed that I ate the beef. And I’m disappointed that I ate the lamb.
The pattern is the same as we observed for glad that: (40a) followed by (40b) is felicitous, and (41a) followed by (41b) is odd but not wholly infelicitous. We give the same explanations for these patterns as those we gave for the glad that-sequences: disappointed that is comparative in all instances. There is no infelicity because the complement p is believed to be true, so in being compared to not-p, it follows that it is believed to be false. We propose that the oddness of the sequences in (41) is due to focus, not the semantics of disappointed that.

First, we take our comparative semantics for disappointed that that we developed in the last chapter (cf. Chapter 2, (71)). This semantics is very similar to that for glad that, since it is also a factive predicate. The only difference is that rather than the complement p outranking not-p, it is not-p that outranks p\textsuperscript{14}:

(43) disappointed that

\begin{align*}
&[[\text{disappointed that}_C]]^p(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, w) \rightarrow p \text{ is defined in } w' \\
&\quad \& f_{\text{dox-lik}}(\alpha, w) \subseteq p \\
&\quad \& \neg p \in g(C) \\
&\quad \text{if defined, } [[\text{disappointed that}_C]]^p(\alpha)(w) = 1 \text{ iff } \forall w'[w' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, w))] \rightarrow \\
&\exists w''[w'' \in \text{Best}(\neg p, \text{rev}_{\neg p}(g_{\text{dox-lik}}(\alpha, w))) \& w'' <_{\text{DES}_{\alpha, w}} w']
\end{align*}

Now let us apply this semantics to the first utterance in the first sequence, (40a). The most likely p-worlds are those where Sofía eats chicken, beef, and lamb. Not-p is “I do not eat the chicken”. Let us say that the most likely not-p-worlds are those where Sofía eats the beef and the lamb only. So (40a) means that worlds where Sofía ate the chicken, beef, and lamb are worse than

\textsuperscript{14} In line with the note we made about our entry for glad that, we propose that disappointed that should be event-relative, like the two entries of want:

(42) disappointed that, modified to be event-relative

\begin{align*}
&[[\text{disappointed that}_C]]^p(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w' \\
&\quad \& f_{\text{dox-lik}}(\alpha, e) \subseteq p \\
&\quad \& \neg p \in g(C) \\
&\quad \text{if defined, } [[\text{disappointed that}_C]]^p(\alpha)(e) = 1 \text{ iff } \forall w'[w' \in \text{Best}(p, g_{\text{dox-lik}}(\alpha, e))] \rightarrow \\
&\exists w''[w'' \in \text{Best}(\neg p, \text{rev}_{\neg p}(g_{\text{dox-lik}}(\alpha, e))) \& w'' <_{\text{DES}_{\alpha, w}} w']
\end{align*}
those most likely not-p-worlds where she eats beef and lamb but no chicken. For the first clause of (40b), let us say that the most likely p-worlds are those where Sofía eats all three meats. Not-p is “I do not eat the beef”, and the most likely not-p-worlds are those where Sofía eats only the chicken and the lamb. So (40b) means that worlds where Sofía eats all three meats are worse than those worlds where she eats only the lamb and chicken. The next clause has a similar meaning: those most likely lamb-worlds, where Sofía also eats the chicken and the beef, are less desirable than those worlds where she eats only the beef and the chicken. Thus there is no inconsistency for the sequence of (40a)-(40b). Sofía expresses that it would have been more desirable for her to not have eaten the chicken, the beef, or the lamb.

Thus we see that 

\textit{disappointed that} behaves the same as \textit{glad that}: when its complement is past-marked, it is necessarily compared to a not-p alternative that is believed to be false. So the complement of one \textit{disappointed that}-clause cannot serve as the complement to another \textit{disappointed that}-clause (in the same context). This explains why there is no infelicity between (40a)-(40b). (And we need do nothing to our semantics to reflect the requirement that not-p is believed to be false; it follows from the requirement that p is believed to be true.)

Now let us apply the semantics for \textit{disappointed that} to the second sequence of the buffet scenario, beginning with (41a). Focus identifies not-p as “I do not eat the chicken”. So the semantics gives (41a) the same meaning it gave (40a): the worlds where Sofía eats all three meats are worse than those worlds where she eats only the beef and the lamb. And since (41b) is the same as (40b), we know the meaning our semantics gives it: worlds where Sofía eats all three meats are worse than those worlds where she eats only eats two meats. So our semantics predicts no infelicity with this sequence, because Sofía says nothing contradictory. She first says that it
would have been better to not have eaten the chicken, then she says the same about the beef, and she then says the same about the lamb.

Since our semantics for disappointed that provides no explanation for the oddness of (41a)-(41b), we must search elsewhere. We propose the same explanation we gave for the parallel glad that-sequence: there is no function of the focus-marking in (41a). Hearing this sentence on its own, we might interpret the focus-marking to be exhaustive. But in hearing Sofía continue with (41b), we realize that it is not exhaustive, as the other meats also disappointed Sofía. But it is difficult to find a way to interpret the focus. It is not contrastive: she does not also focus-mark beef or lamb. Thus focus seems to have no role. We provide this as the reason that the sequence is odd.

Just like glad that, we see that we can analyze all instances of disappointed that in the buffet scenario (parallel to want’s dinner scenario) as comparative. We attribute the oddness of the second sequence to focus. Thus we have an analysis of this scenario. But we do not have an answer to the question of whether disappointed that is quantificationally ambiguous.

So as we did with glad that, let us turn to the ice cream scenario. We will see whether a sentence of the form ‘disappointed that p and not disappointed that p’ is felicitous.

(44) Scenario: Ice Cream (adapted for be disappointed that)

When Sofía is buying a hamburger from a street vendor, he asks whether she also wants ice cream. After some visible deliberation, Sofía gives in and orders some ice cream. Victoria orders some food too, and they sit on a nearby bench to eat it. Sofía picks at her ice cream but doesn’t finish it. She throws away the half-eaten ice cream with what Victoria thinks is a frustrated attitude. As Victoria and Sofía get up to walk away, the vendor leans out from his truck and asks Sofía whether she was disappointed she decided to order ice cream.

Sofía: No, I’m not disappointed – good thing you asked me if I wanted some.
Victoria: What? You seemed disappointed that you got ice cream.
Sofía: Well, yes, I’m disappointed I got ice cream, but I’m not disappointed because I enjoyed it.

As before, our focus is Sofía’s response to Victoria. It is odd but not wholly infelicitous. Sofía could ameliorate her response if she explained both why she is disappointed and why she is not disappointed:

(45) I’m disappointed I got ice cream because I broke my diet, but I’m not disappointed because I enjoyed it.

Our understanding of this example is the same as we have for glad that in its corresponding example. Sofía is not switching between two entries of disappointed that of differing quantificational force in uttering (45). Rather, between each instance of the same entry, the ordering source differs. Unlike want, Sofía cannot say that she is disappointed that she got ice cream because she is disappointed she got ice cream, as it offers no explanation for why she is disappointed. Thus we propose that the ordering source switches between both instances of disappointed that in (45).

In looking at new data with disappointed that, we see that like glad that, there is no infelicity to a sequence of disappointed that-clauses, in contrast to want in the dinner scenario. This is because the complement to disappointed that must be believed to be true, and since it is compared to not-p, it is compared to alternatives that are believed to be false. This means that the not-p alternative of one disappointed that-clause cannot serve as the complement of another disappointed that-clause (in the same context). This explains the felicity of the first sequence in the buffet scenario. As for the second sequence, we proposed that its oddness is due to focus having no apparent role. (We gave the same explanation for the corresponding glad that-
sequence.) In trying to see whether disappointed that is quantificationally ambiguous, we saw that like glad that, the ordering source for disappointed that can change between different instances of its use, even in the same context. Thus as with glad that, we take it to be an open question whether disappointed that is quantificationally ambiguous like want.

6.3 Wish that

The last desire predicate we examine is irrealis wish that. Looking at the buffet scenario, we see that it patterns like glad that and disappointed that (cf. Chapter 1 (70)-(71)).

(46) Scenario: Buffet, adapted for wish that
Sofía is at an all-you-can-eat buffet and among the various meats there, chicken Hollandaise, beef Bourgignon and lamb kabobs, she tries none. After they leave the buffet, Victoria tells her how good the meats were. Sofía is disappointed. Victoria asks her if it is because she wishes that she would have eaten the chicken.

(46a) Yes, I wish I had eaten the chicken.
(46b) And I wish I had eaten the beef. And I wish I had eaten the lamb.

(47a) Yes, I wish I had eaten the CHICKEN.
(47b) And I wish I had eaten the beef. And I wish I had eaten the lamb.

The first sequence, (46a)-(46b), is felicitous. The second sequence, (47a)-(47b), is odd but not wholly infelicitous. Our explanation of these patterns is the same as we gave for the other desire predicates. Wish that can be analyzed as comparative in all clauses in (46a)-(46b). The second sequence is odd because of the focus-marking.
First, we take our proposed semantics for wish that from the last chapter (cf. Chapter 2 (61))\(^{15}\):

\[(49)\] wish that \(\text{as developed in Chapter 2}\)

\[\text{[\text{wish that}_C]^{\theta}(p)(\alpha)(w) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,w) \rightarrow p \text{ is defined in } w' \]

\[\& \forall w': w' \in p \rightarrow \exists w'': w'' \in \neg p \& w'' <_{\text{dox-lik}(\alpha,w)} w'\]

\[\text{if defined, [\text{wish that}_C]^{\theta}(p)(\alpha)(w) = 1 \text{ iff } \forall w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,w))) \& w'' <_{\text{DES}_\alpha,w} w'] \& \forall w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,w)))] \rightarrow \neg \exists w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,w))) \& q \in g(C) \& w' <_{\text{DES}_\alpha,w} w']\]

We apply this semantics to the first wish that-clause of the first sequence. We gloss over the details about what the q- alternatives are and what their most likely worlds are, as they are derived parallel to those we derived for the similar glad that- and disappointed that-clauses. Thus we assert without further explanation that our semantics predicts (46a) to mean that all those most likely q-worlds where Sofia eats none of the meats are outranked by those most likely p-worlds where she eats chicken. The first clause of (46b) means that all those most likely q-worlds where Sofia eats none of the meats are outranked by those most likely p-worlds where she eats beef. And the second clause means that all those most likely q-worlds where she eats no meats are outranked by all those most likely p-worlds where she eats lamb. There is no inconsistency with this sequence; our semantics for wish that gives it as felicitous.

\(^{15}\) As noted for glad that and disappointed that, we propose that wish that should be event-relative, like the two entries of want:

\[(48)\] wish that, modified to be event-relative\hspace{1cm}(modified from Chapter 2)

\[\text{[\text{wish that}_C]^{\theta}(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \]

\[\& \forall w': w' \in p \rightarrow \exists w'': w'' \in \neg p \& w'' <_{\text{dox-lik}(\alpha,w)} w'\]

\[\text{if defined, [\text{wish that}_C]^{\theta}(p)(\alpha)(e) = 1 \text{ iff } \forall w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,e))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,e))) \& w'' <_{\text{DES}_\alpha,w} w'] \& \forall w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha,e)))] \rightarrow \neg \exists w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha,e))) \& q \in g(C) \& w' <_{\text{DES}_\alpha,w} w']\]
Based on our work with *glad that* and *disappointed that*, the pattern for *wish that* should be clear: when past-marked, its complement must be compared to q-alternatives that are believed to be true. When future-marked, its complement must be compared to q-alternatives that are believed to become true. Thus we revise our semantics for *wish that* by adding a third definedness condition (and as proposed in footnote 15, we make *wish that* event-relative):

(50) *wish that*, modified  
(updated from version in Chapter 2)

\[
[wish that_C]|^g(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-like}}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
& \forall w': w' \in p \rightarrow \exists w'': w'' \in \neg p & w'' <_{\text{dox-like}(\alpha,w)} w' \\
& \forall q[q \in g(C)] \rightarrow f_{\text{dox-like}}(\alpha,e) \subseteq q \\
\text{if defined, } [\text{wish that}_C]^g(p)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-like}}(\alpha,e))) & q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-like}}(\alpha,e))) & w'' <_{\text{DES}_a,w} w'] & \forall w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-like}}(\alpha,e))))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-like}}(\alpha,e))) & q \in g(C) & w' <_{\text{DES}_a,w} w']
\]

Applying this semantics to the second sequence of the buffet scenario, no infelicity is expected. *(47a)* means that worlds where Sofía got the chicken are better than those worlds where she does not. And since *(47b)* is the same as *(46b)*, we know the meaning of the *wish that*-clauses: Sofía first expresses that having eaten the beef is more desirable than not having eaten it, and having eaten the lamb is more desirable than not having eaten it. The oddness of the sequence is not due to the semantics of *wish that*.

Instead, as before, we attribute the oddness of the second sequence to focus. It has no obvious role in context. We can thus analyze the buffet scenario according to an analysis of *wish that* as a comparative quantifier.

Since we are interested in seeing whether *wish that* is quantificationally ambiguous, we look at the ice cream scenario.
(51) **Scenario: Ice Cream**, adapted for *wish that*

When Sofía is buying a hamburger from a street vendor, he asks whether she also
wants ice cream. Sofía looks in her wallet and realizes she doesn’t have enough
money for ice cream. The vendor asks whether she wishes she could get ice
cream.

*Sofía:* No, I don’t wish I could get ice cream.

*Victoria:* What? You always like ice cream.

*Sofía:* Well, yes, I wish I could get ice cream, but I don’t wish I could get ice
cream because I’m on a diet.

As with the similar *glad that*- and *disappointed that*-sentences, Sofía’s response to Victoria is
odd. But unlike the equivalent sentences with *be glad that* and *be disappointed that*, Sofía cannot
ameliorate it by explaining why she wishes she could and wishes she could not get ice cream.

(52) Well, yes, I wish I could get ice cream because I would enjoy it, but I don’t wish I could get
ice cream because I’m on a diet.

This sentence is odd. So unlike *be glad that* and *be disappointed that*, we take it to be the
case that the ordering source that *wish* is relative to cannot alter from one instance to the next in
the same context. Instead, the ordering source must remain constant. We are not quite sure what
to make of this difference. Perhaps it is related to the fact that *glad that* and *disappointed that* are
emotives, and the emotion can alter with respect to what is taken into account, i.e. the
propositions of the ordering source. But because *wish that* is not emotive, the ordering source
cannot change so freely. However, this is only speculation which we do not intend as a proper
explanation. In terms of answering the question of whether *wish that* is quantificationally
ambiguous like *want*, this data gives us no reason to answer ‘yes’.
In this section, we see that *wish that* behaves similarly to *glad that* and *disappointed that*. In sequences of *wish that*-clauses, it can be analyzed as comparative. There is no inconsistency with such sequences because the complement of *wish that* must be irrealis, and the compared alternatives must be highly likely. In looking at a sentence of the form ‘wish that p and not wish that p’, we saw that *wish that* is not flexible in that it cannot be analyzed according to different ordering sources in the same context. We have no answer as to whether *wish that* is quantificationally ambiguous.

At this point, we conclude our proposal for desire predicates. As we did in the last chapter, we turn to examining this proposal by comparing it to a utility-probabilistic account. Specifically, we compare our quantificational, noncomparative entry for *want* to a utility-probabilistic, noncomparative entry for *want*.

7. **Utility-probabilistic semantics**

In the last chapter, Chapter 2 section 6.3, we compared our quasi-quantificational, comparative entry for *want* to utility-probabilistic approaches, focusing specifically on Lassiter’s (2011b) semantics. We showed how his semantics for *want* operates, and then illustrated how his and our semantics account for different kinds of data. Based on this comparison, we explained our preference for our quasi-quantificational account of comparative *want*. We do the same in this section. We begin in section 7.1 by showing how noncomparative *want* can be modeled according to a utility-probabilistic approach. In section 7.2, we see how this entry of *want* performs. We use this performance to explain again our preference for our quantificational model for *want*. 
7.1 A utility-probabilistic entry for noncomparative want

We start by looking at Lassiter’s semantics for want:

(53) Lassiter’s semantics for want \hspace{1cm} (Lassiter 2011b: 182)
x wants \( \phi \) is true iff \( \mathbb{E}(\phi) \geq \theta_{\text{want}} \), where \( \theta_{\text{want}} \) is a value significantly greater than \( \mathbb{E}(\text{ALT}(\phi)) \)

This semantics is comparative in that the truth value of ‘x want \( \phi \)’ is dependent on the expected desirability of the complement in comparison to that of its alternatives (and the alternatives include the complement itself).\(^{16}\) Since we have used this chapter to define an entry of want that is not comparative, i.e. the truth value is independent of the desirability of the alternatives, this semantics is not suitable for a comparison of a utility-probabilistic semantics to our quantificational model. Thus we propose to design an entry of noncomparative want according to a utility-probabilistic semantics.

As a first pass, we propose that this semantics should calculate the expected desirability of the complement, and rather than compare this expectation to a contextually determined threshold, it is compared to a fixed threshold. What should the value of this threshold be? Since we have said that noncomparative want expresses that the complement is appealing to the attitude holder, it seems reasonable to set the threshold value as 0. In effect, this means that if the complement \( \phi \) has any positive expectation to the attitude holder, he wants \( \phi \).\(^{17}\) We also make a change in notation, referring to the attitude holder with Greek ‘\( \alpha \)’ rather than Latin ‘x’:

(54) noncomparative want in a utility-probabilistic semantics \hspace{1cm} (first version)
\( \alpha \) wants\(_{\text{noncomp}} \phi \) is true iff \( \mathbb{E}(\phi) > 0 \)

\(^{16}\) Although we have been referring to the attitude holder with ‘\( \alpha \)’ throughout this chapter, we briefly use ‘x’ in line with Lassiter’s formalization.

\(^{17}\) Perhaps more work would reveal the need to set a higher threshold value for noncomparative want. However, for our purposes, we take 0 to be a suitable threshold.
However, given the work we have done in this chapter, this entry of *want* is not suitable. We showed in section 4.1 that our quantificational entry of noncomparative *want* needs to be event-relative, to allow for the possibility of $\alpha$ having individual desires for different objects, without desiring for all three objects to be simultaneously attained. Second, we discussed in section 4.2 that noncomparative *want* needs to account for Karttunen’s generalization: if $\alpha$ does not believe the presuppositions in *want*’s complement, the *want*-clause must be undefined. Third, as we showed in section 4.3, whereas comparative *want* is relative to *des*, noncomparative *want* is relative to *boul*. Thus let us improve our utility-probabilistic semantics for noncomparative *want* by making each of these changes. We make them one by one.

### 7.1.1 Event-relativity

In our quantificational entry of *want*, an event $e$ serves as the anchor for the bouletic modal base. We made this entry of *want* event-relative to account for the dinner scenario, where $\alpha$ simultaneously desires to eat three different dishes without desiring to eat all three dishes at once. If this entry were world- and not event-relative, it would license the inference that when $\alpha$ wants $p$, $\alpha$ wants $q$, and $\alpha$ wants $r$, $\alpha$ wants $p$, $q$, and $r$. This is because all three propositions would populate $\alpha$’s bouletic ordering source. However, making *want* event-relative, the inference is not licensed, as $\alpha$ may not desire all three propositions at the same event $e$.

On the other hand, a world-relative utility-probabilistic entry of *want* does not share the same flaw. The reason is because it uses different mechanisms than those employed in ordering semantics, namely, it uses probabilities. So if $\alpha$ wants $p$, $\alpha$ wants $q$, and $\alpha$ wants $r$, it is not entailed that $\alpha$ wants $p$, $q$, and $r$. To see this, we work through the dinner scenario. Suppose it is true that Sofía wants to eat the chicken. Let us further suppose that because she is a rational
person who does not want to order three different dishes, there is a 99% chance that she would place no additional orders if she ordered the chicken. There is a 1% chance that she would order additional entrees. Let us say that worlds where she gets only the chicken have a desirability of +300. The worlds where she gets additional entrees have a desirability of -300. Thus the expectation of “I eat the chicken” is +294.¹⁸ In other words, the semantics predicts that it is true that she wants to get the chicken. If we further assume that Sofía wants to eat the beef, and she wants to eat the lamb, then the semantics will similarly predict that corresponding want-clauses are true. However, given these truth values, the semantics does not predict that “Sofía wants to eat the chicken, beef, and lamb” is true; it is accurately predicted to be false by a utility-probabilistic semantics. To see this, we work through “Sofía wants to eat chicken, beef, and lamb” to show this. There are two relevant worlds in this proposition: a world where Sofía orders all three entrees and regrets this choice, and a world where she orders all three entrees and is happy with this choice. Let us say that Sofía has a 99% chance of regretting an order of all three entrees, and a 1% chance of enjoying placing such an order. The desirability of regretting this option is -300; the desirability of enjoying it is +300. Thus the expected value of “Sofía eats all three entrees” is -294. This shows us that although it is true that Sofía wants p, Sofía wants q, and Sofía wants r, the semantics does not predict that “Sofía wants p, q, and r” is true.

However, we still want to make this entry of want event-relative to account for our view that appetitive entries of want should be relative to α’s appetitive desire event e. Since a utility-probabilistic semantics does not use modal bases, we can have an event e serve as an anchor for the calculation of the expected desirability of the complement:

¹⁸ The expectation of the proposition is determined by summing the weighted values (=desirability value x probability value) of all the worlds it contains.
(55) noncomparative *want* in a utility-probabilistic semantics

\( x \text{ wants}_{\text{noncomp}} \phi \text{ in } e \text{ is true iff } E(\phi, e) > 0, \text{ where} \)

\( E(\phi, e) \text{ is calculated with respect to } \alpha \text{'s wanting event } e \text{ in } w \)

### 7.1.2 Relativity to *boul* rather than *des*

Working out of order, let us turn to making this utility-probabilistic entry of *want* serve as an expression of the attitude holder’s more primitive desires *boul*. To reiterate, this modality is concerned with what \( \alpha \) finds appealing, whereas *des* is concerned with what \( \alpha \) thinks is best for him, among the compared options. We represent this modal flavor by subscripting the expectation ‘\( E \)’ with ‘boul’.

(56) noncomparative *want* in a utility-probabilistic semantics

\( \alpha \text{ wants}_{\text{noncomp}} \phi \text{ in } e \text{ is true iff } E_{\text{boul}}(\phi, e) > 0, \text{ where} \)

\( E_{\text{boul}}(\phi, e) \text{ is calculated with respect to } \alpha \text{'s wanting event } e \)

We use \( E_{\text{boul}} \) to indicate that the expectation is calculated according to \( \alpha \)’s bouletic desires and the probabilities according to his beliefs.\(^{19}\) In line with this change, we propose that the semantics calculates the expected appeal of a given proposition, rather than the expected desirability (as with Lassiter’s entry for *want*, cf. (53)) or expected utility (the standard terminology of utility-probabilistic approaches).

Having specified that the calculation is of the expected appeal of a proposition, the semantics captures the fact that this entry of *want* is an expression of appetitive desire, rather than volitive desire.

\(^{19}\) Similarly, we propose to further specify the modal flavor of Lassiter’s entry for *want* by indicating that the expectation is based on \( \alpha \)’s bouletic desires:

(57) proposed utility-probabilistic entry for comparative *want* according to Lassiter’s (2011b: 182) definition

\( \alpha \text{ wants } \phi \text{ is true iff } E_{\text{des}}(\phi) \geq \theta, \text{ where } \theta \text{ is a value significantly greater than } E_{\text{des}}(\text{JALT}(\phi)) \)
7.1.3 Karttunen’s generalization

As with our quantificational entry of *want*, this utility-probabilistic entry of *want* needs to account for Karttunen’s generalization. In other words, we want the semantics to be defined only if \( \alpha \) believes the presuppositions in *want*’s complement, and if not, we want the semantics to be undefined. As before, we take the following sentence (given also as (17) of this chapter).

(58) Patrick wants it to stop raining.

The presupposition of the complement is that it is raining. Let us suppose that Patrick does not believe that it is raining. To really make it clear that Patrick does not have this belief, let us say that he is standing in the middle of a desert and he does not see a single cloud in the sky. The sun is scorching and he positively believes that it is not raining. Now let us go about seeing how the semantics accounts for (58). The relevant worlds of the complement are:

- \( w_1 \): Patrick is happy
- \( w_2 \): Patrick is unhappy

At first glance, the description of these worlds might seem wrong. In addition to making true propositions about whether Patrick is happy or not, should they not also be indicated as worlds where it stops raining? And because Patrick does not believe that it is raining, shouldn’t it be the case that they both have a probability of 0? No. This is not the way that probability distributions function. Rather, a given domain is treated as though it has a probability of one. This allows the probability to be distributed across the domain to determine the likelihood of the elements in the domain. What this means is that for this example, we assume that “it stops raining” has a probability of one. We distribute this probability across the worlds in its domain, \( w_1 \) and \( w_2 \). This allows us to see that, assuming that \( \phi \) in (58) is true, what is the most likely way that it turns out?
Thus let us say that world \( w_1 \) has a probability of .9 and \( w_2 \) a probability of .1. Let us say that the appeal of \( w_1 \) is 100 and \( w_2 \) is -50. With these values, the expected appeal of \( \phi \) is 
\[
((100)(.9)) + ((-50)(.1)) = 85.
\]
So (58) is given as true, since 85 is greater than 0. This is unwanted: the semantics should be undefined.

Thus we see that the current iteration of our utility-probabilistic semantics does not clearly account for Karttunen’s generalization: it gives truth values in cases where \( \alpha \) does not believe the presuppositions triggered by the complement. To recall, we account for it in our quantificational semantics with the following definedness condition:

\[
\text{(59) definedness condition in our quantificational semantics}
\]
\[
|\text{want}|(p)(\alpha)(e) = \text{defined if } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w'
\]

This condition makes the right stipulation, but is it one that we want to use in a utility-probabilistic semantics for \textit{want}? It seems reasonable to use it. Thus we propose the following: \(^{20}\)

\[
\text{(60) noncomparative \textit{want} in a utility-probabilistic semantics (fourth and final version)}
\]
\[
\alpha \text{ wants}_{\text{noncomp}} \phi \text{ in } e \text{ is defined if } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w'
\]
\[
\text{iff defined, } \alpha \text{ wants}_{\text{noncomp}} \phi \text{ is true iff } E_{\text{boul}}(\phi,e) > 0, \text{ where}
\]
\[
E_{\text{boul}}(\phi,e) \text{ is calculated with respect to } \alpha \text{'s wanting event } e
\]

Now the semantics is encoded to have a presupposition failure if \( \alpha \) does not believe the presuppositions triggered by \textit{want}’s complement.

\(^{20}\) This solution might stray from how Lassiter would account for Karttunen’s generalization (if he deems it worth accounting for). In later work, Lassiter (2012b) discusses presuppositions in conditionals and in the scope of epistemic modals. He proposes a general constraint: that a speaker should not utter a proposition unless he and his audience believe that its presuppositions have a sufficiently high probability value, i.e. they believe the presuppositions are true. Similarly, Lassiter might account for presuppositions in the scope of attitude predicates by positing a general constraint, eliminating the need to write a definedness condition in the semantics of individual attitude verbs. However, we take our attempt to be satisfactory, as Lassiter notes that he has nothing “very illuminating to say about presuppositions in attitude contexts” (Lassiter 2012b, footnote 22).
We take this entry to be a suitable representation of the meaning of *want* in a utility-probabilistic semantics: it accounts for Karttunen’s generalization, it is relative to α’s desires *boul*, which are concerned less with “what is good for me” and more with “what is appealing to me”, and it is event-relative.

### 7.2 Utility-probabilistic semantics or quantificational semantics?

Now that we have defined *want* as noncomparative within a utility-probabilistic semantics, we ask the same question we asked in the last chapter, section 6.3.4. Is either one of the two models better? In the last chapter, we approached the question by working through different data, e.g. Villalta’s (2008) teaching scenario, Goble’s (1996) player in a game, Levinson’s (2003) insurance example, and Stalnaker’s (1984) example. Based on how Lassiter’s utility-probabilistic semantics and our quasi-quantificational semantics account for this data, we ultimately explained a preference for our quasi-quantificational entry of *want*. We gave a few reasons for this preference. Two reasons were specific to Lassiter’s semantics for *want* (cf. (53)), specifically tied to how the prob function operates. Two other reasons were general to all utility-probabilistic models. First, we said that we do not find it plausible to say that α’s desires are always based on a calculation of the expectations, and nothing more. Second, we said that we do not find it plausible to say that α evaluates every single world in all of the contextually relevant propositions. Thus we find a semantics that is based on a calculation of expectations, looking at all p- and all q-worlds, to be unappealing. We reiterate these general arguments here. In terms of defining noncomparative, i.e. appetitive, *want*, it is unappealing to have a semantics that is based on a calculation of the expectations. A person may appetitively desire p even though he knows the most likely outcome of p is highly undesirable. For instance, take the following example:
(61) Scenario: The gambler

John is addicted to gambling. He knows he should give it up but he can’t. Against his better judgment, he goes to the casino with his rent money: $600. This is all the money he has. He wants to play roulette, and he wants to put all his money on his lucky number. He knows he shouldn’t do this: although there would be great payoff to winning, the odds of it are so low. The most likely outcome is that he loses all his money and is unable to pay his rent. His landlord has warned him that if he misses his rent again, he will be kicked out of his apartment. Despite all this knowledge, the following is true:

(61a) John wants to gamble all his money on his lucky number.

Although we might not share John’s addiction, we can sympathize with his plight. We know what it is like to want p even though we know that the most likely consequences of p are terrible. Yet because a utility-probabilistic semantics looks at all worlds in p, it wrongly gives (61a) as false. To see this, let us work through the example. We take the relevant φ-worlds to be:

\[ w_1: \text{John wins} \]
\[ w_2: \text{John loses} \]

Let us say that the appeal of \( w_1 \) is +10,000, and the appeal of \( w_2 \) is -6,000. (If John is going to be kicked out of his apartment in a world like \( w_2 \), its appeal should be much worse. However, in an effort to get the semantics in (60) to give the right truth value, we purposely downplay the negative value of this world.) The probability of \( w_1 \) is .1 and the probability of \( w_2 \) is .9. (Again, these figures are skewed: the odds of \( w_1 \) occurring are much lower; the odds \( w_2 \) much higher. We skew the values to help \( w_1 \) have a greater weighted appeal.) Let us enter these values into a matrix to calculate the expected appeal of the complement. The first value in the cell represents its appeal, the second its probability, and the third, its weighted appeal.
Matrix 1. Weighted appeal of worlds in complement in (61a)

<table>
<thead>
<tr>
<th></th>
<th>Winning</th>
<th>Losing</th>
</tr>
</thead>
<tbody>
<tr>
<td>gambling all his money</td>
<td>10,000 x .1 = 1,000</td>
<td>-6,000 x .9 = -5,400</td>
</tr>
</tbody>
</table>

We sum across this row to get the expected appeal of the complement.

Matrix 2. Expected appeal of complement in (61a)

<table>
<thead>
<tr>
<th></th>
<th>Expected appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>gambling all his money</td>
<td>1,000 + -5,400 = -4,400</td>
</tr>
</tbody>
</table>

The expectation of the complement is -4,400, which is nowhere close to exceeding 0. Thus the utility-probabilistic semantics gives (61a) as false, in contradiction to our judgment that it is true. This divergence is due to the fact that the semantics must look at all \( \phi \)-worlds, and because it is highly unlikely for the desirable worlds to occur, the expectation of \( \phi \) suffers.

On the other hand, our quantificational entry for noncomparative want correctly gives (61a) as false. The reason is that it does not require evaluation of all worlds that make true the complement, e.g. worlds like \( w_1 \) and \( w_2 \). Rather, it only cares about the \( p \)-worlds that are in boul, e.g. worlds like \( w_1 \). For reference, we repeat our quantificational semantics for noncomparative want (first given in (20)):

(62) noncomparative want (quantificational entry)

\[
[[\text{want}]](p)(\alpha)(e) = \begin{cases} \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \to p \text{ is defined in } w' \\ \text{if defined, } [[\text{want}]](p)(\alpha)(e) = 1 \text{ iff } \forall w': w' \in \text{Boul}(\alpha,e) \to w' \in p \end{cases}
\]

And apply it to (61a). Based on John’s desires at the time of the event \( e \), where John has a desire to gamble his money, all of the bouletically accessible worlds are those where he gambles all his money and wins. In other words, all these worlds make true \( p \), so (61a) is given as true. It is irrelevant that there are \( p \)-worlds that are highly undesirable. This is because unlike a utility-
probabilistic semantics, our quantificational semantics does not have to take into consideration every single world that makes the complement true. Instead, it only checks whether all bouletically accessible worlds make true the complement.

That these semantics give different truth values is not unique to this example. In any case where the most likely p-worlds are highly undesirable, and the desirable p-worlds are rather unlikely, a utility-probabilistic semantics predicts the sentence is false.\(^{21}\) However, because our quantificational semantics does not consider all p-worlds, it gives a \textit{want}-clause as true so long as all bouletically accessible worlds make true the complement.

This is the reason that we find our quantificational semantics to provide a better representation of \textit{want}'s appetitive meaning than a utility-probabilistic model does. Other arguments we made in the last chapter about Lassiter’s utility-probabilistic semantics do not apply to this utility-probabilistic semantics here. For instance, it faces no problems when the

\(^{21}\) For instance, take Levinson’s insurance example:

\begin{quote}
(63) \textbf{Scenario: Insurance} \hspace{1cm} (based on description in Levinson 2003)
The probability of damage to John’s house is 0.01. The premium for buying house insurance is $50. With insurance, John would owe nothing if his house were damaged. If John had no insurance and his house were damaged, he would have to pay $100,000 out of pocket.

(63a) John wants not to buy insurance.
\end{quote}

More colloquially, (63a) is expressed as ‘John doesn’t want to buy insurance’. Regardless, we understand the complement to be “John doesn’t buy insurance”. Now let us suppose that John does not appetitively desire to buy insurance, so that we judge (63a) as true, and accordingly, the semantics should predict it is true.

The relevant \(\phi\)-worlds are:

\begin{itemize}
  \item w1: John’s house is not damaged
  \item w2: John’s house is damaged
\end{itemize}

Let us say that the appeal of \(w_1\) is +500 and the appeal of \(w_2\) -100,000. The probability of \(w_1\) is .99; \(w_2\) .01. We put these values in a matrix to calculate the worlds’ weighted values.

\begin{center}
\begin{tabular}{|c|c|}
\hline
John buys insurance & his house is not damaged & His house is damaged \\
\hline
500 x .99 = 495 & \hspace{1cm} -100,000 x .01 = -10,000 \\
\hline
\end{tabular}
\end{center}

We sum across the row to get the expected appeal of the complement.

\begin{center}
\begin{tabular}{|c|c|}
\hline
John buys insurance & Expected Appeal \\
\hline
495 + -1,000 = -505 \\
\hline
\end{tabular}
\end{center}

Since the expected appeal of the complement is a negative value, (63a) is given as false, contrary to our judgment that it is true. On the other hand, the quantificational semantics for \textit{want} gives (63a) as true, since all bouletically accessible worlds from the event \(e\) are those where John does not buy insurance.
complement to *want* is false. To see this, suppose that I know that I was sick. I did not want to get sick. Because I got sick, I could not go on a bike ride (which I wanted to do). Now consider the following:

(64) I want to have been healthy.\(^{22}\)

The relevant worlds of the complement are:

\[
\begin{align*}
w_1: & \text{ I went on a bike ride} \\
w_2: & \text{ I did not go on a bike ride}
\end{align*}
\]

Even though I know that I was sick, we still have the probability of one to assign to these worlds (cf. the discussion surrounding (58)). Let us say that \(w_1\) has probability .9 and \(w_2\) probability .1. Let us say that \(w_1\) has appeal value +500; \(w_2\) -500. The expected appeal of \(\phi = (\text{prob}_{w_1})(\text{appeal}_{w_1}) + (\text{prob}_{w_2})(\text{appeal}_{w_2}) = 400\). Because this value is greater than 0, (64) is appropriately given as true. Thus we see that the utility-probabilistic semantics faces no problems in accounting for the truth value of sentences where the complement is known to be true or false.

The reason that we prefer a quantificational model over a utility-probabilistic model in terms of defining appetitive *want* is that it is undesirable to have the semantics consider all worlds that make true the complement. Not only is this argument empirically supported, cf. (61), but we also think that it is conceptually sound. As we discussed, appetitive desires are not rational. They do not involve thought processes about what is best for the attitude holder, or what the attitude holder should do, considering a variety of options. Rather, appetitive desires are feelings, inner forces that act on the will, coming to the attitude holder regardless of any motivating reason. On the other hand, we think that doing something like calculating

\(^{22}\) As we discussed in chapter 2, section 5.4, it is much more preferable to use *wish that* rather than *want* when the complement is false.
expectations is a very rational process. It takes into account all the possible ways the complement could turn out. Thus we expect that a utility-probabilistic semantics will fail to capture the meaning of appetitive *want*, whereas we expect the quantificational semantics to excel.

8. **Conclusion and future directions**

In this chapter, we examined data where the felicity of a sequence of utterances is affected by focus-marking. In order to account for the infelicity with the example with *want*, we proposed that *want* has two entries of differing quantificational force. Thus we developed a second, noncomparative, event-relative, simple necessity entry for *want* that uses a bouletic modal base ‘boul’. We proposed that this noncomparative entry of *want* is an expression of appetitive desire and comparative *want* an expression of volitive desire. We then showed how these two entries of *want* interact with each other. Next we looked at the felicity patterns in examples similar to the dinner scenario with desire predicates *glad that*, *disappointed that*, and *wish that*. We explained the sequences with an odd felicity according to focus-marking, finding no reason to posit that these other desire predicates are quantificationally ambiguous. We closed by showing how appetitive *want* is modeled in a utility-probabilistic semantics. As in Chapter 2, we explained our preference for our quantificational semantics over a utility-probabilistic semantics.

We touched on several topics throughout this chapter that we expect future work to address. For instance, we changed the parameters for *want* in this chapter, giving both noncomparative *want* and comparative *want* an event argument. Additionally, just as we made further refinements to doxastic modality in the last chapter, we made further refinements to bouletic modality in this chapter. We proposed two kinds of bouletic modalities: ‘boul’, which is
concerned with simple desires, and ‘des’ which is concerned with more complex desires. While we showed how our two entries for *want* interact, we did not explain the technicalities on how an agent handles conflicting desires, or precisely what the mechanism is for a noncomparative desire to become a comparative desire and vice versa.

Another large topic of this chapter is that we have proposed two entries for *want*. We expect future work, both on desire predicates in English and in other languages, to support this proposal. For instance, we expect that there are other languages where one word for *want* has two entries of differing quantificational force, like English. We also expect that there are languages where there are two words which are translated as English *want*, but of differing quantificational force. (Cf. Harner 2014, where we showed this for Chinese: *yao* ‘want/be going to’ is noncomparative, *xiang* ‘want’ is comparative.) As for other desire predicates, we expect that some will be shown to only have one entry, whether comparative or noncomparative. We also expect that some will be shown to express desires which are neither appetitive nor volitive. There is much to learn about desire predicates.

In the next chapter, we continue our work by applying our two semantics for *want* to the directives *advise* and *order*. 
CHAPTER 4
DIRECTIVE VERBS

1. Introduction

In this chapter, we look at verbs which are traditionally called directives, focusing specifically on advise and order. In Chapter 1, section 3.2, we classified advise as semantically focus sensitive and order as semantically focus insensitive, but pragmatically focus sensitive. We determined this by looking at minimal pairs where the focus structure in the complement of these verbs altered. We then proposed that semantically focus sensitive predicates such as advise have a semantics of comparison and semantically focus insensitive predicates like order do not have a semantics of comparison. Later in Chapter 1, section 4, we looked at examples where a person’s utterances altered according to whether he uses focus-marking (similar to the data we evaluated in the last chapter). We saw that the focus marked sequences are odd whether advise or order are matrix predicate; the sequences without focus-marking are not infelicitous.

The purpose of this chapter is to provide a semantics for advise and order. Since advise is semantically focus sensitive, we propose to give it a comparative semantics. Specifically, we propose to use the comparative semantics we developed for want in Chapter 2 as our starting point. Since order is semantically focus insensitive, we propose to define it as a noncomparative quantifier, using the semantics we developed for noncomparative want in Chapter 3 as our starting point. A cursory examination of the two semantic entries for want reveals some modifications we need to make to these entries in order to define advise and order. To further examine whether we need to make more modifications to our semantics for these directives, we look at the literature on advise and advice, order and orders. This literature includes work from

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1 We made the semantics for comparative want event-relative in Chapter 3, (24).

We gather intuitions from this literature to refine our semantics for *advise* and *order* as necessary. In the end, we see that our entries for *want* work very well to define the directives; few changes need be made. Once we develop our final semantics for *advise* and *order*, we examine other directive predicates.

The chapter is laid out as follows. In section 2, we look at examples to demonstrate the focus-sensitivity of *advise* and *order*. We take our entries for *want*, as developed in the last two chapters, and show how we need to alter them to define the directives. We look at the literature in section 3. In section 4, we establish that we work within the dynamic pragmatics framework, and refine our entries for *advise* and *order*. We consider other directives in section 5. We close in section 6.

2. **Advise and order**

In section 2.1, we illustrate the focus-sensitivity of *advise* and *order*. We propose first-pass semantic entries for *advise* and *order* in section 2.2.

2.1 **Focus-sensitivity of advise and order**

First we demonstrate that *advise* is semantically focus sensitive.

(1) **Scenario: Stock advice**

It’s near the end of the day on a Friday. Eager to indulge his expensive whims over the weekend, Joe Rich looks at his bank account, only to be appalled with its low figure. He calls his accountant Ted, demanding an explanation. Ted explains
that Joe’s indulgent spending is the reason for the low figure. Irritated, Joe demands that Ted gets more money in his bank account. Although Ted thinks this is a bad idea, he offers to sell some of Joe’s stock on Monday. But Joe can’t wait so he demands that Ted sell some stock immediately. Quickly looking through Joe’s portfolio, Ted finds two stocks that have yielded little profit: Slate and Marsh. Slate has increased in value negligibly, while the Marsh stock has gone down in value slightly. Ted tells Joe that Marsh is probably the right stock to sell, but given the amount of time he has, he cannot give a strong recommendation. He encourages Joe to wait until the beginning of next week to sell the stock. Joe remains insistent about selling now, so Ted gives Joe his advice.

“Well Joe, if you really insist on selling stock today, then you should sell your Marsh stock.”

Joe agrees and authorizes Ted to sell the stock. Unfortunately, the Marsh Company unveils a new product on Monday that causes a boon in its stock value. Joe hears about the company’s success and is furious when he realizes he sold this stock on Friday. He calls Ted, demanding to know why he let him sell his Marsh stock. Frustrated, Ted reminds Joe of their conversation.

“Joe, it’s true that I told you to sell your Marsh stock, but my advice was that you wait until the beginning of this week to sell it. I never thought it was a good idea for you to sell it on Friday.”

This is a fair argument for Ted to make, and we can report on it with the following:

(1a) Ted advised Joe to sell the MARSH stock on Friday.

We judge (1a) as true because Ted advised the complement rather than its focus alternative.

Ted’s advice was for Joe to sell the Marsh stock rather than the Slate stock. If we shift the focus to the day of the week, we judge the sentence as false.

(1b) Ted advised Joe to sell the Marsh stock on FRIDAY.
Thus we see that advise is semantically focus sensitive: depending on which constituent of the complement is focused, the truth value of the sentence alters. This is no particularity of advise in its reportative use. Suppose that Ted uses advise performatively. Focus has a similar effect.

(1c) I advise you to sell your MARSH stock today.
(1d) I advise you to sell your Marsh stock TODAY.

It is not helpful to talk about the meanings of (1c) and (1d) in terms of truth value, since advise is used performatively and permissive sentences are true in virtue of the being used to perform a speech act. Thus if Ted uses (1c) to give advice, it is true. Likewise for (1d). Instead, we must talk about the differences between (1c) and (1d) in terms of consistency. (1c) is consistent with what Ted tells Joe in (1), but (1d) is not. If Ted utters (1c) to Joe, we do not expect Joe to question what Ted means. However, if Ted utters (1d) to Joe, we expect Joe to ask Ted what his advice is, as (1d) is not consistent with the advice that Ted gives Joe throughout (1). Thus we see that advise is semantically focus sensitive in its performative uses, as focus placement determines whether the advise-utterance is consistent with what the speaker has already advised.

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2 As we noted in Chapter 1, Dretske (1972) observed that the truth value of sentences with reportative advise altered according to which constituent in its complement was focused:

(2) **Scenario: Stolen car**
(adapted from Dretske 1972: 415-6)

Schultz offers Clyde $30,000 to buy a car he doesn’t drive anymore. Clyde asks Alex whether he should sell it for this price. Alex tells him to sell the car for $30,000, since it is unlikely it will appreciate in value anymore. Following Alex’s advice, Clyde agrees to sell the car to Schultz for $30,000. However, when Clyde tries to cash the check from Schultz, it bounces. He can’t get the money from Schultz because he ran away with the car. Clyde is angry with Alex for telling him to sell the car.

But Dretske notes that in Alex’s defense, only (2a) is true and (2b) is false.

(2a) Alex advised Clyde TO SELL HIS CAR to Schultz FOR $30,000.
(2b) Alex advised Clyde to sell his car TO SCHULTZ for $30,000.
The same cannot be said for order. We demonstrate this with a similar scenario, designed to account for the pragmatic differences between advice and orders.

(3) **Scenario: Stock order**

On Friday afternoon, Joe finds the money in his bank account is low so he calls up his accountant Ted, demanding that he get more money in his bank account. Ted thinks it’s a bad idea, but he proposes that Joe could sell some stock. He quickly looks through Joe’s portfolio and finds two companies that have not been so profitable lately: Slate and Marsh. Yet Ted cannot give a recommendation on which to sell since he has no time to look into the companies. Joe is impatient, so he arbitrarily decides on selling the Marsh stock, placing the following demand on Ted:

“\[3\] I want the money now. Sell the Marsh stock today.”

The following Monday, the Marsh stock skyrockets in value with the announcement of its new product. Upon learning about this overnight success, Joe is irate and calls Ted. Ted defends himself by reminding Joe that he only did as Joe told him to do, against his better judgment. Joe tries to back down from what he told Ted. He knew nothing about the Marsh Company and couldn’t know whether it was good to sell it.

Regardless of Joe’s argument, both of the following sentences are true.

(3a) Joe ordered Ted to sell the Marsh stock on FRIDAY.

(3b) Joe ordered Ted to sell the MARSH stock on Friday.

Independent of which constituent is focused, both (3a) and (3b) are true. Which alternatives are generated by focus does not alter the fact that Joe ordered Ted to act in accordance with the complement. As with advise, this interaction with focus is no special feature of order being used reportatively. Focus does not affect the consistency of sentences when order is used performatively. For instance, suppose that Joe utters either of the following to Ted:
(3c) I order you to sell the Marsh stock TODAY.
(3d) I order you to sell the MARSH stock today.

Unlike the similar advise-clauses, both (3c) and (3d) are consistent with what Joe tells Ted in (3).
We do not expect Ted to ask Joe if he is changing his mind whether he utters (3c) or (3d).

Thus we see that advise is semantically focus sensitive but order is not. We take this to mean that advise has a semantics of comparison but order does not.

Now we consider another kind of data with focus, where a person’s sequence of utterances alter according to whether he uses focus-marking. We gave these examples in Chapter 1, section 4: (76)-(79) (and used variations of them throughout the last chapter).

(4) Scenario: Dinner, with advise
Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. Victoria can see that this is a tough decision for Sofía because she keeps deliberating about what to order. Sofía asks for her advice about what she should get. Victoria responds:

(4a) I advise you to get the chicken.
(4b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

(5a) I advise you to get the CHICKEN.
(5b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

The first sequence, (4a)-(4b), is felicitous. There is no infelicity with Victoria giving Sofía advice to get all three entrees. However, there is something marked about the second sequence. It is odd for Victoria to follow focus marked (5a) with (5b).
It is not entirely clear how to interpret this pattern. In the last chapter, we looked at a similar example with want (Chapter 3: (1)-(2)) and found the focus marked sequence to be infelicitous to a greater degree than this example with advise. We thus proposed that want has a noncomparative semantics, in addition to its comparative semantics. However, in looking at similar examples with desire predicates glad that, disappointed that, and wish that, (Chapter 3, section 6) we found that the focus marked sequences are odd but not wholly infelicitous, similar to this example with advise. We also showed that these predicates could be analyzed as comparative throughout the scenarios. Thus we attributed the oddness of the focus marked sequences to focus, proposing that it negatively affects the felicity because it is not perceived as contributing any meaning.

Since the second sequence is odd but not wholly infelicitous, do we explain its oddness to the focus-marking? This seems reasonable, but what about the first sequence? Can we analyze advise as comparative throughout (4)? We put this question on hold, as we intend to develop a semantics for advise by looking at the literature. Once we use this literature to refine our semantics for advise, we return to this data in section 4.5.

Let us turn now to a similar scenario with order.

(6) Food Critic Scenario, with order

Victoria is head chef at a restaurant; Sofía is a sous-chef. A high-profile food critic is eating at their restaurant tonight. Sofía is tasked to make the main entree for him. She is nervous about what to make, and cannot decide between chicken Hollandaise, beef Bourgignon, and lamb kabobs. Seeing that Sofía needs help, Victoria demands the following of her:

(6a) I order you to prepare the chicken.
(6b) And I order you to prepare the beef. And I order you to prepare the lamb.
(7a) I order you to prepare the CHICKEN.
(7b) And I order you to prepare the beef. And I order you to prepare the lamb.

There is no infelicity to the first sequence, but the second sequence is odd. Since we propose, based on (3), that *order* has a noncomparative semantics, it is easy to account for (6). Victoria orders Sofía to make all of the three entrees. This is the same meaning a noncomparative semantics for *order* predicts for (7). Thus we could attribute the oddness of (7) to the focus-marking, similar to our explanation of similar scenarios with *glad that*, *disappointed that*, and *wish that*. Thus we propose that (7) is odd because there is no known function of the focus-marking.

2.2 First pass entries for *advise* and *order*

Based on the examples in (1) and (3), we conclude that *advise* has a semantics of comparison and *order* does not. Since we have developed a comparative and a noncomparative semantics to define *want*, let us take these entries and use them as our starting points in defining *advise* and *order*, respectively.

In Chapter 2, we developed an entry for *want* as a comparative quantifier (Chapter 2: (56)). We minimally altered this entry in Chapter 3 by exchanging the world argument for an event argument (cf. Chapter 3: (24)):

(8) comparative *want*  

\[
\text{[want}_C\text{]}^\mathcal{L}(p)(\alpha)(e) = \begin{cases} \text{defined} & \text{iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [\text{want}_C]^\mathcal{L}(p)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) & q \in g(C)] \rightarrow \\
\exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) & w'' <_{\text{DES}_{\alpha, w}} w'] & \forall w''[w'' \in p & w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))))] \rightarrow \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) & q \in g(C) & w' <_{\text{DES}_{\alpha, w}} w']
\end{cases}
\]
We provided an entry for *want* as a noncomparative quantifier in Chapter 3 (cf. Chapter 3: (20)).

(9) noncomparative *want* (as developed in Chapter 3)

\[ \text{[want]}(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \]

\[ \text{if defined, } \text{[want]}(p)(\alpha)(e) = 1 \text{ iff } \forall w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p \]

Now we use these entries to define *advise* and *order*, respectively. Somewhat out of order, we begin with *order*. At first glance, we can identify two changes we need to make to the entry of *want* to define *order*. First, there must be an additional argument to represent the addressee. Second, the flavor of the modal base needs to be altered: *order* is generally associated with deontic modality, rather than bouletic modality. Thus:

(10) *order* (first version)

\[ \text{[order]}(\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \]

\[ \text{if defined, } \text{[order]}(\beta)(p)(\alpha)(e) = 1 \text{ iff } \forall w' [w' \in \text{Deo}(\alpha,\beta,e) \rightarrow w' \in p] \]

Next we take *advise*. As with *order*, we need an argument to represent the addressee. As for the modal flavor of the ordering source, it is not obvious that ‘des’ is inappropriate; perhaps *advise* is an expression of bouletic modality. However, we do not want to make *advise* an expression of bouletic modality without an evaluation of the data or the literature. We thus propose to currently leave the modal flavor of *advise* undefined, writing the semantics so that the ranking between p- and alternative-q-worlds is given by an ordering source of unmarked flavor. Incorporating these changes, here is the first iteration of our entry for *advise*. 
There are several benefits to these entries that are the same as those we discussed for the corresponding entries for want, e.g. both stipulate that Karttunen’s (1973b, 1974) generalization is met. The semantics for advise incorporates α’s beliefs about likelihood in its truth condition. We can see that it desirable for the semantics to have these features.

First, let us demonstrate why we want our semantics for these verbs to stipulate that Karttunen’s generalization is met. Recall that this generalization is that the attitude holder must believe the presuppositions in the complement of the attitude verb. Heim (1992) believes that this generalization is supported by examples where a presupposition in the complement of the attitude verb does not project beyond the complement, demonstrating that it is true of predicates like want (cf. Chapter 2, section 3.1). She proposes that the presupposition does not project because it is satisfied by α’s beliefs. We find this argument appealing, and can use it to show why our semantics for advise and order should stipulate that Karttunen’s generalization is met.

(12a) Joe is talking about his bad health. Ted wrongly believes that Joe smokes, so he advises Joe to stop smoking.

(12b) Joe does not like the smell of smoke. He wrongly believes that Ted is smoking, so he orders Ted to stop smoking.

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3 As we noted in Chapter 2, footnote 14, we cite Karttunen (1973b) on Heim’s (1992) word, as we are unable to locate this reference ourselves.

4 We addressed concerns with this generalization in Chapter 2, footnote 16.
The complement to *advise* in (12a) presupposes that Joe smokes, and the complement to *order* in (12b) presupposes that Ted smokes. Yet neither presupposition is projected beyond the second sentence. We take this to mean that the presupposition is satisfied so long as the attitude holder believes that it is true. In other words, we think that Karttunen’s generalization applies to *advise* and *order*. This is why we find it appealing to have semantics for these directives that stipulates that the attitude holder believes the presuppositions of the complement.

Now we consider why it is worthwhile to have a semantics for *advise* that incorporates the subject’s beliefs about likelihood in the truth condition. First, let us consider a semantics for *advise* that does not make use of the likely doxastic ordering source in its truth condition.

(13) *advise*  
(without a likely doxastic ordering source in its truth condition)

\[
[\text{advise}_c]^{\tilde{g}}(\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w'
\]

if defined, \[\exists w''[w'' \in p \& w'' <_{g(\alpha, \beta, e)} w' \& \forall w''[w'' \in p] \rightarrow \neg \exists w' \forall q[w' \in q \& q \in g(C)] \& w' <_{g(\alpha, \beta, e)} w'']\]

Suppose that Joe is wondering whether he should p, buy a CD, or q, buy stock. Ted advises him p, to buy a CD. His reason for giving this advice is that the rate on the CD, 3%, is greater than the growth he projects for the stock Joe is considering buying, 2.5%. In other words, he believes that Joe will make more money buying the CD. But lacking the likely doxastic ordering source, the semantics in (13) predicts that Ted does not advise Joe to buy a CD. The reason is that there are no p-worlds where Joe gets a return that is higher than 3% on his CD. On the other hand, although many of the q-worlds are those where Joe gets a return of 2.5%, there are also some where he gets a return of 3%, 4%, 5%, and so on. Any q-world where Joe gets a return on his stock that is greater than 3% is better than all those p-worlds where Joe gets a 3% return on his CD. In other words, there are q-worlds that are not outranked by p-worlds. Thus the semantics
predicts that Ted does not advise Joe to buy a CD. However, if comparison is made between only those most likely p-worlds, and the most likely q-worlds, as determined by Ted’s beliefs, the semantics makes the right predictions: all most likely q-worlds, where Joe gets a return of 2.5% are outranked by all those most likely p-worlds, where Joe gets a return of 3%.

Thus we see that our two semantic entries for want, adapted for advise and order, have several features that make them appealing for defining these directives, since both stipulate that Karttunen’s generalization is met, and advise makes comparison between worlds that are identified by α’s beliefs about likelihood.

However, the critical question is whether these entries are sufficient in representing the meaning of these directives. Do they need to be refined? Are there other aspects of their meaning that is not accounted for in these semantic entries?

We will look at the literature to answer these questions but before we do, let us point out one reason why we think these entries are well-suited for the directives. Just like comparative want, our entry for advise is contextually sensitive, so that the alternatives that are compared are determined by context. So just as with comparative want, the complement of advise may not represent the best of all possible alternatives, but the best option among those considered. Such a semantics accounts not just for the effects of focus in (1a)-(1d), but also for Ted’s general attitude in (1). Clearly, Ted does not think it is good for Joe to sell his stock on Friday. Instead, he thinks it would be better for Joe to wait to sell his stock on Monday. So Ted’s advice about selling the Marsh stock on Friday is best with respect to the alternative of selling his stock in Slate on Friday. However, this does not represent what Ted believes is the best of all possible alternatives. He thinks it is better for Joe to wait to sell his stock. It is possible that he thinks there is an even better alternative, e.g. for Joe to hold onto his stock for a long time. Ted may
think it is better for Joe to stop spending his money so cavalierly and for him to start saving it. And so on. In any case, it is clear that Ted’s advice need not represent the best of all possible alternatives, but the best of the available options (which in this case, are determined by Joe’s desires). For this reason, we find our comparative semantics to be attractive in defining advise.

Related to this, we find it appealing to use a semantics of simple necessity to define order. Since order does not make comparison, the question of whether its complement is the best of, or better than some alternatives, is moot. Its complement is merely given as a deontic necessity. This also fits well with the scenario given in (3). Joe is less concerned with whether the stock in Marsh is better to sell than the stock in Slate. He is more concerned with getting money in his bank account. So his order conveys not a comparison of alternatives, but a necessity for fulfilling his priority of getting cash. For this reason, we find our semantics of simple necessity to be appropriate for defining order.

Our semantics for order also accounts for the focus data given in (6)-(7). As a simple necessity quantifier, our semantics predicts that the order-clauses in (6) and (7) mean that the complement is a deontic necessity for Sofía, the addressee. So the semantics predicts no infelicity to either sequence, (6a)-(6b), or (7a)-(7b). This enables us to explain the oddness of the focus marked sequence according to the focus, as we suggested above.

We could keep looking at the data in (1), (3), (6) and (7) to find other reasons that our semantics in (10) and (11) work well to define advise and order. However, many of the reasons we would provide would be repetitive of ideas about advise and advice, order and orders that are found throughout the literature. Since we are turning to that literature next, let us refrain from further discussion about our data, and instead evaluate our semantic entries by seeing how they match up with intuitions in the literature.
3. Literature on *advise* and advice, *order* and orders

In this section, we look at the literature on *advise* and advice, *order* and orders. Our goal here is to gather authors’ intuitions on these topics, as we leave evaluation of them for section 4. In section 3.1, we provide brief overviews on two major kinds of traditions that some of the authors we look at employ, namely Speech Act Theory and the tradition of dynamic pragmatics. The purpose of this overview is to help contextualize the intuitions of the various authors about *advise* and advice, *order* and orders. We turn next to this literature, beginning in section 3.2 with work within classical Speech Act Theory, namely Austin (1962) and Searle (1969, 1976). Then we move to more recent literature in section 3.3, collecting scattered intuitions about the pragmatics of advice and orders, as well as the semantics of *advise* and *order* from Portner (2004), Condoravdi and Lauer (2011, 2012), Kaufmann (2012), Kaufmann and Schwager (2009), and Wierzbicka (2003). In section 3.4, we look at semantic entries for these verbs, beginning with Villalta’s (2008) entry of *order* and by extension, *advise*, and then Yanovich’s (2014) entries for *advise* and *order*. As stated, we leave evaluation of these ideas for section 4, using this section to make note of the intuitions in the literature about *advise* and advice, *order* and orders.

3.1 Frameworks used to analyze directives

The literature we look at employs one of two kinds of theories. The first is Speech Act Theory, which takes speech acts as the fundamental component in the structure of discourse. The second is the tradition of dynamic pragmatics, which structures the discourse around bodies of information. These bodies of information are updated by sentences, rather than speech acts.

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5 Speech acts can be illocutionary, locutionary, or perlocutionary.
6 This background is intended to be brief. We direct the reader to Portner (forthcoming) for a much broader and more thorough overview on kinds of semantics theories, as well as greater detail on philosophical differences between them.
Authors like Austin (1962) and Searle (1969, 1976) develop and work on Speech Act Theory. There are two points we want to make about this theory. The first concerns its structure. The basic premise of this theory is that “speaking a language is performing speech acts” (Searle 1969: 16), acts such as giving advice, or giving an order. Thus this theory structures language according to speech acts. The second point we want to make about this theory concerns its central aim, which is “to model the flow of information in discourse as a series of actions in which interlocutors seek to affect one another’s cognitive states, give evidence about their own cognitive states, and manipulate their social world” (Portner forthcoming, Chapter 3, section 3). In other words, this theory is focused on how language is used to communicate information about one’s own state of mind, as well as affecting other’s states of mind. Because of this aim, this theory discusses speech acts like giving advice and giving orders in terms of how they communicate information about the speaker’s state of mind and are used to affect his addressee’s state of mind. We see this in Austin’s and Searle’s work, as well as later authors such as Kaufmann (2012), Condoravdi and Lauer (2011, 2012) and Yanovich (2014).

On the other hand, work by Portner (2004, 2007) is not based on Speech Act Theory. Rather, it develops within the tradition of dynamic pragmatics. In this tradition, discourse is structured by different bodies of information (as opposed to the building block of speech acts for Speech Act Theory). For instance, Portner (2004) proposes that there are three bodies of information in discourse: the COMMON GROUND (cf. Stalnaker 1974, 1978), the QUESTION SET (cf. Ginzburg 1995a, 1995b, Roberts 1996) and the TO-DO LIST (proposed by Portner). These bodies of information are updated by sentences via pragmatic mechanisms. For instance, the common ground, which represents what the conversational participants take to be true, is conventionally updated by assertion, via e.g. declaratives. Representing what the conversational participants
take to be unresolved, the question set is conventionally updated by questioning, via e.g. interrogatives. The to-do list keeps record of all the actions each conversational participant is assumed to be committed to make true, and it is conventionally updated by requiring, via e.g. imperatives. In this way, we can see how pragmatics is dynamic in this tradition. On the other hand, the semantics is static. For instance, declaratives express propositions, so a semantics can specify conditions under which they are true or false. As a result, the semantics of declaratives are not specified in terms of the conversational participants’ states of mind. (However, some authors do treat the bodies of discourse such as the common ground as representations of mental states, e.g. Veltman 1996.)

Having introduced the basics of these two traditions, we can now look at the different authors’ intuitions on *advise* and advice, *order* and orders.

### 3.2 Intuitions about advice and orders from classical Speech Act Theory

In this section, we look first at Austin (1962) and then at Searle (1969, 1976).

#### 3.2.1 Austin

Although Austin (1962) works within Speech Act Theory, he does not provide detailed definitions of advice speech acts or order speech acts. However, he offers several intuitions about advice and orders. For instance, he notes that sincere advice requires the speaker to think that the advice is “most expedient” for the listener (Austin 1962: 40). He frequently notes that advice can be good or bad. He suggests that advice is predicated on the speaker being in a position to give advice to his addressee, although he does not specify what kind of position. He is clearer on the
position necessary for orders, stating that felicitous orders require speaker authority and that orders may be rejected if such authority is lacking.\textsuperscript{7}

Austin proposes five classes of performative utterances, and groups advice and orders in the same class since both are concerned with “the exercise of power, rights, or influence” (Austin 1962: 150). Specifically, this is the \textbf{exercitive} class, whose predicates are marked by “the giving of a decision in favor of or against a certain course of action, or advocacy of it” (Austin 1962: 154). Austin notes other similarities between advice and orders, in that both may be given with the same imperative. For instance, “You must shut it” can be interpreted either as an order or advice. However, he says that “you ought to shut it” is interpreted as advice, and not as an order. Austin implies that orders are stronger than advice. For instance, he notes that is uncertain whether an imperative such as “go” is “ordering [the addressee] to go or merely advising” the addressee to go (Austin 1962: 32).

\subsection*{3.2.2 Searle}

Searle (1969, 1976) provides a more detailed explanation of speech acts. Searle (1969) defines all speech acts as having propositional content (which is of a certain form depending on the speech act), and having three different kinds of rules, or conditions, that must be met in order for a speech act to be successfully performed: 1) the preparatory condition(s), which “tells us what [the speaker] \textit{implies} in the performance of the act” (Searle 1969: 65), and which the speaker implies are satisfied in the performance of his speech act; 2) the sincerity condition(s), which qualifies “what the speaker expresses in the performance of the act” (Searle 1969: 65); and 3) the essential condition, which specifies the essential nature of the speech act, thus

\textsuperscript{7} Austin provides a five- (potentially six-)way distinction between different kinds of infelicities. As the taxonomy is not relevant here, we simply use the more general term “infelicity”.

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distinguishing it from the other speech acts. The essential condition also “specifies the speaker’s intention” (Searle 1969: 60), so that if the speaker is shown not to have this intention, the utterance can be said to not have been a performance of the speech act.

Having defined these conditions in basic terms, let us look at how Searle (1969: 67) defines an advice speech act. The propositional content of an advice speech act is that it specifies a future act A of the addressee. There are two preparatory conditions, that 1) the speaker “has some reason to believe” (Searle 1969: 67) that A will benefit his addressee, i.e. he can justify how his advice promotes addressee benefit, and 2) that it is not obvious to the speaker or the addressee that the addressee would otherwise do A. The sincerity condition is that the speaker not only has a reason to believe that A will benefit the addressee, but that he does in fact believe this reason. The essential condition of the act is that it “counts as an undertaking to the effect that A is in [the addressee’s] best interest” (Searle 1969: 67). In other words, the essential nature of advice, which distinguishes it from other speech acts, is that the speaker instructs his addressee to do A because it is in his best interest. Searle more or less summarizes the function of advice as getting a person to act by “telling you what is best for you” (Searle 1969: 67).

While Searle does not similarly outline all the details of an order speech act, he offers the following remarks. He says that the preparatory condition of order speech acts requires the speaker to have authority over his addressee, the sincerity condition requires the speaker to want the ordered act A to be done, and the essential condition requires the speaker to intend for the utterance to be an attempt to get the addressee to do A (Searle 1969: 64).

In later work, Searle (1976) proposes five basic classes of speech acts, grouping together those speech acts which are similar in function. He proposes that advice and orders are both

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8 Searle makes no distinction between advice that makes explicit use of advise and advice which makes no use of this verb (cf. Searle 1969: 68).
9 We replace Searle’s term “hearer” with “addressee”.

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members of the **directive** class, since they are both “attempts by the speaker to get the [addressee] to do something” (Searle 1976: 11). Searle again reinforces the sincerity condition he ascribes to orders in Searle (1969), proposing that a person “who orders, commands, requests [the addressee] to do A expresses a desire (want, wish) that [the addressee] do A” (Searle 1976: 4). Although Searle describes desire for the directed act to be done as a feature of several directives, we have no reason to believe that he thinks such desire is also a component of advice. He does not give it as a sincerity or preparatory condition of advice, nor does he include *advise* on another list of the directives that express speaker desire for the addressee to do A: “[t]o request, ask, order, entreat, enjoin, pray, or command (that A be done) counts as an expression of a wish or desire (that A be done)” (Searle 1969: 65) (All of these verbs are used to perform directive speech acts.)

### 3.3 Ideas about *advise* and advice, *order* and orders from various literature

Later literature, based on differing frameworks, is scattered with many of the same observations and intuitions found in Austin and Searle. For instance, Portner (2004) notes that orders occur when the speaker has authority over his addressee. Condoravdi and Lauer (2011) propose that *order* has the presupposition that the speaker presumes to have authority over his addressee to give him the order, so that the addressee is obligated to follow the order. Kaufmann (2012) sheds light on Austin’s point about the sort of relationship that advice is predicated on, saying that the adviser has rational authority (she attributes the origin of this idea to Hobbes’ *Leviathan*). The topic of the “best”-ness of what is advised resurfaces: Kaufmann and Schwager (2009) note that advice need not promote what is the best course of action for all possible worlds.

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^10 It is worth noting that Searle’s term “directive” has more traction that Austin’s “exercitive”. Following work employs “directive” to refer both to the speech act category, as well as the class of predicates that are used in directive speech acts, e.g. *advise* and *order*.
because the adviser may not know all the relevant circumstances. Rather, the advice is best with respect to the adviser’s knowledge, so that it is possible that there is a better alternative unknown to him.

Searle’s connection between orders and speaker desire is repeated elsewhere. For example, Wierzbicka (2003: 202) notes that the person who gives an order wants the ordered act to be done. Condoravdi and Lauer (2012) establish a connection between speaker desire and directives broadly, stating that the speaker wants his directive “to become reality” (Condoravdi and Lauer 2012: 38), and if the speaker has no desire for his imperative to be followed, it is insincere. They further strengthen the claim that directives require speaker desire by making a distinction in kinds of advice. They say that disinterested advice (cf. Kaufmann 2012) is marked not by the adviser having an interest in the advice being followed, rather in the adviser having no interest against the advice being followed. They qualify instances of disinterested advice as a unique, non-directive speech act. On the other hand, if the adviser has a desire for his advice to be followed, they qualify such advice as directive. Condoravdi and Lauer further develop their interpretation of desire by equating the adviser having a desire for his advice to be followed with the adviser having a shared goal with his advisee. Yet despite the connection Condoravdi and Lauer make between directives and desire, they make an observation of a somewhat contradictory nature, stating that it is “perfectly possible” for a subject to desire the negation of what he commands (Condoravdi & Lauer 2012: 52).

This later literature also offers ideas that are new to Austin and Searle. For instance, Portner (2004) notes that orders are not felicitous if they cannot be followed. Condoravdi and Lauer (2011) note that although the speaker of an order expects addressee uptake of his order,
this is not actually a requirement of orders. Yanovich (2014) notes that *order* has no requirement that it is feasible for the addressee to make the complement of *order* true.

### 3.4 Formal analyses of *advise* and *order*

We turn now to formal semantic entries for *advise* and *order*. Specifically, we look at Villalta’s (2008) semantics for *order* and by extension *advise*, and Yanovich’s semantics for *advise* and *order*. Our emphasis in this section is mostly on Yanovich’s work since it is more extensive.

#### 3.4.1 Villalta: *order* and *advise* within a dynamic pragmatics framework

In this section, we look at Villalta’s (2008) entry for *order* and an entry for *advise* based on her comments. Although she is not explicit about the kind of framework she uses, e.g. whether it is a dynamic semantics, or a dynamic pragmatics, we classify it at an instantiation of dynamic pragmatics. This is because she defines attitude predicates in terms of truth values, and uses Portner’s (2004, 2007) to-do list.

Villalta’s semantics for *order* is not accompanied by an in-depth analysis of *order* specifically. Rather, it is given in her theory that we have discussed on numerous occasions throughout this dissertation, namely that mood selection in Spanish is connected to focus-sensitivity and a semantics of comparison. Because the Spanish equivalents of *order*, ‘ordenar’, ‘mandar’ and ‘decir’ take complements in the subjunctive, Villalta proposes that the semantics of *order* is comparative, like *want* (cf. Chapter 2, section 3.2). Yet Villalta does not give *order* the same semantics as *want*. Where *want* has a bouletic ordering source, she gives *order* a deontic ordering source.
Villalta also makes use of Portner’s (2004, 2007) to-do list in her semantics for *order*. We briefly mentioned the function of the to-do list above. It is that body of information in the model of discourse according to dynamic pragmatics that is conventionally updated by ordering, requesting, advising, etc., via e.g. imperatives. Formally, it is a function which assigns each conversational participant with the list of properties that he is committed to make true of himself. As noted, it is conventionally updated by imperatives, so if a speaker gives orders, advice, commands, etc., to an addressee, the to-do list populates the addressee’s to-do list with the propositional content of this order, advice, or command, as a property. For instance, if Mary tells John “wash your car”, or “I order you to wash your car”, then “I wash my car” is added to John’s to-do list. (We are presently glossing over specifics of the conditions that are needed for successful additions to a person’s to-do list. We talk about this more in sections 4.1 and 4.2.) The to-do list features into Villalta’s semantics for *order* since she says that all of the q-alternatives to *order*’s complement are on the addressee’s α’s to-do list and that when x orders p, it is ranked as deontically better than all these q-alternatives. (We alter Villalta’s notation, using < rather than > to signify the ‘better-than’ relationship.)

(14) order  

\[
[[\text{order}_C]]^\text{f}(p)(x)(w) = 1 \text{ iff } x \text{ requires that } \forall q: q \neq p & q \in g(C) & q \in T(\alpha): p <_{\text{DEONTIC}} q, \text{ where } T(\alpha) \text{ is the set of propositions (‘To-Do List’) assigned to a participant } \alpha \text{ in the conversation}
\]

Some clarifications: g(C) refers to a contextual ordering source (and is the same as what Villalta uses in her entry of *want*, cf. Villalta 2008: 480, and Chapter 2: (30)). Although Villalta does not elaborate on the precise meaning of <, we presume it has the same definition she gave < in her semantics of *want*, so that p < q iff for every q-world, there is a better-ranking p-world.
However, we have no further insight on the precise meaning of ‘require’, as Villalta offers no elaboration on it.

Villalta gives this semantics for order as one example of how to define a directive predicate, noting that the modal flavor of the ordering source may vary from directive to directive. For instance, she notes that Portner (2007) says that suggestions are associated with teleological modality. So it seems reasonable to say that Villalta would define suggest the same way she does order, with the exception of giving suggest a teleological ordering source. Villalta does not mention anything about advice or advise specifically, but in line with her comments, it seems appropriate to say her semantics for advise would be the same as order, except that the ordering source would be some other priority flavor, e.g. teleological:

$[\text{advise}_C](p)(x)(w) = 1$ iff $x$ requires that $\forall q: q \neq p \& q \in g(C) \& q \in T(\alpha): p <_{\text{TEL}_w} q$, where $T(\alpha)$ is the set of propositions (‘To-Do List’) assigned to a participant $\alpha$ in the conversation.

3.4.2 Yanovich: advise and order within an effective preference framework

Yanovich (2014) provides a more detailed proposal for advise and order. He classifies the modality of advice and suggestions as symbouletic, which he proposes is a distinct priority flavor not identified by other literature. In this section, we show the differences between symbouletic and deontic modality that Yanovich proposes, and look also at his definitions of advise and order. In the course of this examination, we provide a brief overview of Condoravdi and Lauer’s (2011, 2012) effective preference framework, as this is the framework Yanovich employs to define these directives.

As stated, Yanovich proposes that the modal flavor of advice and suggestions is symbouletic modality, a flavor not identified by other literature. He proposes that it is a subtype
of priority modality (cf. Portner 2009), since he says that symbouletic modals are intuitively about priorities. He provides *should* in (16) as an example of a symbouletic modal auxiliary.

(16) You really should go to that concert!  

(16) *You really should go to that concert!*  

(Yanovich 2014: 161)

*Should* in (16) is about some sort of priorities, but Yanovich says that these priorities are not directly determined by rules, desires, or goals, i.e. it is not a direct expression of deontic, bouletic, or teleological modality. (This is not to say that Yanovich proposes that *should* can never directly express such flavors.) This is one reason that Yanovich argues for a fourth priority flavor. His second reason is due to the dynamic, non-neutral nature of *should* in (16). He says that a person who utters (16) is not only interested in neutrally describing going to the concert as most preferable for his listener, but he is also concerned with his listener taking up his advice and actually going to the concert.

Thus Yanovich defines a fourth subtype of priority modality: symbouletic modality.¹¹ He defines this as the “modality of suggestion and advice”. He demonstrates that symbouletic modality is about advice and suggestions by showing that *should* in (16) is best paraphrased with attitude verbs like *advise, suggest, recommend*:

(17) Reporting on (16)  

The speaker advised/suggested/recommended that the listener go to the concert.

Because Yanovich says that symbouletic modality is non-neutral, i.e. is used to get the addressee to act on the advice, he disqualifies instances where a speaker does not desire for his addressee to follow his advice as an instance of symbouletic modality (similar to Condoravdi and Lauer’s 2012 and Kaufmann’s 2012 statements about disinterested advice, cf. section 3.3). For example,

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¹¹ Yanovich explains the etymology of his term: “symbouletic” comes from the Greek word *συμβουλέω*, meaning ‘to advise’. He attributes its coinage to personal communication with Paul Kiparsky.
von Fintel and Iatridou (2005) classify *must* in (18) as an “advice modal”, but Yanovich says it is not an expression of symbouletic modality.

(18) If you want to go to Harlem, you must take the A train.

(von Fintel and Iatridou 2005: 1, repeated in Yanovich 2014: 162)

Yanovich’s disqualifies this instance of *must* as symbouletic because the speaker is not interested in having his addressee follow his advice. “The modal in that example [18] is not a symbouletic: it neutrally describes the (optimal) means to achieve the goal of getting to Harlem but does not urge the addressee to actually undertake the action.” (Yanovich 2014: 162).

Yanovich shows that symbouletic modality is non-neutral, uniquely more than the other priority flavors, by looking at its performative behavior. While he notes that symbouletic modals are the same as performative deontics in terms of being able to be used performatively (e.g. (16) can be used to issue advice), he proposes that symbouletic modality has a greater affiliation with performativity than deontic modality. Yanovich says that deontic modals are relative to obligations, but symbouletic modals are relative to what is advisable. He says that a deontic statement must be issued in order for an obligation to be created, but that no symbouletic statement must be issued in order for something to be advisable. Note the subtle distinction here: Yanovich does not say that without the utterance of a symbouletic statement, there is advice, rather, that something is advisable. Based on this difference between deontics and symbouletics, they behave differently when embedded in non-performative contexts, e.g. when in the complement of *think*. If no deontic statement has been issued, Yanovich says that an embedded deontic does not report on an obligation. However, if no symbouletic statement has been issued, Yanovich says that an embedded symbouletic can still report on what is advisable. Here are Yanovich’s examples, accompanied by his explanations:
(19) Context: the parent has not yet issued the special bedtime rule for today.
The parent thought that the child had to go to sleep at 1am.
= Based on various considerations of what is best, the parent thought that 1am is the time to go
to bed for the child. But the parent’s decision to issue a special rule about that for today does not
figure in those considerations, as it was not issued yet.

(20) Sarah thought that Mary should quit her job.
= It was compatible with Sarah’s state of mind that it’s advisable for Mary to quit her job. Even
though Sarah hadn’t issued a suggestion yet, what is advisable in her opinion is the same as it
would be if she does provide advice.

(Yanovich 2014: 164)

Because deontic had to in (19) cannot report on an obligation that has not been given, but
symbouleotic should in (20) can report on something that is advisable, although the advice was
never given, Yanovich says that the connection to performativity is stronger for symbouleotic
modality than it is for deontic modality. However, it is questionable whether this example is
properly designed to support this claim. If the claim is that something is advisable, even when
the corresponding advice has not been given, then it seems that the parallel to draw is whether
something should be carried out, even if the corresponding order has not been given. We address
this concern in section 4.2.

Thus Yanovich defines symbouleotic modality as distinct from the other priority subtypes
not only in flavor but in the fact that it is strongly performative, explaining that this feature is due
to the fact that speakers of symbouleotic utterances are concerned not just with describing what is
optimal, but with their addressee taking up their advice or suggestions.

Yanovich further exemplifies and supports his definition of symbouleotic modality by
looking at the Russian modal stoit. Unlike its English equivalents, ‘should’, ‘(‘d) better’, which
Yanovich says can serve as expressions of bouletic, teleological, deontic, as well as symbouleotic
modality, he claims that *stoit* is restricted to expressing only symbouletic modality. Although his analysis of *stoit* is a large component of his work on symbouletic modality, it is less relevant here. So we instead continue by looking at how Yanovich defines *advise* and *order*. He defines these verbs based on a framework proposed by Condoravdi and Lauer’s (2011, 2012). We term this the “effective preference” framework, and turn next to discussion of its two basic notions: _preference_ and _commitment_.

### 3.4.2.1 The effective preference framework

One of the two fundamental components of Condoravdi and Lauer’s (2011, 2012) framework is _preference_. While they do not specify what they mean by _preference_, they distinguish preferences that guide, or lead to, actions from those that do not. They illustrate this with an example of Sven, who has a preference to sit around all day doing nothing, and a preference to write a paper. These preferences are in conflict. But only Sven’s preference to write a paper guides, or leads to action, as he continues with his day by writing the paper, rather than by doing nothing. Condoravdi and Lauer suggest that the reason Sven acts on his preference to write a paper is because it is more important to him. In effect, Condoravdi and Lauer imply that any given person has a number of preferences, but that only the more important ones guide him to action.

To reiterate, Condoravdi and Lauer do not clarify what they mean by _preference_, but it seems to be equivalent to _desire_. This seeming equivalence is demonstrated by the fact that they say that an ordering semantics model would represent all of Sven’s preferences as a bouletic ordering source. (If they more or less construe preferences as desires, it is unclear why they chose the inherently comparative term “preference” rather than the not inherently comparative
term “desire”). Yet Condoravdi and Lauer argue that a representation of all of Sven’s preferences as a bouletic ordering source would wrongly predict that Sven would be equally happy sitting around doing nothing as he would be writing a paper. Thus they reject the ordering semantics model and instead propose a model of preference structures. Preference structures order propositions denoting preferences in a partially ordered set. (Recall the definition of partial order from Chapter 2, section 2.3: not all pairs of elements in the domain are comparable. Some members are ranked relative to other members, but they may have no ranking relative to other members.)

(21) A preference structure relative to an information state \( W \) is a pair \( < P, \leq > \), where \( P \subseteq \mathcal{P}(W) \) and \( \leq \) is a (weak) partial order on \( P \)  
(Condoravdi and Lauer 2011: 4)

While the definition of the preference structure says nothing about what determines the ranking among propositions, Condoravdi and Lauer imply in their prose that ranking is determined by importance, so that the higher ranking preferences are more important than the lower ranking ones. (Although “importance” seems fundamental to their model, Condoravdi and Lauer do not define it.)

Condoravdi and Lauer supply a second definition, of consistency for preference structures:

(22) A preference structure \( < P, \leq > \) is \textbf{consistent} iff for any \( p, q \in P \) such that \( p \cap q = \emptyset \), either \( p < q \) or \( q < p \)  
(Condoravdi and Lauer 2011: 5)

\(^{12}\) Again, we question Condoravdi and Lauer’s choice in terminology: it seems that “accomplished” or “fulfilled” would be better terms than “happy”. We suspect that Sven would be quite happy if he could allow himself to sit around lazily and do nothing, and that he would not feel happy in the same way in writing his paper. Writing his paper would instead give him a feeling of accomplishment or fulfillment, a sense that he cannot achieve by sitting around lazily.
Consistency in a preference structure means that for any non-overlapping propositions, one must have higher ranking than the other. In other words, the set of propositions is organized in a strict total order: each proposition in the set has ranking relative to all the other propositions in the set (cf. Chapter 2, section 2.3, figure 1). NB: Condoravdi and Lauer do not define what it means for a proposition p to outrank a proposition q, e.g. whether all p-worlds are better ranking than all q-worlds, or that every q-world is outranked by a p-world.

Condoravdi and Lauer supply this definition of consistency because they say it is possible for a person to have an inconsistent preference structure. They also suggest that a given person has a variety of preference structures, i.e. a structure about obligations, a structure about preferences, etc. These different preference structures may not be consistent with each other. However, if an agent wants to act, he has to integrate his various preference structures into a global preference structure, and must enforce consistency, i.e. strictly order all pairwise disjoint sets of propositions. They term this global, consistent, preference structure an agent A’s effective preference structure.

The other fundamental element of Condoravdi and Lauer’s model is commitment, a notion they attribute to Hamblin (1971). They define commitment as “excluding possible future states of the world, thereby making certain future states of the world impossible” (Condoravdi and Lauer 2011: 6). They clarify their position by saying that they construe commitments as commitments to act. A commitment is not made directly about a proposition p, but about an effective preference structure where p is a maximal element, EP(p). In other words, an agent

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13 They say that a person may also have a preference structure representing his desires, which is a distinct preference set from his preference set about his preferences: “We assume that the desires, preferences, and obligations of various kinds of an agent A are represented by a set Pw(A) of preference structures” (Condoravdi and Lauer 2011: 5). In this case, it seems that Condoravdi and Lauer envision a difference between desires and preferences, contrary to our intuition that there is no difference between them, cf. footnote 12. However, they do not make clear what this difference is.

14 Condoravdi and Lauer note that commitments can be either voided (so the agent is not at fault for not fulfilling his commitment) or violated (where the agent is at fault for not fulfilling his commitment).
does not just express that he is committed to making possibilities outside of p impossible, but that p is highest ranked on his effective preference structure. For instance, Sven does not just commit to writing his paper by acting to make alternatives to writing his paper impossible, but he commits to ‘I write my paper’ being maximally ranked in his effective preference structure.

There is more to Condoravdi and Lauer’s work, but this introduction is sufficient to understand Yanovich’s work. Thus we return to Yanovich to examine his definitions of advise and order.

3.4.2.2 Yanovich’s entries for advise and order

We look first at Yanovich’s definition for advise:\(^{15}\)

\[(23) \text{advise}\]

\[
\text{advise(SU, x, p): } = \text{EP(SU, } \bigwedge \text{best(x,q)) } \rightarrow \text{EP (SU, EP (x, p))}
\]

Advis has three arguments: SU, the subject, i.e. adviser, x, the adviser’s addressee, and p, the complement of advise. The notation ‘EP’ should be familiar, as it denotes the ‘effective preference structure’ from Condoravdi and Lauer (2011, 2012). Yanovich defines ‘best(x,q)’ as a “primitive predicate standing for ‘(proposition) [q] is best for agent x’” (Yanovich 2014: 171), so that ‘\(\bigwedge \text{best(x,q)}\)’ is the proposition that contains all those worlds where all the best things for x are realized. Thus the antecedent of advise means that the adviser is committed to an effective preference structure that maximally ranks all that is best for his advisee, where commitment is equated with acting to make possibilities outside of what is best for his addressee impossible.

The consequent of advise is that the subject has an effective preference structure that maximally ranks his addressee having an effective preference structure where p is maximally ranked. Thus

\(^{15}\) This definition of advise is seminal in Yanovich’s analysis of symbouletic modality. He states that it is a core component of all symbouletic modals, using it as one component in his definition of stoit.
the full meaning of ‘SU advise X p’ is that if the subject has an effective preference for all that is best for his addressee, he has an effective preference for his addressee to have an effective preference for p. Or, in Yanovich’s paraphrase, “if SU worked in the best interests of x, SU would have tried all in her power to get x to work towards p” (Yanovich 2014: 172).

Thus Yanovich defines advise so that the adviser is not just benevolent, wanting what is best for his addressee, but based on Condoravdi and Lauer’s framework, also invokes the notion that the adviser will act to make sure that possibilities where his addressee does not have an effective preference for his advice become impossible. This definition is somewhat extreme, as people who give advice do not generally act to make it impossible for their addressees to not become committed to acting on their advice. Yanovich acknowledges this concern, but states that because advise is conditional, the adviser need only be committed to such action if he has an effective preference for what is best for his advisee. If he is not committed to what is best for his addressee, no action is necessary. (This seems to have the bizarre implication that when the antecedent of advise is not true, advise is not an expression of symbouletic modality. 16)

We have a concern with Yanovich’s definition of advise that he does not address. Suppose John has Mary’s best interest at heart, and he thinks she needs to quit her job. He wants to advise her to quit her job, but he knows that if he tells her as much, she will not listen. So he seeks to covertly influence her to want to quit her job. He starts several bad rumors about her at her job that make her coworkers treat her poorly. He makes sure these rumors spread to Mary’s boss so he starts treating her poorly, too. As a result, Mary determines that she needs to quit her job. Thus, John committed to getting Mary committed to quitting her job. Based on Yanovich’s semantics for advise, ‘John advised Mary to quit her job’ is predicted to be true. This is clearly

16 This is because Yanovich’s definition of symbouletic modality requires the subject uttering the symbouletic modal to be invested in his advice or suggestion being followed. This raises the question of what modal flavor advise would have in instances where the subject is not invested in his advice being followed.
undesirable. Yet, any time a person has another’s best interests at heart, and commits to getting him to have a certain commitment, Yanovich’s semantics predicts that corresponding advise-clauses are true. We return to this problem in section 4.2.

Yanovich suggests that the consequent of advise is the basic definition of all directives. Thus, order:

(24) order

\[ \text{order}(SU, x, p) := \text{EP}(SU, \text{EP}(x, p)) \]  

(Yanovich 2014: 172)

The meaning of order is straightforward, given our explanation of its components above: the subject of order has an effective preference for his addressee to have an effective preference for p. In other words, to order p is to commit to act to ensure that the x is committed to p.

This definition of order faces the same problem as the definition of advise. Acts of deception count as orders, so long as the deception is intended to get the addressee to have an effective preference for p. For instance, suppose that a parent knows that if he tells his child to go to bed at 9, the child will resist in virtue of being given the order. For this reason, the parent does not say anything to his child about his bedtime, but instead acts in a way that tricks his child into having an effective preference for going to bed at 9. According to Yanovich’s semantics for order, ‘the parent ordered his child to go to bed at 9’ is predicted to be true.

Yanovich does not address such concerns about his semantics for order. Rather, he elaborates on his definition of order in comparison to his definition of advise. As he defines them, advise is the meaning of order with an added antecedent. Yanovich points out how this creates a two-fold distinction between symbouletics and directives. The first concerns the goodness of their complements with respect to the addressee. With advise, the adviser’s commitment to act must be based on what is best for his advisee. Order has no such connection
to what is best for the addressee. This difference echoes earlier literature, in that advice is commonly connected with what is best for the addressee, whereas orders are not. The second difference Yanovich makes between symbouletics and directives concerns the commitment to act. As noted, advise is a conditional commitment to act, order is a non-conditional commitment to act. Based on this difference, Yanovich points out that advise is strictly weaker than order. He illustrates with this example: if you advise a child to go to bed, you implicate that you are not (yet) committed to doing everything you can to get him to go to bed. However, if you order a child to go to bed, you will do all you can to get the child to go to bed (and there is no requirement that you actually issue this order verbally). As a result, the difference between symbouletics and directives collapses in cases where you give advice and are committed to act. Suppose you advise the child to go to bed, and are fully committed to this, demonstrating it by your facial expression and overall tone. Yanovich proposes that in such a case, it would be no different, in this respect, if you had ordered the child to go to bed.

This ends our presentation of Yanovich’s proposal for symbouletic modality, advise and order. Some parts of his analysis represent previously discussed notions, e.g. that advice is about what is best for the addressee, whereas orders are not. Other parts of his analysis are rather novel, e.g. that symbouletic modality is a unique kind of priority flavor. Because he does not use ordering semantics to define these directives, he represents their different modal flavors by making advise a conditional commitment to act on the complement, order a non-conditional commitment to act on the complement.

We have several concerns with Yanovich’s proposal. We address them in detail in sections 4.2 and 4.3, but let us briefly characterize them here. First, we are unable to see how the English modals that Yanovich qualifies as expression of symbouletic modality cannot be
classified as expressions of bouletic or teleological modality, cf. (16). Additionally, we do not find Yanovich’s examples to support the claim that so-called symbouletic modals have a stronger connection to performativity than deontic modals. Second, we find it problematic that he defines *advise* and *order* in terms of effective preference structures, i.e. commitments to act to making the alternatives impossible. We showed that this definition can classify treating deceptive action as advice or orders.

### 3.5 Collecting intuitions from the literature

Throughout sections 3.1-3.4, we looked at intuitions about advice and orders and analyses of *advise* and *order* from the literature. We collect these intuitions with the following lists.

(25) Intuitions about *advise* and advice

1. Advice may not be best with respect to all possibilities, but with respect to the adviser’s (limited) knowledge (cf. Kaufmann and Schwager 2009)
2. Advice and *advise* are expressions of symbouletic modality (cf. Yanovich 2014)
3. The adviser must want his advice to be followed (cf. Kaufmann 2012, Condoravdi and Lauer 2012, Yanovich 2014)
4. The adviser must think that the advice is best for the addressee (cf. Austin 1962, Searle 1969) v. the semantics of *advise* gives the complement as best for the addressee (so that bestness it is not connected to sincerity) (cf. Yanovich 2014)
5. The addressee must believe the advice will benefit himself (cf. Searle 1969)
6. The adviser must have a certain kind of position with respect to his addressee in order to give advice (cf. Austin 1962, Kaufmann 2012)
7. Advice is a conditional commitment to act to get the advisee to be committed to act on the advice (cf. Condoravdi and Lauer 2011, Yanovich 2014)
8. Advice can be good or bad (cf. Austin 1962)
(26) Intuitions about order and orders

1. Order uses a deontic ordering source to rank the complement as better than a set of alternatives (cf. Villalta 2008)
3. If someone gives an order, he wants it to be followed (cf. Searle 1969, Wierzbicka 2003, Condoravdi and Lauer 2011)
4. Felicitous orders must be able to be followed (cf. Portner 2004) v. It need not be feasible for orders to be followed (cf. Yanovich 2014)
5. Orders are commitments to act to get the addressee to be committed following the order (cf. Yanovich 2014)

(27) Intuitions about differences and similarities between advice and orders

1. Advice is strictly weaker than orders (cf. Yanovich 2014)
2. “You must go” can be interpreted as advice or an order (cf. Austin 1962)

We address these intuitions in the next section, checking whether and how we can use them to improve our analyses of advise and order.

4. Refining the semantics for advise and order

In the last section, we gathered intuitions from the literature about advise and advice, order and orders. The purpose of this section is to see whether we ought to use these intuitions to improve our analyses of advise and order. This section is organized as follows. In 4.1, we explain that we work within the dynamic pragmatics tradition, and clarify the assumptions about this tradition that we adhere to. In section 4.2, we see whether we need to refine our semantics for advise to account for the intuitions in the literature on advise and advice, cf. (25).

Accordingly, we make one change. In section 4.3, we see whether we need to refine our
This leads us to making one change to our semantics for order. In 4.4, we see whether intuitions on the similarities between advice and orders, cf. (27), require any further refinements to our semantics for advise and/or order. In section 4.5, we return to the focus data with advise we looked at in section 2.1 of this chapter, (4)-(5), where focus-marking has an effect on the felicity of a person’s sequence of utterances. In section 4.6, we discuss the nature of advising and ordering events. This brings us to the final version of our semantics for advise and order.

4.1 Assumptions about the dynamic pragmatics framework

Here we explain the framework we use to define advise and order. For reference, we repeat our semantics for advise and order as given in section 2.2 (cf. (10) and (11)).

(28) advise  
\[
[advise_c]^\beta(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{dox-lik}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [advise_c]^\beta(p)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, rev_q(g_{dox-lik}(\alpha,e))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{dox-lik}(\alpha,e))) \& w'' <_{g(\alpha,\beta,e)} w'] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{dox-lik}(\alpha,e)))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, rev_q(g_{dox-lik}(\alpha,e))) \& q \in g(C) \& w' <_{g(\alpha,\beta,e)} w'']
\]

(29) order  
\[
[order]^\beta(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{dox-lik}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [order]^\beta(p)(\alpha)(e) = 1 \text{ iff } \forall w'[w' \in \text{Deo}(\alpha,\beta,e) \rightarrow w' \in p]
\]

In section 3.1, we provided some explanation on two kinds of traditions that are prominent in the literature we look at in this chapter, namely Speech Act theory and dynamic pragmatics. Our semantics for advise and order are given in the tradition of dynamic pragmatics, because we say that the meaning of an advise- or order-clause is identified with truth conditions. We propose
that these clauses update bodies of information in the discourse via pragmatic mechanisms like assertion and requiring.

Following Portner (2004), we propose that there are three bodies of information that are updated in conversation: the COMMON GROUND (cf. Stalnaker 1974, 1978), the QUESTION SET (cf. Ginzburg 1995a, 1995b, Roberts 1996), and the TO-DO LIST (as presented in Portner 2004). In line with Portner (2004), we propose that if an advise-clause is used reportatively, i.e. to assert that a piece of advice that has been given, and the clause is accepted as true, then it updates the common ground via the mechanism of assertion.\(^{17}\) We propose that if an advise-clause is used to ask a question, it updates the question set via the mechanism of asking. We propose that if an advise-clause is used performatively, i.e. to give advice, and the advice is accepted by the addressee, then the advise-clause updates the to-do list via the pragmatic mechanism of requiring.\(^{18}\) We propose the same for order-clauses. When an order-clause is used reportatively, it updates the common ground (if accepted as true by all conversational participants). When an order-clause is used to ask a question, it updates the question set. When an order-clause is used performatively, i.e. to place a requirement on the addressee, it updates the to-do list.

The reason that we use this tradition to define the directives is because we want a semantics for advise and order that is consistent with our work on want. Both our entries for want are given in the tradition of dynamic pragmatics, in that both are defined according to truth

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\(^{17}\) Note that we do not propose that a reportative advise-clause updates the common ground in virtue of being uttered. Rather, because the common ground represents what the conversational participants take to be true, we propose that an assertion must be accepted as true by all conversational participants so that it can be added to the common ground. In effect, the content of an asserted clause may be rejected for update to the common ground if a conversational participant believes the clause is false. While we think this step of acceptance is necessary for an asserted clause to update the common ground, we do not propose that any such step is needed for an utterance to update the question set. This difference follows from differences in the functions of assertion and questioning.

\(^{18}\) “Requiring” is a technical term that we take from Portner (2004). He proposes that there are three conversational forces: assertion, asking, and requiring. Requiring is the conversational force that is conventionally used to update the to-do list. Things such as orders, requests and permissions all have the conversational force of requiring. (Despite the fact that in lay terms, we do not speak about advice, requests, or permissions as “requirements”.)
values. More specifically, both our semantics for want are defined within the framework of ordering semantics, and this semantics is generally used within the dynamic pragmatics tradition. We have already shown our preference for ordering semantics by comparing it to probabilistic semantics frameworks, cf. Chapter 2 section 6.3, and Chapter 3 section 7. Additionally, we showed in section 2.2 of this chapter that taking our ordering semantics for want to define advise and order has the benefit of stipulating that Karttunen’s generalization is met, and models a relationship to beliefs about likelihood for advise. For these reasons, we maintain our desire to work within this tradition to define these directives.

4.1.1 The to-do list

Having explained our motivation to work within the tradition of dynamic pragmatics, we want to specify more details about the bodies of information that are updated in discourse, specifically the to-do list. The reason we specify no details about the common ground or question set is that we have nothing in particular to say about them that the literature does not already address, or that is particular to our proposal here.

Thus let us draw out several points about the to-do list that are relevant to our work here. Specifically, we look at Portner’s (2004, 2007) proposal for the to-do list.

In imprecise terms, Portner characterizes the to-do list as the set of actions an agent is committed to do. More precisely, Portner treats the to-do list as a set of properties an agent is committed to make true of himself. In other words, each conversational participant is assigned

19 The reason Portner views the to-do list as a set of properties is because he says that the to-do list is conventionally updated by imperatives, and he proposes that imperatives denote properties. He supports his proposal to treat imperatives as denoting properties by showing that it explains the contrast in examples such as (30).

(30a) *Mary kiss (you)!
(30b) (You) be kissed by Mary!  (Portner 2004: 6)
(30a) is infelicitous, and Mary-kissing-you cannot be described as a property. However, (30b) is felicitous, and being-kissed-by-Mary can be described as a property.
a to-do list, representing properties he is assumed to be committed to make true of himself. As individual to-do lists are not common to all conversational participants, Portner proposes there is a to-do list function, which is common to all conversational participants (like the common ground and the question set), assigning each conversational participant with the set of actions he is assumed to be committed to do.

The to-do list is conventionally updated by imperatives, e.g. those which give advice and issue orders, and accordingly, Portner proposes that the to-do list is divided into sections.\textsuperscript{20,21} Specifically, he says there is a deontic section, which is generally updated by orders, a bouletic section, which can be updated by advice or suggestions, and a teleological section, which can also be updated by advice or suggestions.\textsuperscript{22} The function of using an imperative is to propose an update to the appropriate section of the to-do list of the addressee with the content of the imperative. Crucially, this means that an imperative does not necessarily update the addressee’s to-do list. To reiterate, the to-do list is the set of actions an agent is committed to make true of himself.\textsuperscript{23}

Portner does not spell out what the process is between a proposal to update the to-do list and the to-do list being updated. For instance, must the addressee recognize the advice as good to add the content of the advice to his to-do list? Do orders update the addressee’s to-do list in virtue of being uttered, regardless of what the addressee thinks about the order? Portner does not directly address these questions (but we provide some answers of our own shortly).

\textsuperscript{20} He also suggests an alternative proposal, where a given individual has a variety of to-do lists, each representing the subtypes of priorities. However, he prefers the model of a single to-do list with multiple sections.

\textsuperscript{21} Portner (2007) provides linguistic support for these subsections from the Rhaetoromance language Badiotto. Specifically, he examines two of its five sentence particles, showing that one is only used with orders, and the other only with advice or permissions.

\textsuperscript{22} To-do lists can be updated by sentences other than imperatives. For instance, a speaker may update his to-do list by uttering a promise or a commitment.

\textsuperscript{23} “Committed” is a technical term. Since we propose that felicitous orders update the addressee’s to-do list in virtue of being uttered, the addressee is committed to act according to the order, in the technical sense. In lay terms, the addressee may not be committed to acting in accordance with the order.
At this point, it is worth noting that Portner does not define his model in terms of an agent’s mental states. In section 3.1, we noted that the tradition of dynamic pragmatics defines clauses in terms of truth values, and seeks to model how they are used to update bodies of information. In work within the dynamic pragmatics tradition such as Portner’s, the cognitive state of the speaker or his addressee is not central to meaning. (In contrast, we noted that Speech Act Theory defines speech acts according to cognitive states.) However, although Portner does not use conversational participants’ cognitive states to define advice or orders, it is not as though he thinks these states play no role when advice or orders are given. For instance, Portner notes that an agent is judged to be rational and cooperative according to whether he acts to fulfill the commitments of his to-do list. The less he acts according to his commitments, the less rational and cooperative he is seen to be. In this way, speakers’ cognitive states have an effect on how their conversational participants perceive them.

Portner says more about the to-do list that we could present here, but we have outlined the portions that are relevant for our proposal for advise and order. We thus stress the following three points as crucial to how we think about the to-do list:

- The to-do list is divided into three sections: deontic, bouletic and teleological
- When used performatively, advise-clauses propose updates to the addressee’s to-do list. Used performatively, order-clauses update the deontic section of the addressee’s to-do list in virtue of being uttered (so long as the order is felicitous).
- The speaker’s and addressee’s cognitive states are relevant for the conversational participants to make judgments about each other. They do not determine whether an advise- or order-clause is true.

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24 For instance, Portner (2004) explains that the to-do list is tightly connected to the common ground, as the common ground provides a background of live possibilities, i.e. possible worlds, and the to-do list orders these worlds according to how well they satisfy the properties of the to-do list. He draws a parallel to ordering semantics, explaining that the common ground is like a modal base and the to-do list like an ordering source.
Let us clarify why these three points are crucial to our proposal. First, we propose, like Portner, that the to-do list is divided into sections that align with the different subtypes of priority modalities, i.e. deontic, bouletic, and teleological.\(^{25}\) Crucially, the to-do list is not divided into sections such as an advice section, an order section, and so on. In other words, although the to-do list corresponds to content that is conveyed via things like advice and orders, it is not a record of every imperative that is addressed to the agent (among recording other information, e.g. promises the agent has made). The to-do list is the set of actions, or, more precisely, properties, that the agent is assumed to be committed to make true of himself. It is thus divided into sections denoting what kinds of priorities these actions satisfy. Thus if an agent receives advice, and he commits to performing the corresponding action because it satisfies a desire he has, the content of this advice populates the bouletic section of his to-do list. If an agent receives advice, and he commits to performing the corresponding action because it helps him achieve a goal he has, the content of this advice populates the teleological section of his to-do list. In other words, the to-do list does not group actions into the same section in virtue of how the actions were suggested for update to the agent’s to-do list. Actions are grouped together according to how they meet the priorities an agent is committed to satisfy. We propose that the content of advice may align with an agent’s desires, goals, or even obligations, so that the content of advice may update any one of the three sections of the agent’s to-do list. On the other hand, we propose that the content of an order typically updates the deontic section of the agent’s to-do list. (In section 4.3, we show that infelicitous orders may update other sections of the to-do list.)

\(^{25}\) This model does not address all potential complexities. For instance, if a certain action fulfills one of an agent’s obligations and also one of his desires, should it affect changes in the deontic section and the bouletic section of the agent’s to-do list? Or is there a section of the to-do list that represents joint combinations of modalities, e.g. a deontic-bouletic section, a deontic-teleological section, and so on? We do not have adequate time or space to resolve these kinds of issues.
The second point about the to-do list is that we treat advise-clauses as proposals to update the to-do list. The addressee must choose to accept the content of the advise-clause in order for it to update his to-do list. On the other hand, we treat felicitous order-clauses as updating the addressee’s to-do list in virtue of being ordered (we clarify what makes an order felicitous in section 4.3) That advise-clauses do not automatically update the to-do list but order-clauses do is supported by the following kind of data. (We intend both sentences to be interpreted on their performative reading):

(31a) # You must go to confession, but you’re not going to.
(31b) You should go to confession, but you’re not going to.

(Portner 2007: 364, as taken from Ninan 2005: 2)

We propose that the must-clause of (31a) represents an order, and it is inconsistent to follow it with but you’re not going to because the order update the deontic section of the addressee’s to-do list in virtue of its utterance. On the other hand, we propose that (31b) represents advice, and it is not infelicitous to follow it with but you’re not going to because advice is not believed to update the addressee’s to-do list in virtue of its utterance.

The third point is concerned with how we view the to-do list. We do not view it as place to record information about the cognitive states of the speaker or his addressee when advice or orders are given. This is because in this dynamic pragmatics model, such information is not treated as relevant for determining the content of the advice or order. Instead, this information is relevant at a super-linguistic level, e.g. for the conversational participants to judge why speakers say what they say. The importance of this distinction becomes apparent as we evaluate claims from the literature about the felicity of advice and orders as related to speaker desire. To
preview, our argument is that advice or an order is no less advice or an order if the speaker does not issue such directives in a certain cognitive state, e.g. of desire.

We explain this model in more detail as we evaluate the various intuitions of the literature on *advise* and advice, *order* and orders.

### 4.2 Refining the semantics for *advise*

We begin by repeating the list of intuitions about *advise* and advice from the literature that we first gave in (25).

(32) Intuitions about *advise* and advice

1. Advice may not be best with respect to all possibilities, but with respect to the adviser’s (limited) knowledge (cf. Kaufmann and Schwager 2009)
2. Advice and *advise* are expressions of symbouletic modality (cf. Yanovich 2014)
3. The adviser must want his advice to be followed (cf. Kaufmann 2012, Condoravdi and Lauer 2012, Yanovich 2014)
4. The adviser must think that the advice is best for the addressee (cf. Austin 1962, Searle 1969) v. the semantics of *advise* gives the complement as best for the addressee (so that bestness it is not connected to sincerity) (cf. Yanovich 2014)
5. The addressee must believe the advice will benefit himself (cf. Searle 1969)
6. The adviser must have a certain kind of position with respect to his addressee in order to give advice (cf. Austin 1962, Kaufmann 2012)
7. Advice is a conditional commitment to act to get the advisee to be committed to act on the advice (cf. Condoravdi and Lauer 2011, Yanovich 2014)
8. Advice can be good or bad (cf. Austin 1962)

To reiterate, the reason we looked at the literature was to determine whether our semantic entry for *advise* is satisfactory. Thus we collected intuitions from the literature on *advise* and advice. In this section, we evaluate these intuitions to see whether we should use them to improve our entry for *advise*. To preview, we find that our semantics for advise, as given in section 2.2: (11),
is very satisfactory. We only make one change to our entry for *advise* according to intuitions from the literature, specifically concerning the flavor of the ordering source.

4.2.1 **Intuition 1: Advise’s complement is the best of the compared alternatives**

First, we address Kaufmann and Schwager’s (2009) concern that although the complement of *advise* is represented as the best option, it may not actually be the best available option for the circumstances. Our semantics for *advise* accounts for this intuition because it is contextually sensitive, comparing the complement to a set of contextually relevant alternatives. Based on this semantics, the complement need not represent the best possible alternative for all possible worlds; it only need be best in comparison to the contextually relevant alternatives. Thus we agree with this intuition and since it is already represented in our semantics for *advise*, we need do nothing to accommodate it.

4.2.2 **Intuition 2: Advise and advice are expressions of symbouletic modality**

Yanovich makes a two-fold claim about the modality of advice and suggestions: first, that it is distinct from the other priority flavors, naming it symbouletic modality, and second, that this modality has a stronger connection to performativity than other priority flavors, e.g. deontic modality. Here we show that we have no reason not to categorize English modals or attitude verbs that he classifies as expressions of symbouletic modality as expressions of one of the three recognized subtypes of priority modality. Additionally, we show that English modals and attitude verbs which are used to give advice have no stronger connection to performativity than English expressions of deontic modality.

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26 Throughout this discussion, we permit the possibility that “bouletic” modality can refer either to “des” or “boul”, as discussed in Chapter 3, section 5.1.
Thus we reject Yanovich’s claim that the English modal auxiliaries and attitude verbs he gives examples of are expressions of symbouletic modality. However, we find Yanovich’s proposal about symbouletic modality to be helpful in that it highlights that *advise* is not consistently an expression of one of the three priority flavors. Thus we propose to alter our semantics for *advise* by indicating that its ordering source is of a priority flavor, where the specific subtype is determined by context.

### 4.2.2.1 No evidence for expressions of symbouletic modality in English

Here we evaluate Yanovich’s example with *should* to show why we disagree that it is an expression of symbouletic modality.

(33) You really should go to that concert!  
(Yanovich 2014: 161, also (16) of this chapter)

Yanovich states that *should* in (33) expresses some kind of priority which is not directly deontic, bouletic or teleological. In other words, he proposes that *should* in (33) is an expression of symbouletic modality because it indirectly expresses a relation to any of these kinds of priorities. Yet we do not understand why directness of relationship to priorities determines classification of flavor. For instance, take (33) and suppose that neither the speaker nor the addressee has a desire for the addressee to go to the concert, i.e. neither has a proposition in his bouletic conversational background about the addressee going to a concert. Why should this mean that (33) is not an expression of bouletic modality? What if the speaker has a goal to help his addressee have fun? Suppose the speaker has such a goal because he knows that the addressee likes having fun. His utterance of (33) would be a way to promote the addressee to attend the concert to satisfy a desire of the addressee, even if the addressee has no desires about concert attendance per se. Our point here is that it is difficult to explain why the speaker would utter (33) without it relating to
some kind of priority. Furthermore, we fail to understand how an indirect connection to obligations, desires, or goals invalidates *should* in (33) as an expression of any of these kinds of modalities. To our knowledge, there is no stipulation that such priorities are not expressed if the prejacent of a modal is not a direct satisfaction of one of these priorities. In other words, we find the argument that deontic, bouletic or teleological modals must directly express such priorities to be problematic.

4.2.2.2 English advice expressions are not more performative than deontic expressions

The second problem we have with Yanovich’s proposal concerning symbouletic modality is in his claim that expressions of advice have a stronger connection to performativity than deontic expressions. Since we do not evaluate the data for Russian *stoit*, we focus our argument here on English.

Yanovich says that symbouletic modality is not just used to passively describe the best course of action, rather it is used with the goal of addressee uptake. For this reason, he proposes that symbouletic modality, and accordingly, symbouletic expressions, have a connection to performativity that does not exist for the other modal flavors. Since we disagree that expressions of advice in English actually qualify as expressions of symbouletic modality, we show here that expressions of advice are not more strongly performative than deontic expressions (rather than showing this for symbouletic expressions in contrast to deontic expressions). Thus throughout this section, we will speak about “expressions of advice”, rather than “symbouletics”.

Yanovich states that only those modal auxiliaries which express advice “may be paraphrased by attitude reports with performative verbs like *advise, suggest*, and *recommend*” (Yanovich 2014: 161). While it is accurate that advice modal auxiliaries permit such paraphrases
(cf. (17)), it is inaccurate that this is a special feature limited to such modals. Deontic modal auxiliaries may also be paraphrased by attitude reports with performative verbs.27

(34a) You must go to bed at 1am.
(34b) 35a paraphrased: The parent ordered the child to go to bed at 1am.  
(Yanovich 2014: 162, 163)

Thus the claim that only advice modal auxiliaries can be reported with performative attitude verbs is inaccurate.

Yanovich further strengthens the claim that symbouletic modality has a stronger connection to performativity by showing that advice modals behave differently from performative deontics. He contrasts the following two sentences. Both have the same context in that neither the corresponding piece of advice nor order was ever given. (Examples first given in (19) and (20); renumbered here.)

(35) Sarah thought that Mary should quit her job.
(36) The parent thought the child had to go to bed at 1am.  
(Yanovich 2014: 164)

Yanovich notes that (35) reports on what Sarah thinks is advisable, even if Sarah never gave Mary advice to this effect. In contrast, he says that lacking the issue of the corresponding order, (36) cannot report on an obligation. Thus he says that advice expressions are different from performative deontics, since the former can report on advice or suggestions that have never been given, and in contrast, the latter cannot report on obligations that were not placed on an individual. The problem with this example is that the parallel is not correctly set up. Since (35) reports on what is advisable, i.e. something that can be advised, we need to check not whether

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27 To be clear, these examples are from Yanovich’s work, but not in the context of him discussing the reportability of non-symbouletic modals by performative attitude verbs.
(36) can report on an obligation, but on whether it is “orderable”, e.g. whether something should be carried out.

First, let us clarify what it means when something is advisable and when something should be carried out. Given the focus data in (1) and (3), we propose that advise compares alternatives, order does not. Thus we propose that for something to be advisable is for it to rank better than a set of compared alternatives, where “better” is determined by the adviser’s ordering source of some priority flavor (which we have not yet specified). We propose that when p should be carried out is for the subject to find p necessary for his addressee, where “necessary” is determined according to the rules or obligations the speaker thinks he is justified to place on his addressee. Thus for (35) to report on what is advisable is for it to report on Sarah finding it better for Mary to quit her job, as compared to some other contextual alternative. It is irrelevant that Sarah never gave Mary such advice. In parallel fashion, can (36) report on a rule or an obligation the parent thinks he is justified to place on the child? We believe that it can. Although the parent has not placed this obligation on the child, he can still believe he is justified to place this obligation on the child. Thus (36) can report on the fact that the parent thinks the complement should be carried out, even though the corresponding order was never given.

Thus we do not find Yanovich’s examples to support the idea that expressions of advice are more performative than expressions of deontic modality. Such a claim could be supported by showing that expressions of deontic modality are more limited in performativity than expressions of advice, or that expressions of advice are more resistant to reportative uses. But it seems unlikely he would be able to show this for English. For instance, English advice expressions have the same grammatical limitations as deontic expressions in terms of performativity: the clause must be in present tense. If not, there is no way for the expression to be used to issue
advice (cf. (35)). Additionally, advice expressions have no resistance to being used reportatively. Take for instance, (37).

(37a) John to Paul: It would be really good for you to go to that concert.
(37b) reporting on (37a): John said that Paul should go to the concert.

Thus we find no reason to treat expressions of advice or suggestions as more strongly performative than other expressions of modal flavors, in particular, deontic modality.

4.2.2.3 Advise with a priority ordering source

Although we do not agree with Yanovich’s claims about symbouletic modality, our evaluation of his work has made clear something helpful for our proposal. Namely, the complement of advise may rank better than the set of contextual alternatives according to a variety of kinds of priorities, whether they are deontic, bouletic, or teleological. For instance, take the following example.

(38) I advise you to go to the concert.

(38) may be true whether the complement is better than its alternatives because of some obligations, desires, or goals. For instance, suppose that the speaker is requiring his addressee to attend cultural events. In this case, (38) is true on a deontic reading of advise. Or, suppose that the speaker wants his addressee to hear live music. In this case, (38) is true on a bouletic reading of advise. Or, suppose that the speaker has the goal of getting his addressee out of the house. In such a scenario, (38) is true on a teleological reading of advise. In sum, advise is compatible with the range of all priority modal flavors.
We thus propose to change our semantics for *advise* so that it reflects this flexibility in modal flavor. It is very easy to do this. Recall that in section 2.2 of this chapter, we noted that our semantics for comparative *want* can be used to define *advise* by changing the flavor of the ordering source. Because we could not identify an appropriate flavor at the time, we made no indication about it. We can now fill in this gap by specifying that the ordering source that ranks the alternative propositions is of the priority class, where context determines which specific priority subtype is relevant:

\[(39) \text{advise} \quad \text{(second version)}\]
\[
[\text{advise}_c]^f(\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w'
\]
\[
\quad \text{if defined, } [\text{advise}_c]^f(\beta)(p)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) \land q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) \land w'' <_{\text{PRIORITY}(\alpha, \beta, e)} w'] \land \forall w''[w'' \in p \land w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e)))] \rightarrow \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) \land q \in g(C) \land w' <_{\text{PRIORITY}(\alpha, \beta, e)} w'']
\]

To preview, we make one other change to this entry of *advise* in section 4.6, when we address the nature of advising events.

Before we move on, let us draw out another point about *advise*. The obligations, desires, or goals that *advise* promotes may not represent only the priorities of the speaker. They may also satisfy, or satisfy only, the priorities of the addressee. For instance, suppose that the speaker in (38) knows that his addressee is under an obligation to attend more cultural events. Thus (38) is true, although it satisfies an obligation of the addressee which is not placed on him by the speaker. Likewise, (38) can be true when it satisfies only the desires or the goals of the addressee. Or, it may be possible that (38) satisfies the obligations, desires, or goals of both the speaker and the addressee. In this way, *advise* is flexible not just in the kinds of priorities it may
use to rank the complement, but also in the person whose priorities may be satisfied. For this reason, we want our definition of advise to permit such flexibility.

As the semantics for advise is currently written, the priority ordering source takes three arguments: speaker $\alpha$, addressee $\beta$, and world $w$. This might make it seem like the semantics requires the relevant priority to be shared by both the speaker and addressee. However, we think that such an interpretation is wrong. If the speaker is advising his addressee to act a certain way to satisfy one of the addressee’s priorities, then a priority ordering source that takes the speaker as argument may simply relate that the speaker is showing that the complement satisfies his addressee’s priority. However, in a case where the speaker’s priorities are fulfilled by promoting the complement, then the semantics is written properly to represent this. In other words, we believe that the current notation of our semantics does allow for the possibility that either the speaker’s or the addressee’s, or some of their mutual priorities, are satisfied in promotion of the complement.

4.2.3 Intuition 3: Advisers’ desire for their advice to be followed

We noted that the literature makes a connection between adviser desire and advice. For instance, Condoravdi and Lauer (2012) distinguish disinterested advice as non-directive, classifying only interested advice, i.e. where the speaker wants his addressee to follow his advice, as directive. Yanovich (2014) reinforces this idea by stating that so-called advice modal auxiliaries (cf. (19)) which are neutral, i.e. which are not used to urge addressee uptake, are not expressions of symbouletic modality.\textsuperscript{28} It is apparent that these authors are working within the

\textsuperscript{28} We noted a potential problem with Yanovich’s proposal in footnote 16. Since his semantics for advise is conditional, where the antecedent specifies that the speaker has an effective preference for what is best for his addressee, then it is possible for the conditions of advise to be met even when the speaker does not have his addressee’s best interests in mind. In other words, it appears that his definition allows for the possibility for advise to
tradition of Speech Act Theory, since they define the meaning of advise according to the speaker’s cognitive state. As we have emphasized, we are working within the dynamic pragmatics tradition, where the literal meaning of a verb is not determined by a speaker’s cognitive state. Thus we do not think that this intuition from the literature represents anything we need to change in our semantics for advise.

That caveat aside, we do think the speaker’s desire plays a role in advice. Specifically, we propose that speaker desire affects the addressee’s interest or likelihood in following the advice. Recall that as we outlined the function of the to-do list, in section 4.1, we specified that it is not a record of all performative utterances. Rather, performative utterances of advise- and order- clauses are proposals for the addressee to update his to-do list. When an order is felicitous, it automatically updates the addressee’s to-do list. However, an addressee must choose whether to follow advice when it is given.

We propose that the addressee considers several factors in choosing whether to add the content of advice that is given to him to his to-do list. We propose that one of these factors is his assessment of speaker desire. For instance, suppose that Sarah and Mary are two close friends and Sarah gives Mary advice to quit her job. Given their relationship, Mary expects Sarah to be invested in her wellbeing. If Sarah seems rather cool in giving Mary this advice, Mary will be inclined to think that Sarah is not really giving advice that promotes Mary’s wellbeing. Mary may think that Sarah has some other reason to give her this advice, e.g. she thinks Mary wants to hear it, she is tired of talking about Mary’s problems with her, etc. Sarah’s degree of desire is helpful for Mary to determine how heavily to weigh it, and whether she should act on it. Thus we propose that adviser desire has an effect on the addressee’s evaluation and likelihood to follow the advice. In instances where the addressee does not expect for the adviser to be interested in be true even though the speaker is not interested in having his addressee follow his advice.
whether he follows his advice (e.g. when a stranger gives directions), or when the addressee is indifferent to his adviser having a desire in the advice (e.g. if the adviser has already expressed finding the situation undesirable, as with Ted in (1)), then we suspect that speaker desire will have very little effect on the addressee’s likelihood to follow the advice.

4.2.4 Intuition 4: Adviser belief in the goodness of advice

As we noted in section 3.1, both Austin (1962) and Searle (1969) state that the sincerity of advice is affected by whether the adviser actually believes his advice is best. We agree with this point. Although our proposal is that advise means that its complement is better than a set of alternatives, we do not think this means that for a person to use advise or give advice, he actually believes this is true of his advised material. A person may not believe he is instructing his addressee to do what is best, and in such cases, we propose that he is not really giving advice. However, should lack of sincerity affect whether the advise-clause is true? The answer to this question is related to the point we made about the preceding intuition. We do not want to define the meaning of directives in terms of the conversational participants’ cognitive states. However, we believe that these states have an effect on how the advice is received. Just as we propose that speaker desire can affect whether the addressee takes up the advice, we propose also that speaker sincerity can affect addressee uptake.

Our reason for this proposal is more or less the same as what we explained for speaker desire. The semantics of advise is designed to mean that the complement is better than the set of contextually compared alternatives. However, this does not mean that every time a speaker utters ‘I advise p’ he sincerely believes that his advice represents the best available alternative. For instance, he may be trying to deceive his addressee. In any case, the addressee must decide
whether to follow the advice. If he chooses to base this decision on speaker sincerity, it is his responsibility to determine whether the speaker is sincere. In some cases, a lack of sincerity may not affect addressee uptake. For instance, suppose the addressee recognizes that the speaker is insincere, mindlessly promoting some alternative without really believing it is better. Regardless, this causes the addressee to think about the advice, leading him to evaluate it as good. In this case, he may commit to follow the advice, even though he perceives the speaker to be insincere. So like speaker desire, speaker sincerity may affect addressee uptake, but does not determine it. Thus we need make no changes to our semantics for *advise*.

### 4.2.5 Intuition 5: Addresssee belief in the benefit of advice

Searle (1969) notes that the advised addressee must believe that the advice will benefit himself. Our response to this intuition is the same as we gave for the last two intuitions. We propose that addressee belief is relevant to whether the addressee decides to add the advised material to his to-do list. However, this does not represent information that needs to be expressed in our semantics for *advise*.

### 4.2.6 Intuition 6: Relationship between the adviser and his addressee

Austin (1962) states that the adviser must be in an appropriate position to give advice to his listener, without specifying what kind of position this is. Kaufmann (2012) offers a promising elaboration, saying that the adviser must be in a position of rational authority over his addressee, i.e. he has some knowledge that qualifies him to give advice to his addressee. The intuition is clear but our response is the same as what we provided for the last three intuitions. We propose that speaker knowledge is helpful for the addressee to determine whether to follow the advice,
but it has no effect on whether the advice is legitimate or if instances of advise are felicitous or not. Any person may give advice, regardless of how much he knows. However, the likelihood of the addressee taking up the advice depends on how much he wants his adviser to be knowledgeable, and the extent to which he judges the adviser to be knowledgeable. Apart from that, we propose that adviser knowledge does not represent anything that needs to be captured in our semantics for advise.

### 4.2.7 Intuition 7: Advice and commitments to act

Yanovich (2014) makes a proposal about the nature of advice in treating advise as a conditional commitment to act. Specifically, his semantics says that if a person is committed to what is best for his addressee, he is committed to act to make the addressee committed to have an effective preference for his advice. We pointed out a problem with this characterization of advice in section 3.4.2.2. It predicts that any time \( \alpha \) has \( \beta \)'s best interest at heart, and \( \alpha \) acts in a way to get \( \beta \) to be committed to \( p \), ‘\( \alpha \) advised \( \beta \) \( p \)’ is true. There is no requirement that \( \alpha \) needs to have somehow communicated to \( \beta \) that \( p \) is best for him; he may have acted secretly or deceptively to get \( \beta \) to be committed to \( p \).

Thus we propose a different characterization of what it means to give advice. Like Yanovich, we propose that to give advice is to be committed to act (we have no reason to treat the commitment as conditional). But rather than construe the action as making the addressee committed to \( p \), we construe it as persuading the addressee that the advice is best. This distinction disqualifies instances of secretive or deceptive behavior as advice. And it provides a plausible representation of what happens when advice is given. For instance, take Ted, Joe’s financial advisor, as described in examples (1) and (3) of this chapter. Suppose that Ted gives
Joe advice to sell his stock. Joe says that he prefers to sell a CD. In this case, it seems reasonable to say that the action Ted will take on his advice is in telling Joe why it is better for him to sell his stock. In other words, his action amounts to persuasion about the goodness of his advice. This characterization also seems appropriate when we consider advice between friends. Take Sarah and Mary, from Yanovich’s example (cf. (20) of this chapter). Sarah is trying to convince Mary to quit her job. Mary tells her that she doesn’t want to quit her job. We expect Sarah to follow up on her advice by trying to convince Mary why it is best for her to quit her job. Thus we find it appealing to characterize the action an adviser commits to as that where he tries to persuade his addressee that his advice is good.

Defining advice as commitment to persuade the addressee raises a question. Should we reflect this in our semantics for advise or elsewhere in our model? For instance, we could say that when a speaker gives advice, the property “I persuade my addressee that my advice is good” populates his to-do list. We refrain from making this proposal because we think it is too extreme. It would invalidate any instance of a speaker ranking p as better than a set of q-alternatives for his addressee if he is not committed to persuading his addressee that his advice is good. For instance, suppose Sarah has talked with Mary several times about her job, and concludes, as before, that Mary should quit her job. Because she is tired of talking about this topic, she refrains from saying anything more. A model which requires Sarah to commit to persuading Mary that her advice is good would predict that, in this example, Sarah did not give Mary advice. We do not want this.

We instead propose that when advice is given, there is a general expectation that the speaker is committed to defending his advice, i.e. that the speaker’s to-do list is in some way updated in virtue of giving advice. This has the following effect on the addressee: if he expects
the speaker to be committed to following through on the advice by persuading him, but he does not perceive such commitment, he is likely to judge the advice as insincere. In other words, as we stated in discussion of previous intuitions, speaker commitment to the action of persuasion is not part of our semantics for \textit{advise} although it plays a role in the addressee’s uptake.

4.2.8 \textbf{Intuition 8: Advice may be good or bad}

That advice may be good or bad (cf. Austin 1962) is obvious. Given our discussion of other intuitions from the literature, we have several ways of explaining why advice may be good or bad. For instance, advice may be bad if the adviser is not well informed, so that he recommends the alternative that is not actually best. Advice may be bad if the adviser does not take into consideration the desires of the addressee. It may be bad for reasons we have not discussed, e.g. it conflicts with previous advice, or with the addressee’s obligations. And so on. The goodness or badness of advice can be related to any of several aspects of advice. Thus while we agree with this intuition, we do not find it to present anything that we need to model in our semantics of \textit{advise}.

4.2.9 \textbf{Summary of accounting for intuitions in the literature about \textit{advise} and advice}

Throughout section 4.2, we evaluated several prominent intuitions in the literature about the nature of \textit{advise} and advice with the goal of seeing whether our semantics for \textit{advise} is sufficient. Having looked at this literature, we made one change to our semantics for \textit{advise}, namely by indicating that the modal flavor of the ordering source is of the priority class, where context determines the relevant subtype. Other than that, we made no changes to our semantics for \textit{advise}.
Let us summarize how we responded to the intuitions of the literature to see why our semantics for advise remains otherwise unchanged. The first intuition, that the complement of advise may not be the best of all possible alternatives, but the best of the available alternatives, is already accounted for in our entry for advise. The second intuition, that advise and advice are expressions of symbouletic modality, prompted us to change our semantics for advise so that its ordering source is of the priority class. We explained why we rejected the category of symbouletic modality. The next five intuitions we looked at: adviser desire for advice to be followed; adviser belief in the goodness of advice; addressee belief in the advice’s benefit; the relationship between the adviser and his addressee; and what the nature of giving advice is, do not affect our semantics for advise. This is because in our model, the speaker’s or the addressee’s cognitive states do not feature into the semantic entries for verbs like advise. This is not to say that such information is meaningless; we propose that they are highly meaningful as conversational participants seek to understand and evaluate what other conversational participants are saying. We explained how the final intuition, that advice may be good or bad, may follow from any of the other intuitions we discussed. Alone, it does not represent something we need to change about our semantics for advise. Thus we made one change to our semantics for advise based on the literature. We repeat that semantics here (entry first given in (39)):

(40) advise

$[[\text{advise}_c]]^\mathcal{F}(\beta)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w'$

if defined, $[[\text{advise}_c]]^\mathcal{F}(\beta)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) \land q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) \land w'' <_{\text{PRIORITY}(\alpha, \beta, e)} w'] \land \forall w''[w'' \in p \land w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) \land \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) \land q \in g(C) \land w' <_{\text{PRIORITY}(\alpha, \beta, e)} w'']$
As noted, we make one other change to this entry when we discuss the nature of advising events, in section 4.6.

4.3 Refining the semantics for order

Here we evaluate intuitions in the literature about order and orders. We repeat the list from above (first given in (26)).

(41) Intuitions about order and orders
1. Order uses a deontic ordering source to rank the complement as better than a set of alternatives (cf. Villalta 2008)
3. If someone gives an order, he wants it to be followed (cf. Searle 1969, Wierzbicka 2003, Condoravdi and Lauer 2011)
4. Felicitous orders must be able to be followed (cf. Portner 2004) v. It need not be feasible for orders to be followed (cf. Yanovich 2014)
5. Orders are commitments to act to get the addressee to be committed following the order (cf. Yanovich 2014)

In evaluating these intuitions, we make one change to our semantics for order, based on the intuition that the speaker must have authority over his addressee, cf. intuition 2. Otherwise, we find that our entry for order is satisfactory in accounting for intuitions in the literature.

4.3.1 Intuition 1: Order and comparison

Villalta proposes that order is comparative because its Spanish equivalents, mandar, ordenar, decir, require their complements to be in the subjunctive mood. Specifically, she says that the complement is ranked as deontically better than a set of q-alternatives which are on the
addressee’s To-Do List (cf. (14)). We cannot accept this proposal. Given the fact that order is not semantically focus sensitive (cf. (3)), we interpret order as a simple necessity quantifier.

Thus we define order so that its complement is deontically necessary for the addressee, as given in our semantics in (10), and repeated in (29).

4.3.2 Intuition 2: Felicitous orders require speaker authority

One of the most common intuitions in the literature about orders is that felicitous orders require subject authority (cf. Austin 1962, Searle 1969, Portner 2004, Condoravdi and Lauer 2011). For instance, a child who tells his parent “I order you to go to bed” is not really giving an order, but if the parent says the same to his child, an order is truly given.

We agree with this point and think that we need to incorporate speaker authority in our semantics for order. Unlike some of the intuitions about advice and advise that we discussed, we believe it is worth representing speaker authority in order because it has nothing to do with the cognitive state of the speaker or the addressee. We thus add a second conjunct to the definedness condition in our semantics for order that says that α must have appropriate authority over β in e:

(42) order  
\[ [\text{order}] (\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \]

\& α has authority over β in e

if defined, \[ [\text{order}] (\beta)(p)(\alpha)(e) = 1 \text{ iff } \forall w'[w' \in \text{Deo}(\alpha,\beta,e) \rightarrow w' \in p] \]

In this way, we have expanded on what it means for an order to be felicitous (cf. section 4.1): the speaker must have authority over his addressee.

There are two points we want to make about this conjunct of the definedness condition. When felicitous orders update the addressee’s to-do list, they always and only update the deontic
section of the addressee’s to-do list. As we stated in section 4.1, we adopt Portner’s (2004, 2007) proposal that the to-do list is divided into different sections representing obligations, desires, and goals. We propose that when an addressee commits to a felicitous order, it is always the deontic section of the to-do list that is updated; the bouletic or teleological section cannot be updated by felicitous orders. (On the other hand, the content of advice is free to update any of the sections of the to-do list.)

The second point concerns infelicitous orders. We believe that they can be used to update the addressee’s to-do list. For instance, suppose a child orders his mom to stop singing. Even though he does not have the appropriate authority to make this demand of her, the mother may choose to stop singing. Perhaps she does not want her son to throw a temper tantrum. In this case, we propose that her to-do list is updated either in the bouletic or teleological section. Crucially, the obligation section of her to-do list is not updated because the child does not have the appropriate authority to place obligations on his parent. In this way, infelicitous orders can be used to update the addressee’s to-do list, but not the deontic section.

4.3.3 Intuition 3: Orders and desire

Several authors converge on the idea that giving an order is accompanied by the speaker’s desire that the order is followed (cf. Searle 1969, Wierzbicka 2003, Condoravdi and Lauer 2011). We respond to this idea by making a similar argument to the one we made concerning speaker desire when advice is given. To give an order is to express that the content of the order is a deontic necessity for the addressee. Whether the speaker is in the cognitive state that he desires to give the order or to see the order fulfilled has no effect on the semantics of order. For instance, a parent may give an order to his child that punishes him, even though he
does not want to see his child suffer. But we do not want this to invalidate his order. Rather, we propose that speaker desire has the potential to affect the addressee’s perception of the speaker. For instance, the child may think that his parent is confused, or upset by his order. This is the extent to which we propose speaker desire has an effect when orders are given: it can potentially affect the way his addressee (and other conversational participants) perceive him.

4.3.4 Intuition 4: Addressee ability to follow orders

The literature disagrees about the felicity of orders with respect to the addressee’s ability to follow orders. For instance, Portner (2004) says that felicitous orders must be able to be followed, while Yanovich (2014) says that this is no condition of orders. We respond to these conflicting ideas by proposing that although addressee inability to follow orders may affect the addressee’s perception of the speaker, it does not affect the felicity of the order itself.

For example, suppose that an army commander orders one of his inferiors to do 100 push-ups. The commander knows that he cannot do so many push-ups, and the inferior knows that the commander knows this. However, we do not take this to invalidate the order. Rather, we propose that in giving the order, the commander updates his inferior’s to-do list. We believe this is demonstrated by the fact that he can punish him if he does not follow through on the order. Take also our example given in (6)-(7). Here, Victoria is head chef and Sofía is her sous-chef. A food critic is coming to their restaurant and Victoria has ordered Sofía to make all three entrees. Spending time making all three entrees presents a burden to Sofía, but we do not see this as invalidating any of Victoria’s orders; all three orders are necessary in virtue of Victoria giving them to her.
Although we do not think addressee inability affects the validity of orders, we still think it has an effect. Namely, it affects the addressee’s (and other conversational participants’) perception of the speaker. For instance, the inferior may judge his commander as harsh, unforgiving, irrational, etc. Sofia may view Victoria as difficult to please and may dislike her. However, we do not think this affects the felicity of the order itself.

4.3.5 Intuition 5: Orders as commitments to act

Yanovich (2014) proposes that to give an order is to do everything one can to get the addressee to be committed to follow the order. Recall that we pointed out a problem with this characterization of order in section 3.4.2.2. If α acts deceptively, his actions are predicted to make true ‘α order β to p’ so long as the action results in β having a preference for p. Recall also that we pointed out a similar problem with Yanovich’s characterization of advise. Thus we proposed to characterize the action that α is committed to persuading β that the advice is best (cf. section 4.2, in discussion of the seventh intuition).

We make a similar proposal for the nature of order here. Rather than characterize the action as getting the addressee to be committed to p, we propose that the speaker’s action is a commitment to punishing disobedience of the order. For instance, suppose a mom orders her child to go to bed. In this way, she is committed to punishing her child for not obeying her. If the mother were to act deceptively, so that the child would be tricked into going to bed, it would not count as an order, because the mother had made no commitments about punishing her child for not going to bed.

However, as with advise, we do not want to change our semantics of order so that it entails speaker commitment to punish disobedience. There may be any number of reasons that a
speaker does not punish a disobeyed order. For instance, the speaker may forget that he gave an order, or there may be someone else who follows through on punishments. Or, the speaker may change his mind and choose not to punish the order. None of these scenarios invalidates his order. Thus we propose instead that when orders are given, there is a general expectation that the speaker will follow through on it by punishing disobeyed orders.

4.3.6 Summary of accounting for intuitions in the literature about order and orders

Throughout section 4.3, we addressed various intuitions in the literature about order and orders. Looking at them, we made one change to our semantics for order. In response to the second intuition, we wrote a felicity condition that requires the speaker to have appropriate authority over his addressee. None of the other intuitions altered our semantics for order. Let us summarize our responses to these intuitions to reiterate why they have no effect. We rejected Villalta’s intuition that order is comparative, since focus data as in (3), where the focus structure of the complement alters, indicates that order does not have a semantics of comparison. The third and fourth intuitions, about speaker desire and addressee ability to act on the order, do not alter our semantics for order. Rather, we propose that these features affect the addressee’s perception of the speaker. Finally, in response to Yanovich’s characterization of an order as a commitment to act to get the addressee to prioritize p, we instead characterized the commitment as acting on punishing disobedience of the order. Yet we saw no reason for this characterization to change our semantics for order. Thus we made one change to our semantics for order based on the literature. We repeat that semantics here (first given in (42)):
(43) order

\[ [\text{order}] (\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w' \]

& \alpha \text{ has authority over } \beta \text{ in } e

if defined, \[ [\text{order}] (\beta)(p)(\alpha)(e) = 1 \text{ iff } \forall w'[w' \in \text{Deo}(\alpha, \beta, e) \rightarrow w' \in p] \]

We make one final change to this entry when we discuss the nature of ordering events, in section 4.6.

4.4 Intuitions about similarities between advice and orders

We are almost finished with evaluating intuitions from the literature about advice and orders. We have two more intuitions to address (repeated from (27)):

(44) Intuitions about similarities and differences between advice and orders

1. Advice is strictly weaker than orders (cf. Yanovich 2014)
2. “You must go” can be interpreted as advice or an order (cf. Austin 1962)

Since these intuitions are related, we discuss them both in this same section.

Yanovich proposes that advice is strictly weaker than orders, reflecting this difference by treating advise as a conditional commitment to act, order as a non-conditional commitment to act. We agree that advise is weaker than order but reflect this difference by quantificational force, giving advise a semantics of comparison, order a semantics of simple necessity.

In light of this difference, Austin’s observation that “you must go” can be interpreted as an advice or an order might seem curious. The curiosity is not that this can serve as an order, since we treat order as a simple necessity quantifier. The curiosity is that such an imperative can serve as advice. Since we treat advise as comparative, we expect for advice to be given or best paraphrased by weak necessity modals, e.g. ought or should. Yet we do not take such an example
to represent an empirical problem for our analysis of *advise*. Rather, we propose that a speaker might give advice by using a strong necessity modal when he feels that his advice represents the only viable alternative. This does not contradict the fact that giving advice is a matter of ranking the complement as better than a set of alternatives. The point is that when a speaker gives advice using *must*, he chooses this modal because he views his advice as the only real option, or as one that is urgent or necessary. Thus we do not take such examples to detract from our analysis of *advise* as a comparative quantifier, or of it being weaker than *order*.

We have finished evaluating intuitions in the literature about *advise* and advice, *order* and orders. Our purpose in doing this was to see whether our semantics for *advise* and *order*, as adapted from our semantics for *want*, provided satisfactory analyses of these directives. Having evaluated these intuitions, we showed that our semantics for the directives are very satisfactory. Taking the first adaptations of our semantics for *want* for *advise* and *order* (cf. (10) and (11)), we made only one change to each entry. We stipulated that the ordering source is of priority flavor for *advise* and added a conjunct to the definedness condition of *order*, to stipulate that the speaker has authority over the addressee.

Of course, this is not to say that our semantics for *advise* and *order* account for every intuition in the literature. Several intuitions from the literature concern the cognitive state of the speaker or the addressee, e.g. whether the speaker desires for his advice to be followed, whether the addressee believes the advice will benefit himself, etc. Other intuitions are concerned with felicity, e.g. felicitous orders require addressee ability to follow them, and so on. Our semantics for these directives do not account for such intuitions because we work within the tradition of dynamic pragmatics. More specifically, we follow Portner’s (2004, 2007) proposal to treat contexts as being composed of three bodies of information: the common ground, the question set,
and the to-do list. To utter sentences it to provide literal meanings which, via the pragmatic mechanisms of assertion, questioning, or requiring, respectively, are proposals to update one of these three bodies of information. Thus information about the speaker’s or addressee’s cognitive state is relevant for conversational participants in choosing whether to update the bodies of information, but it does not determine whether the conditions of the semantics of advise or order are met. This is why we find our entries for these directives suitable, although they do not encode certain intuitions.

Before we move on to discussing the meaning of other directive verbs, we cover two more topics. In section 4.5, we return to the data with advise we first gave in (4) and (5), where the felicity of sequences of utterances alter according to whether there is focus. In section 4.6, we consider the nature of advising and ordering events. The brings us to the final versions of our entries for advise and order.

4.5 An analysis of focus effects on sequences of advise-clauses

We return now to the focus data with advise we gave in section 2.1, where sequences of utterances alter according to whether they have focus (examples first given in (4)-(5) of this chapter, repeated and renumbered here).

(45) Dinner Scenario, with advise

Sofía and Victoria are at a restaurant, where the menu is prix fixe. From the menu, they may choose one and only one entree from the three choices of chicken Hollandaise, beef Bourgignon, and lamb kabobs. Victoria can see that this is a tough decision for Sofía because she keeps deliberating about what to order. Sofía asks for her advice about what she should get. Victoria responds:

(45a) I advise you to get the chicken.
(45b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

(46a) I advise you to get the CHICKEN.
(46b) And I advise you to get the beef. And I advise you to get the lamb. Really, I think you’d like all three.

In section 2.1, we noted that the first sequence is felicitous, and the second odd, but not wholly infelicitous. We questioned whether we could explain the oddness of the second sequence according to focus. However, we gave no explanation of the first sequence. Thus we now apply our semantics for advise to this example.

To repeat, this is our refined entry for advise (first given in (39)):

(47) advise (second version)

\[
[\text{advise}_c]\tilde{s}(\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha, e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [\text{advise}_c]\tilde{s}(\beta)(p)(\alpha)(e) = 1 \text{ iff } \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) \text{ & } q \in g(\text{C})] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e))) \text{ & } w'' <_{\text{PRIORITY}(\alpha, \beta, e)} w'] \text{ & } \forall w''[w'' \in p \text{ & } w' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(\alpha, e)))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(\alpha, e))) \text{ & } q \in g(\text{C}) \text{ & } w' <_{\text{PRIORITY}(\alpha, \beta, e)} w'']
\]

We apply this semantics first to (45a). P is “Sofía eats chicken” and the relevant q-alternatives are “Sofía eats beef” and “Sofía eats lamb”. Thus (45a) means that relative to the event of Victoria giving Sofía advice, most likely chicken worlds outrank most likely beef and most likely lamb worlds. Next, we look at the first clause in (45b). It means that relative to the second communicative event where Victoria gives Sofía advice, most likely beef worlds outrank most likely lamb and chicken worlds. The second clause of (45b) means that, relative to the third communicative event where Victoria gives Sofía advice, most likely lamb worlds outrank most likely beef and most likely chicken worlds. Taken together, the first three sentences of (45a)-
(45b) mean that Victoria says that chicken is better than beef or lamb, beef is better than chicken or lamb, and lamb is better than chicken or beef. In this way, it seems that our semantics would predict that this sequence is contradictory and should be infelicitous.

Perhaps we should respond by proposing the same as we did for the corresponding example with want in Chapter 3, and define a second, noncomparative entry for advise. Applying such an entry to (45a), it would predict it to mean that all worlds that are accessible by the priority modal base are those where Sofía eats chicken. The first clause of (45b) would be predicted to mean that all worlds that are accessible by the priority modal base are beef worlds, and the same would be true of lamb-worlds for the second clause. Thus no contradiction or infelicity would be predicted.

However, we do not want to analyze advise as having a noncomparative entry. First, as we discussed, the literature on advise and advice commonly associates advice with what is best for the addressee. In other words, there is a widespread intuition that advice is inherently comparative. Giving advise a noncomparative entry would lose account of this intuition. A second reason we are opposed to this solution is that it does not seem to make sense of the scenario. Consider again the first three sentences of (45a)-(45b). With them, Victoria recommends each of the three entrees over the other two. As we noted, this seems to be a contradiction. However, consider the third sentence of (45b): “Really, I think you’d like all three”. What is the function of Victoria saying this? She is not excusing herself, apologizing for giving Sofía contradictory advice. Rather, she seems to be explaining why she is giving seemingly contradictory advice. No one entree is better than the other. Any would make Sofía happy.
Thus, we propose that *advise* can be analyzed as comparative throughout (45) without Victoria contradicting herself. The reason we do not think it is contradictory is because of how we view the nature of advice. Recall that in section 4.1, we stated that to give advice is to propose an update to the addressee’s to-do list. The act of giving advice does not by itself update the addressee’s to-do list; he must choose to commit the advice. Thus we view Victoria as offering three potential updates to Sofía’s to-do list in (45). In the end, she knows that Sofía is only going to get one entree, at the exclusion of the other two. So her advice informs Sofía that she supports any choice.\(^{29}\)

With this, we now have an explanation of why the sequence in (45) is felicitous. Now let us turn to why the second sequence, in (46), is not. Since the sentences in (46) have the same propositional content as (45), our semantics for *advise* predicts that they have the same meaning. It predicts Victoria to mean first that chicken is better than beef or lamb, then that beef is better than lamb or chicken, and then that lamb is better than chicken or beef. As with (45), she is making three different proposals for Sofía to update her to-do list with.

We now need an explanation of why (46b) is odd after (46a). As with the corresponding examples with *glad that*, *disappointed that*, *wish that* (cf. Chapter 3, section 6), and *order* (cf. (6)-(7) of this chapter), we propose that the oddness is due to the focus-marking. If (46a) is uttered by itself, the focus appears to be exhaustive: Victoria is telling Sofía that only chicken is compatible with her priorities. However, upon continuation in (46b), it is clear that the focus is not exhaustive. But it is also not contrastive, as Victoria does not focus mark *beef or lamb*. In

\(^{29}\)Commitment is thus a deciding factor for comparative predicates like *advise* and *want*. Recall the discussion surrounding the similar scenario with *want*, in Chapter 3, section 5.2. There we said that Sofía cannot follow “I want CHICKEN” with “and I want beef…”, because the first instance of *want* is comparative. We proposed that when α declares that he comparatively wants p, he is making a commitment to act to obtain p. In other words, we said that comparative *want* is accompanied by the expectation of commitment. This explains why Sofía is precluded from speaking about a noncomparative desire for beef or lamb after she has just stated that she comparatively wants chicken rather than beef or lamb. On the other hand, since we think there is no commitment to act to make the advice come true, we propose that Victoria can advise Sofía to get each of the three entrees.
fact, it is unclear what role the focus-marking in (46a) plays. Thus we propose that the oddness of the sequence is due to the seemingly pointless use of focus.

4.6 Events in the final semantic entries of *advise* and *order*

We close our evaluation of the semantics of *advise* and *order* by discussing the nature of advising and ordering events. This carries on our discussion in the last chapter. In that chapter, section 5.1, we considered the nature of noncomparative and comparative wanting events. To reiterate the main points there, we stated that noncomparative, i.e. appetitive, desire is a feeling and that comparative, i.e. volitive, desire is a way of thinking. We pointed out that noncomparative desire events and comparative desire events are thus similar since each are private to the attitude holder.

The case is different for advising and ordering events. To give advice or to give an order is to perform a speech act, or more precisely, a communicative act (since advice and orders may be given nonverbally). When \( \alpha \) advises \( \beta \) \( p \), \( \alpha \) communicates to \( \beta \) that \( p \) is better than the contextually relevant set of \( q \)-alternatives. When \( \alpha \) orders \( \beta \) \( p \), \( \alpha \) communicates to \( \beta \) that \( p \) is necessary according to the rules \( \alpha \) establishes for \( \beta \). What this means is that unlike desire events, advising and ordering events are not private to a single individual; they are witnessed by all conversational participants as public communicative acts. This feature of advising and ordering events requires a change in our entries for *advise* and *order*.

To see this, consider the current version of their semantics:
Our entry for *advise* states that p is better is than a set of q-alternatives based on the ranking at event e. Our entry for *order* states that p is deontically necessary for β based on the event e. However, without further specification, there is no way to ensure that these events are communicative events. For instance, suppose that α thinks that p is better than a set of q-alternatives for β to act on. The event of α having this thought would be sufficient for our semantics for *advise* to predict that ‘α advise β p’ is true. Similarly, suppose that α thinks it is necessary for β to p. Again, the event of α thinking this would be sufficient for our semantics for *order* to predict that ‘α order β’ is true. The problem here is clear: our semantics needs to stipulate that the event that *advise* and *order* are relative to is a communicative event. We can easily do this by expanding the truth condition. Along with this, we include information that requires α to be the agent of the communicative act and β the addressee. Additionally, because we explicitly state the roles of α and β, we no longer need to include α and β in the accessibility relations. This thus brings us to our final versions of our entries for *advise* and *order*.
(50) *advise*                           (final version)

\[
[\text{advise}_c](\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w'
\]

if defined, \([\text{advise}_c](\beta)(p)(\alpha)(e) = 1 \text{ iff } e \text{ is a communicative event } \& \text{ Agent}(e,\alpha) \& \text{ Addressee}(e,\beta) \& \forall w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(e))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(e)))) \& w'' <_{\text{PRIORITY}(e)} w''] \& \forall w''[w'' \in p \& w'' \in \text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(e)))] \rightarrow \neg \exists w'\forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(e))) \& q \in g(C) \& w' <_{\text{PRIORITY}(e)} w'']
\]

(51) *order*                           (final version)

\[
[\text{order}](\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w'
\]

& \alpha \text{ has authority over } \beta \text{ in } e

if defined, \([\text{order}](\beta)(p)(\alpha)(e) = 1 \text{ iff } e \text{ is a communicative event } \& \text{ Agent}(e,\alpha) \& \text{ Addressee}(e,\beta) \& \forall w'[w' \in \text{Deo}(e) \rightarrow w' \in p]
\]

Our entries for *advise* and *order* are now improved, as they stipulate that the event the entries are relative to are communicative events. As indicated in our notation, this gives us the final versions of our entries for these verbs.

In this section 4.6, we improved upon our entries for *advise* and *order* according to intuitions in the literature. We then showed how our semantics for *advise* accounts for data where sequences of *advise*-clauses alter according to whether they have focus. We made one final change to each of our entries for the directives based on our discussion of the nature of advising and ordering events. We thus have satisfactory entries for *advise* and *order* and are ready to consider the meaning of other directive verbs.

5. **Other directives**

We propose that our semantics for *advise* and *order* can serve as starting points for defining other directives. In order to determine how these entries can be used to define these
other predicates, we look at data like (1) and (3) of this chapter, which illustrates whether a verb is semantically focus sensitive. If the directive is semantically focus sensitive, we propose to give it a comparative semantics like *advise*. If the directive is semantically focus insensitive, we propose to give it a noncomparative semantics like *order*.

Directives like *encourage*, *suggest*, and *recommend* are semantically focus sensitive (cf. Chapter 1: (45)).

(52) **Scenario: Stock advice**, with *encourage*, *suggest*, and *recommend*

Joe wants some money in his bank account. Ted tells Joe he could get some money by selling some stock. Out of the two options of Slate stock and his Marsh stock, he tells Joe it is better for Joe to sell his Marsh stock. Joe wants to sell the stock on Friday, but Ted tries to convince him to sell the stock on Monday.

(52a) Ted encouraged/suggested/recommended that Joe sell his MARSH stock on Friday.  
(True)

(52b) Ted encouraged/suggested/recommended that Joe sell his Marsh stock on FRIDAY.  
(False)

*Encourage*, *suggest*, and *recommend* are semantically focus sensitive. The truth value of (52a) and (52b) alters with respect to which embedded constituent is focused, because the set of focus alternatives alters the truth of whether the complement was encouraged/suggested/recommended.

On the other hand, in examples similar to (1) and (3), we find that directives like *mandate* and *require* are semantically focus insensitive (cf. Chapter 1: (43)).

(53) **Scenario: Stock order**, with *mandate* and *require*

Joe wants some money in his bank account. Ted tells him it is not a good idea for him to sell stock on a Friday, but Joe wants money now. Between the two options of selling his Slate stock and his Marsh stock, he orders Ted to sell his Marsh stock.
(53a) Joe mandated/required Ted to sell his MARSH stock on Friday.  
(53b) Joe mandated/required Ted to sell his Marsh stock on FRIDAY.

_Mandate_ and _require_ are semantically focus insensitive: which embedded constituent is focused does not alter the fact that the complement was mandated/required.

In previous work (Harner 2013), we proposed to call the semantically focus sensitive directives _suggestives_ and the semantically focus insensitive directives _mandatives_. Given our work here, we endorse and extend this proposal by suggesting that all semantically focus sensitive suggestives have the same basic semantics as we developed for _advise_, and that all semantically focus insensitive mandatives the same basic entry as we developed for _order_. Thus:

(54) basic semantics for suggestives

\[
[[\text{SUGGESTIVE}]](\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
\text{if defined, } [[\text{SUGGESTIVE}]](\beta)(p)(\alpha)(e) = 1 \text{ iff } e \text{ is a communicative event } \& \text{ Agent}(e,\alpha) \& \text{ Addressee}(e, \beta) \& \forall w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(e))) \& q \in g(C)] \rightarrow \exists w''[w'' \in \\
\text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(e))) \& w'' <_{\text{PRIORITY}(e)} w'] \& \forall w''[w'' \in p \& w'' \in \\
\text{Best}(p, \text{rev}_p(g_{\text{dox-lik}}(e)))] \rightarrow \neg \exists w' \forall q[w' \in \text{Best}(q, \text{rev}_q(g_{\text{dox-lik}}(e))) \& q \in g(C) \& w' <_{\text{PRIORITY}(e)} w'']
\]

(55) basic semantics for mandatives

\[
[[\text{MANDATIVE}]](\beta)(p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w' \\
\& \alpha \text{ has authority over } \beta \text{ in } e \\
\text{if defined, } [[\text{MANDATIVE}]](\beta)(p)(\alpha)(e) = 1 \text{ iff } e \text{ is a communicative event } \& \text{ Agent}(e,\alpha) \& \text{ Addressee}(e, \beta) \& \forall w'[w' \in \text{Deo}(e) \rightarrow w' \in p]
\]

Thus we treat _encourage_, _suggest_, and _recommend_ as ranking their complements as better than a set of alternatives to the complement, as determined by an ordering source of the priority class.

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30 In that work, we did not use the terms “semantically focus sensitive” or “pragmatically focus sensitive”.
31 I am grateful to Yanyan Cui (p.c.) for coining the term “suggestive”.

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They are used to propose updates to the addressee’s to-do list. On the other hand, we treat *mandate* and *require* as imposing their complements as deontic necessities for the addressee, based on obligations from the speaker. Thus the complements of mandatives automatically populate the addressee’s to-do list when the speaker has appropriate authority over his addressee.

These entries are starting points for defining these directives. We expect that future work will identify nuances that further distinguish the verbs within these classes. For instance, there is already a literature on advice which identifies pragmatic distinctions between verbal expressions of advice. For instance, Wierzbicka (2012: 316) suggests that ‘my advice is’ can be used by a friend to preface advice which he has no special knowledge about or has no expectation of addressee uptake for, suggesting that in contrast, *advise* presupposes that the adviser has special knowledge related to his advice. Current work also identifies differences in the pragmatics of advice cross-linguistically. For instance, Belyaeva-Slanden (2003, cited in Wierzbicka 2012) notes that Americans perceive unsolicited advice as indirect criticism, whereas Russians perceive unsolicited advice as an expression of care. So although we expect the semantics of *advise*-equivalents to be the same cross-linguistically, we believe that the expectations that accompany their use to vary across languages.\(^{32}\) We are also excited to see how our work here applies to other, non-Indo-European languages. For instance, the Australian Aboriginal languages are documented to lack a word for *advice* altogether (cf. Wierzbicka 2012).

As future work unfolds, we are curious to see whether there is as much variation for mandatives. Do nominal counterparts of the mandatives have different pragmatics from their verbal equivalents? For instance, how does ‘my requirement for you is’ differ in pragmatics from

\(^{32}\) For instance, Russian expressions of advice might never be judged sincere unless the addressee judges the speaker to truly desire for the addressee to follow his advice. If true, this could explain Yanovich’s (2014) intuition that the modality of advice and suggestions requires the subject to be actively interested in getting his addressee to follow his advice (cf. section 3.4.2).
the verb *require*? We also look forward to seeing what future work reveals about expressions of mandatives cross-linguistically.

This future work is exciting as it will reveal more not just about linguistic expressions of obligation and suggestions, but also about what it means to place obligations on and give suggestions to other people.

6. **Conclusion and future directions**

In this chapter, we altered our semantic entries for *want* to define the directives *advise* and *order*. We evaluated intuitions from the literature to see whether such entries represented suitable analyses, and found them to be largely satisfactory. Based on our dynamic pragmatics framework, where we do not represent conversational participants’ cognitive states in semantic entries, we made few minor changes to our entries for *advise* and *order*. We take this success not only to advance our understanding of the directives, but also to support our analysis of *want*. Just as we find our entries for *want* to work well to define these directives, we look forward to seeing how they work to define other attitude predicates.

Of course, we do not think that because we used the same primitives to define desire predicates and directives that there are no significant differences between their meaning. As we noted in the conclusion of Chapter 2, desire predicates involve emotion. Emotions are not as large a component in the meaning of directive predicates, at least not as we have defined them. We clarified in section 4.1 that we do not use cognitive states to define the contextual bodies of information, i.e. the common ground, question set, or to-do list, nor as components in the semantics of attitude predicates. We showed how this choice in framework had an effect on the
kinds of intuitions our semantics are intended to account for. We are interested in seeing how
future work highlights both the strengths and weaknesses of such an approach.

There is much more to learn about attitude predicates and other expressions of modality,
both in their meaning and in the frameworks that are used to define them. We look forward to
seeing the research on these topics unfold.
APPENDIX

SEMANTIC DERIVATION
SHOWING EVENTS AT SENTENTIAL LEVEL

In order to illustrate how the event variable $e$ features into the semantics at the sentential level, we perform a semantic derivation. The derivation is of the sentence “John wants p”, where $want$ is assigned the noncomparative, universally quantifying entry we developed in Chapter 3:

(1) noncomparative $want$

\[
[want](p)(\alpha)(e) = \text{defined iff } \forall w': w' \in f_{\text{dox-lik}}(\alpha,e) \rightarrow p \text{ is defined in } w'
\]

if defined, $[want](p)(\alpha)(e) = 1 \text{ iff } \forall w': w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p$

For ease of presentation, we omit the definedness condition from the derivation.

\[\text{fig. 1} \]
Derivation tree

1. $[[IP_1]] = [[[NP]]([TP]])$
2. $[[NP]] = [[\text{John}]] = \lambda P[P(\text{john})]$
3. $[[TP]] = [[[T]]([VP])]$
4. $[[T]] = [[\text{present}]] = \lambda P.\lambda.\lambda w.\lambda t.\exists e (e \leq w \& P(\alpha)(e) \& e \text{ is ongoing at time } t)$
5. $[[VP]] = [[[V]]([IP_2])]]$
6. $[[V]] = [[\text{want}]] = [\lambda p.\lambda a.\lambda e.\forall w': w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p]$
7. $[[IP_2]] = p$
8. $[[VP]] = [\lambda p.\lambda a.\lambda e.\forall w': w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p](p) = \lambda a.\lambda e.\forall w': w' \in \text{Boul}(\alpha,e) \rightarrow w' \in p$
9. \([TP]\) =
\[
\lambda P. \lambda \alpha. \lambda w. \lambda t. \exists e (e \leq w \land P(\alpha)(e) \land e \text{ is ongoing at time } t)(\lambda a. \lambda e. \forall w': w' \in \text{Boul}(a, e) \rightarrow w' \in p)
\]
\[
= \lambda a. \lambda w. \lambda t. \exists e (e \leq w \land [\lambda a. \lambda e. \forall w': w' \in \text{Boul}(a, e) \rightarrow w' \in p](a)(e) \land e \text{ is ongoing at time } t)
\]
\[
= \lambda a. \lambda w. \lambda t. \exists e (e \leq w \land [\lambda a. \lambda e. \forall w': w' \in \text{Boul}(a, e) \rightarrow w' \in p \land e \text{ is ongoing at time } t)
\]

10. \([IP_1]\) =
\[
\lambda P[P(\text{john})](\lambda a. \lambda w. \lambda t. \exists e (e \leq w \land \forall w': w' \in \text{Boul}(a, e) \rightarrow w' \in p \land e \text{ is ongoing at time } t)
\]
\[
= [\lambda a. \lambda w. \lambda t. \exists e (e \leq w \land \forall w': w' \in \text{Boul}(a, e) \rightarrow w' \in p \land e \text{ is ongoing at time } t)](\text{john})
\]
\[
= \lambda w. \lambda t. \exists e (e \leq w \land \forall w': w' \in \text{Boul}(\text{john}, e) \rightarrow w' \in p \land e \text{ is ongoing at time } t)
\]
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