A New Hope*

Kyle Blumberg
John Hawthorne

April 19, 2021

Abstract

The analysis of desire ascriptions has been a central topic of research for philosophers of language and mind. This work has mostly focused on providing a theory of want reports, i.e. sentences of the form ⌜S wants p⌝. In this paper, we turn attention from want reports to a closely related, but relatively understudied construction, namely hope reports, i.e. sentences of the form ⌜S hopes p⌝. We present two contrasts involving hope reports, and show that existing approaches to desire fail to explain these contrasts. We then develop a novel account that combines some of the central insights in the literature. We argue that our theory provides us with an elegant account of our contrasts, and yields a promising analysis of hoping.

1 Introduction

One of the most fertile sources of material for philosophical and linguistic theorizing concerns the semantics of attitude reports. In particular, there has recently been a considerable amount of work on *desire ascriptions*.[1] This research mostly focuses on providing an analysis of want reports, i.e. sentences of the form ⌜S wants p⌝. In this paper, we turn attention from want reports to a closely related, but relatively understudied construction, namely hope reports, i.e. sentences of the form ⌜S hopes p⌝. We show that these constructions exhibit interesting properties. To give the reader an immediate sense of the issues, consider the following scenario:

*To appear in *The Journal of Philosophy*. Pre-final draft, please cite published version.

[1]Influential earlier work includes (Heim, 1992; von Fintel, 1999; Levinson, 2003). More recent work includes (Villalta, 2008; Wrenn, 2010; Crnič, 2011; Lassiter, 2011; Rubinstein, 2012; Anand & Hacquard, 2013; Graff Fara, 2013; Maier, 2015; Condoravdi & Lauer, 2016; Pearson, 2016; Drucker, 2017; Grano, 2017; Phillips-Brown, 2018; Blumberg, 2018; Blumberg & Holguín, 2019; Jerzak, 2019; Pasternak, 2019; Phillips-Brown, Forthcoming).

> *Coins*: Two fair coins will be flipped, and Bill's reckless brother has made the following bet on Bill's behalf. If both coins land heads, Bill will be given \$400; if the first lands heads and the second lands tails, Bill will be given \$300; if the first lands tails and the second heads, Bill will have to pay \$300; and if both land tails, Bill will have to pay \$400. In short, the payoffs are as follows: HH = \$400, HT = \$300, TH = -\$300, TT = -\$400.

Our discussion focuses on two contrasts. First, there is the contrast between (1a) and (1b):

(1) a. Bill hopes the coins land HH.
    b. # Bill hopes the coins land HT.

(1a) is acceptable in this scenario. This is perhaps to be expected, given that HH is the best outcome, and there is no bar to hoping for what's best. By contrast, (1b) is unacceptable (as indicated by the '#' preceding the example). Now the coins landing HT is in some sense a good outcome, since if this happens Bill will be given \$300, which is only \$100 less than the best outcome. But the contrast shows that this isn't sufficient for HT to be the target of Bill's hopes. That is, merely good outcomes can't be hoped true. Let's call this the *positive contrast*.

The second contrast concerns the difference between (2a) and (2b) in context:

(2) a. Bill hopes the coins don't land TT.
    b. # Bill hopes the coins don't land HT.

(2a) is acceptable. This isn't too surprising given that TT is the worst outcome, and there is no bar to hoping that what's worst doesn't occur. By contrast, (2b) is infelicitous. Intuitively, this is because, as remarked above, HT is a good outcome; it isn't appropriate to hope that good outcomes don't obtain. Let's call this the *negative contrast*.

The existing literature on desire is dominated by two sorts of accounts: (i) theories that analyze desire in terms of a subjective preference ordering over possibilities (von Fintel, 1999; Crnič, 2011); and (ii) decision-theoretic analyses that tie the desirability of a proposition to its expected value (Levinson, 2003; Lassiter, 2011; Phillips-Brown, Forthcoming). We show that accounts of hoping based on existing theories of desire cannot explain the constellation of judgments presented above. More specifically, ordering-based theories can't explain the negative contrast, while decision-theoretic accounts can't explain the positive contrast.

We develop a novel theory of hoping that can capture both contrasts. Our account combines some of the central insights from the existing literature on desire. More specifically, we propose that *both* a subjective preference ordering *and* a notion of expected value are relevant for the evaluation of hope reports. Roughly, on our account ⌜S hopes p⌝ is true only if (i) the most preferred entities in S's preference ordering entail p, and (ii) the expected value of p is sufficiently high, e.g. it is greater than the expected value of $\neg p$.[2] As we discuss, this general idea requires some refinement, but the resulting proposal is elegant and is able to explain the pattern of judgments in (1) and (2). More specifically, (1b) is predicted to be false, since although HT has higher expected value than ¬HT, HT isn't the most preferred outcome (which is HH). And (2b) is also predicted to be false, since although the most preferred outcome entails that the coins don't land HT, as we've just remarked, HT has higher expected value than ¬HT.

The paper is structured as follows. In §2 we show that existing proposals can't explain our contrasts. Then in §3 we develop our hybrid semantics in several stages. §4 responds to a challenge from abominable conjunctions for desire raised by von Fintel (1999). Finally, §5 concludes by comparing hoping with some other desiderative attitudes, namely wanting and wishing.

2 Existing accounts

In this section, we consider how some existing approaches to desire fare with respect to our target contrasts. As mentioned above, the literature is dominated by two sorts of accounts: (i) theories that analyze desire in terms of subjective preference orderings, and (ii) decision-theoretic analyses that tie the desirability of a proposition to its expected value. We consider paradigmatic instances of each of these approaches: the ordering-based analysis of von Fintel (1999) (§2.1), and the decision-theoretic semantics of Levinson (2003) (§2.2).[3] We argue that neither theory provides a satisfying account of our judgments in the *Coins* scenario.

[2] We let 'S' range over the names of agents and let 'S' range over the corresponding agents denoted by 'S'. Similarly, we let 'p' range over the logical forms of proposition-denoting strings and let 'p' range over the corresponding propositions denoted by 'p'.

[3] The theories of hope inspired by von Fintel and Levinson that we consider below can be seen to be ways of implementing the desire component of what has been dubbed the "Standard Account" of hoping in the philosophical literature on desire (Downie, 1963; Day, 1969; Meirav, 2009; Bloeser & Stahl, 2017). The Standard Account factors hoping into desire and a doxastic component. We discuss the doxastic component, which is typically glossed as belief in the possibility of the thing being hoped for, in §3.2.

2.1 von Fintel's (1999) account

In a tradition that begins with Hintikka (1962), many attitude verbs are given a quantificational semantics involving a lexically-determined accessibility relation. For instance, relative to a world w, 'believe' denotes a relation that holds between an agent S and a proposition p just in case every world compatible with S's beliefs in w is one in which p is true, i.e. every world in S's *belief set*, denoted $\text{Dox}_{w,S}$, is a p-world. von Fintel treats 'want' similarly, i.e. as a function such that 'Bill wants Ann to leave' is true at world w just in case every world that conforms to what Bill desires in w—every world in Bill's *desire set* in w—is one where Ann leaves.

von Fintel puts constraints on which worlds can appear in a subject's desire set. He assumes that a subject's desires generate a preference ordering over possible worlds: for any subject S: $w' >_{S,w} w''$ iff w' is more desirable to S than w'' in w. $>_{S,w}$ is a strict partial order. The idea is that the subject's desire set is constrained by their beliefs: the subject's desire set is comprised of all and only their top-ranked belief worlds, as ordered by $>_{S,w}$.

> **Specification of Desire Set**
> For any subject S and world w: S's desire set $\text{Bul}_{w,S} = \{w' \in \text{Dox}_{w,S} \mid \neg\exists w'' \in \text{Dox}_{w,S} \text{ such that } w'' >_{w,S} w'\}$

von Fintel's account of 'want' can be expressed as follows:[4,5]

> **von Fintel's semantics for *want***
> $\ulcorner$S wants p$\urcorner$ is true in w iff $\text{Bul}_{w,S} \subseteq p$.

As mentioned in §1, hope reports have been given relatively little attention in the literature on desire ascriptions. In particular, although von Fintel provides an entry for 'want', he doesn't explicitly provide a semantics for 'hope'. So, the entry for 'hope' that we consider below isn't technically proposed by von Fintel. That said, we take this entry to to be the most obvious way of applying von Fintel's account to hope reports. For simplicity, we will often attribute this entry directly to him, e.g. we'll say 'von Fintel's semantics for *hope*' rather than 'the most natural von Fintel-style semantics for *hope*'. Hopefully this practice will not engender any confusion.

Now for the entry itself:

[4] von Fintel also maintains that want reports carry a presupposition to the effect that the subject neither believes the prejacent nor the negation of the prejacent. We will return to the relationship between desire and belief in §3.2.

[5] von Fintel's theory is particularly influential among linguists. See, e.g. (Crnič, 2011; Rubinstein, 2012; Pasternak, 2019).

von Fintel's semantics for *hope*
$\ulcorner$S hopes p$\urcorner$ is true in w iff $\text{Bul}_{w,S} \subseteq p$.

In the *Coins* scenario, Bill's belief set is comprised of four worlds:

$$\text{Dox}_{\text{Bill}} = \{w_{\text{HH}}, w_{\text{HT}}, w_{\text{TH}}, w_{\text{TT}}\}$$

Recall that the payoffs are HH = \$400, HT = \$300, TH = -\$300, and TT = -\$400. Thus, Bill's preference ordering over these worlds looks as follows:

$$w_{\text{HH}} >_{\text{Bill}} w_{\text{HT}} >_{\text{Bill}} w_{\text{TH}} >_{\text{Bill}} w_{\text{TT}}$$

Since, w_{HH} is the top-ranked world, we have:

$$\text{Bul}_{\text{Bill}} = \{w_{\text{HH}}\}.$$

Now let us consider our central observations from §1. First, we have the positive contrast:

(1a) Bill hopes the coins land HH.
(1b) # Bill hopes the coins land HT.

von Fintel's entry can explain the difference here. (1a) is predicted to be true, since w_{HH} is a world where the coins land HH. And (1b) is false, since the coins don't land HT at w_{HH}.

However, the account can't explain the negative contrast:

(2a) Bill hopes the coins don't land TT.
(2b) # Bill hopes the coins don't land HT.

(2a) is predicted to be true, since w_{HH} is a world where the coins don't land TT. However, (2b) is *also* predicted to be true, since w_{HH} is a world where the coins don't land HT either. But then it's difficult to see why (2b) should be unacceptable. Intuitively, one wants to say that (2b) is bad because HT is in some sense a good outcome. But such judgments of goodness among outcomes are not ones that von Fintel's account allows us to make. The theory only distinguishes between the best outcome and the rest of the outcomes. What we'd also like to be able to do is delineate the class of good outcomes that aren't necessarily the best.

Apart from the negative contrast, the account's inability to distinguish between the good outcomes and the rest of the outcomes leads to a different sort of problem. Recall that in the *Coins* scenario, the HH outcome yields \$400, while the HT outcome yields \$300. (3) is easily heard as true in this context:

(3) Bill hopes that the first coin lands heads.

This is predicted on von Fintel's entry. But now consider (3) as the HT payoff is made worse. For instance, consider the report in the *Coins 2* scenario:

> *Coins 2*: The setup is the same as in *Coins*, but the HT and TT payoffs are switched. That is, the payoffs are: HH = \$400, TT = \$300, TH = -\$300, HT = -\$400.

To our ears, (3) is degraded here (and it becomes even more degraded if we make the HT payoff worse, e.g. -\$1000). But w_{HH} remains the most preferred world, so on von Fintel's account it is unclear why this should be. Intuitively, the reason that (3) becomes degraded in *Coins 2* is that the first coin landing heads goes from being a good outcome to being a bad outcome. After all, in *Coins 2* the first coin landing heads is compatible with the worst outcome on which Bill has to pay \$400.[6]

2.2 Levinson's (2003) account

Now let us consider Levinson's decision-theoretic account of want reports. On this semantics, ⌜S wants p⌝ is true just in case the expected value of p, for S, outweighs the expected value of $\neg p$.[7] To make this account more precise,

[6]Some might argue that there are other ordering-based theories that can explain our contrasts. More specifically, it could be maintained that Heim's (1992) account is successful here. The central idea behind Heim's semantics is this: S desires p just in case, given what S believes, the truth of p in a world is an improvement over an otherwise similar world where p is false. Her account can be expressed as follows (Sim_w is a function that takes a proposition p and yields the most similar p-worlds to w):

> **Heim-style Semantics for *hope***
> ⌜S hopes p⌝ is true in w iff
> $\forall w' \in \text{Dox}_{w,S} : \text{Sim}_{w'}(p \cap \text{Dox}_{w,S}) >_{w,S} \text{Sim}_{w'}(\neg p \cap \text{Dox}_{w,S})$

This entry predicts that both (1b) ('Bill hopes the coins land HT') and (2b) ('Bill hopes the coins don't land HT') should be unacceptable in the *Coins* scenario. However, there are other problems with Heim's proposal that render it unsuitable as an analysis of hoping. For one thing, (4) is easily heard as true in *Coins*:

(4) Bill hopes that the coins don't land TH.

After all, the coins landing TH is intuitively a bad result. But Heim's entry predicts that the report should be false. Moreover, Heim's account can't easily explain why (3) becomes degraded in the *Coins 2* scenario above. Finally, as discussed by Levinson (2003), "insurance cases" such as those presented in §3.3 pose a problem for Heim's theory.

[7]Variants of this semantics are also endorsed by (Lassiter, 2011; Jerzak, 2019; Phillips-Brown, Forthcoming).

let $\mu_{w,S}$ represent S's credences over the live possibilities in w. Also, let $g_{w,S}$ be an evaluation function, i.e. a function from W (the set of all worlds) to the real numbers. Intuitively, $g_{w,S}(w')$ measures how much utility S would get if w' was the actual world. Then Levinson's account can be represented as follows:

Levinson's semantics for *want*

$$\ulcorner \text{S wants p} \urcorner \text{ is true in } w \text{ iff } EV_{w,S}(p) > EV_{w,S}(\neg p)$$
$$\text{iff } \sum_{w' \in W} g_{w,S}(w') \cdot \mu_{w,S}(w'|p) > \sum_{w' \in W} g_{w,S}(w') \cdot \mu_{w,S}(w'|\neg p)$$

As with von Fintel, Levinson doesn't explicitly provide a semantics for 'hope'. But given his decision-theoretic framework, a natural entry for 'hope' would be:

Levinson's semantics for *hope*

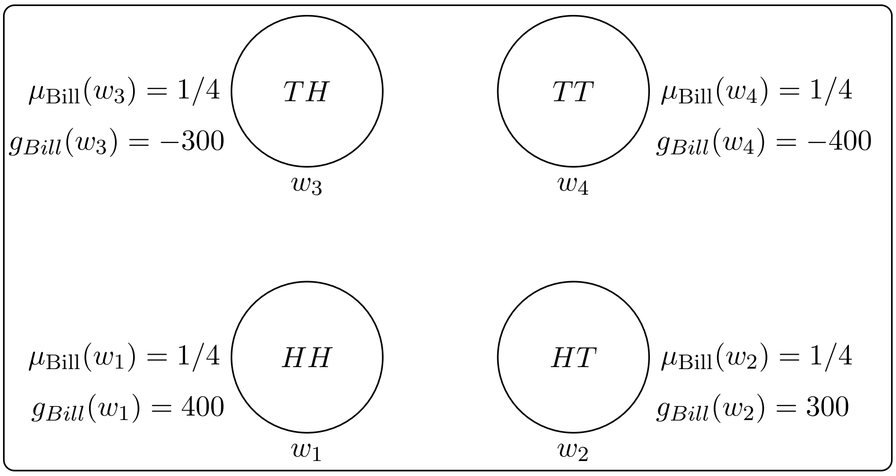
$$\ulcorner \text{S hopes p} \urcorner \text{ is true in } w \text{ iff } EV_{w,S}(p) > EV_{w,S}(\neg p)$$

This account has several strengths. For one thing, it can explain the negative contrast:

(2a) Bill hopes the coins don't land TT.

(2b) # Bill hopes the coins don't land HT.

To see this, let us suppose that Bill's credences/utilities in the *Coins* scenario are as follows:



A routine exercise confirms that $EV_{\text{Bill}}(\neg TT) > EV_{\text{Bill}}(TT)$. Thus, (2a) is predicted to be true. By contrast, it can be verified that the expected value of the coins landing HT is greater than the expected value of them not landing HT, i.e. $EV_{\text{Bill}}(HT) > EV_{\text{Bill}}(\neg HT)$. So, (2b) is predicted to be false.

This semantics also explains why (3) ('Bill hopes that the first coin lands heads') starts sounding worse as the HT payoff decreases, e.g. in the *Coins 2* scenario (repeated from above):

> *Coins 2*: The setup is the same as in *Coins*, but the HT and TT payoffs are switched. That is, the payoffs are: HH = \$400, TT = \$300, TH = -\$300, HT = -\$400.

In the *Coins* scenario, the expected value of the first coin landing heads is greater than the expected value of the first coin landing tails, i.e. $EV_{\text{Bill}}(\textit{first coin lands heads}) > EV_{\text{Bill}}(\textit{first coin lands tails})$. However, as the HT payoff decreases, the expected value of the first coin landing heads decreases as well. Indeed, it can be checked that $EV_{\text{Bill}}(\textit{first coin lands heads}) \not> EV_{\text{Bill}}(\textit{first coin lands tails})$ in the *Coins 2* scenario, so (3) is predicted to be false there. In general, Levinson's account provides us with a fairly natural way of distinguishing between good and bad outcomes in terms of expected value.

Unfortunately, this account makes the wrong prediction when it comes to the positive contrast:

(1a) Bill hopes the coins land HH.

(1b) # Bill hopes the coins land HT.

It can be checked that $EV_{\text{Bill}}(HH) > EV_{\text{Bill}}(\neg HH)$. Thus, the account predicts that (1a) should be true. But as noted above, $EV_{\text{Bill}}(HT) > EV_{\text{Bill}}(\neg HT)$. So, (1b) is *also* predicted to be true. As mentioned in §1, this is the wrong result: one can't hope for an outcome that is good, but not best.

To sum up, we have argued that existing accounts of desire fail to provide us with an adequate analysis of hoping. Essentially, ordering-based theories don't allow us to identify good outcomes that aren't best. On the other hand, decision-theoretic accounts allow us to delineate the class of good outcomes that aren't necessarily best, but they don't allow the best outcomes to play a role. The correct account of hoping should both allow us to identify the good outcomes, and allow us to identify which outcomes are best. In the next section, we develop a semantics that has these properties.

3 A hybrid semantics

In this section, we present our positive proposal in several stages. First, we provide a basic entry that captures the central features of our account (§3.1). Then we discuss the relationship between hoping and believing possible (§3.2). Finally, we suggest that the preference ordering should be taken to range over propositions rather than worlds (§3.3).

3.1 The basic proposal

The key idea on our account is that *both* the best outcomes *and* the expected value of the prejacent are relevant for evaluating a hope report. A simple way of achieving this is to combine von Fintel and Levinson's truth conditions from §2:

> **Account 1**
> ⌜S hopes p⌝ is true relative to w iff
> (i) $\text{Bul}_{w,S} \subseteq p$; and
> (ii) $EV_{w,S}(p) > EV_{w,S}(\neg p)$

That is, ⌜S hopes p⌝ is true just in case every world in S's desire set is a p-world *and* the expected value of p, for S, is greater than the expected value of $\neg p$.

It should be fairly easy to see that this account explains our target contrasts:

(1a) Bill hopes the coins land HH.
(1b) # Bill hopes the coins land HT.

(2a) Bill hopes the coins don't land TT.
(2b) # Bill hopes the coins don't land HT.

Since both von Fintel and Levinson's account predict that (1a) and (2b) should be true in *Coins*, Account 1 predicts they should be true as well. Since von Fintel's account predicts that (1b) should be false, Account 1 predicts it should be false as well. And since Levinson's account predicts that (2b) should be false, Account 1 also predicts it should be false.

Account 1 also explains why (3) is degraded in *Coins 2*:

(3) Bill hopes that the first coin lands heads.

Coins 2: The setup is the same as in *Coins*, but the HT and TT payoffs are switched. That is, the payoffs are: HH = \$400, TT = \$300, TH = -\$300, HT = -\$400.

Since Levinson's account predicts that (3) should be false in *Coins 2*, this is predicted by Account 1 as well.

It is worth emphasizing what Account 1 tells us about the structure of hoping. Ordering-based theories and decision-theoretic accounts are often taken to be in competition with each other (Lassiter, 2011; von Fintel, 2012). However, the ease with which Account 1 can explain our target contrasts suggests that this isn't the case. In order to adequately model the structure of desiderative attitudes such as hoping, the central elements of *both* accounts are needed.

We want to be clear about the role that decision theory plays in Account 1, as well as the other accounts that we develop below. Condition (ii) in Account 1 is taken directly from Levinson's entry. We have used this condition primarily because it is fairly simple, and allows us to provide a concrete implementation of our general ideas. Officially, all we are committed to is that hope reports have a decision-theoretic aspect which allows us to distinguish intuitively good outcomes from intuitively bad ones. Levinson's particular way of categorizing good and bad involves a notion of expected value. However, we want to leave it open that the "good news value" of an outcome is better represented by using expected value in more sophisticated ways, e.g. by comparing the expected value of a proposition to a contextually determined threshold value (Phillips-Brown, Forthcoming), or even by adopting a more sophisticated decision theory, e.g. prospect theory (Kahneman & Tversky, 1988) or risk-weighted utility theory (Buchak, 2013).[8] But these complications aren't necessary for our main point, which is that hope reports seem to require decision-theoretic notions for their analysis, however exactly these should be spelled out

In terms of our primary desiderata, Account 1 provides us with what we want. However, as we'll see, the entry needs some refinement.

3.2 Hoping and believing

Almost all existing accounts of desire posit a close connection between what is desired and what is believed.[9] One popular constraint is the following:

[8]Levinson (2003, 234) himself suggests that a more sophisticated background decision theory might be needed for an analysis of desire.

[9]Notable exceptions include (Rubinstein, 2012) and (Jerzak, 2019). The supposed connections between belief and desire aren't just based on brute intuition, but are also supposed to play an important theoretical role. Most prominently, they have been used to

$\ulcorner$S wants p$\urcorner$ is true only if S neither believes p nor $\neg p$ (Heim, 1992; von Fintel, 1999; Levinson, 2003). However, it has been recognized for some time (though it is often ignored) that subjects can want things that they are certain won't obtain, as well as things that they are certain do obtain/will obtain:

(5) a. I want this weekend to last forever (but of course I know it will be over in a few hours) (Heim, 1992, 199).

b. Wu wants to be promoted (but believes he won't be) [(Grano & Phillips-Brown, 2020) inspired by (Portner & Rubinstein, 2012)].

(6) a. I live in Bolivia because I want to live in Bolivia (Iatridou, 2000).

b. I want it to rain tomorrow (and I believe it will) [(Grano & Phillips-Brown, 2020) inspired by (Scheffler, 2008)].

These examples are perfectly felicitous, but they are difficult to account for given standard belief constraints on want ascriptions.[10]

By contrast, there seems to be good evidence that the popular doxastic constraint on desire does in fact hold for hoping. For instance, analogues of the examples in (5) and (6) with 'hope' sound much worse:

(7) a. # I hope that this weekend lasts forever (but of course I know it will be over in a few hours).

b. # Wu hopes to be promoted (but believes he won't be).

c. # I live in Bolivia because I hope to live in Bolivia.

d. # I hope that it rains tomorrow (and I believe it will).

This suggests that hope reports impose non-trivial constraints on the subject's beliefs.[11] The question, then, is how these constraints should be captured. Let us call the requirement that $\ulcorner$S hopes p$\urcorner$ is true only if p is compatible with S's beliefs the *p-condition*; and the requirement that $\ulcorner$S

provide an account of presupposition projection out of attitudes (Heim, 1992; Maier, 2015). The way that presuppositions interact with attitudes is complex, and not something we can address here.

[10]See (Grano & Phillips-Brown, 2020) for extensive discussion of this point.

[11]At least when we understand 'belief' to be "full belief" or "outright belief". There is a use of 'thinks' where one can say 'Wu thinks he'll lose' even when he doesn't outright believe he'll lose (e.g. Wu is 60-40 confident he'll lose). When we're using 'think' in this way, 'Wu thinks he'll lose but he hopes he'll win' is acceptable. See (Williamson, 2020) for arguments to the effect that the default interpretation of 'believe' in natural language is that of full belief. Whether full belief is the default interpretation of 'think' is not something we will take up here. Nor will we explore the relationship between hope and credence in any depth, since the relationship between full belief and credence is far from clear—but see fn.21 for a few remarks.

hopes p$\urcorner$ is true only if $\neg p$ is compatible with S's beliefs the *$\neg p$-condition*.[12] In the literature on want reports, conditions analogous to the p- and $\neg p$-conditions are standardly treated as presuppositions of these ascriptions. However, the p-condition doesn't pattern with standard presuppositions. One of the central features of presuppositions is that they project from embedded environments, e.g. from under negation and from the antecedents of conditionals. For instance, both (8a) and (8b) presuppose that there exists a unique King of France:

(8) a. The King of France isn't bald.
b. If the King of France is bald, then he's probably unhappy.

By contrast, (9a) doesn't suggest that it's doxastically possible for me that Bill wins; and (9b) doesn't suggest that it's doxastically possible for Mary that Bill won.

(9) a. I don't hope that Bill wins the race.
b. If Mary hopes that Bill won, then she's going to be disappointed.

Indeed, we detect no trace of infelicity in speeches such as the following:

(10) a. I don't hope that Bill wins the race, because I know Sally will.
b. I don't know whether Mary thinks there's a chance Bill won, but if she hopes he won, she's going to be disappointed.

This is surprising if the p-condition was a presupposition triggered by hope reports.

Interestingly, the $\neg p$-condition seems to pattern a bit differently. We find speeches such as the following fairly strange:

(11) a. ?? I don't hope that Bill wins the race, because I know he will.
b. ?? I don't know whether Mary thinks there's a chance Bill lost, but if she hopes he won, then she's going to be disappointed.

This could suggest that the two doxastic conditions have different statuses: the p-condition is an entailment of hope reports, while the $\neg p$-condition is a presupposition. One might want these differences to be reflected in

[12] If we take doxastic possibility to be compatibility with what one outright believes, then we can see that the Standard Account of hoping (see fn.3)—which posits an entailment from hoping to believing possible—only captures one of the two constraints discussed in the text. In particular, the Standard Account doesn't control for the fact that one cannot hope that p when one knows that p.

the semantics. However, since it will simplify our discussion, and for our purposes nothing hangs on this choice, we will treat both conditions as entailments of hope reports. This means that the entry then looks as follows:

Account 2
⌜S hopes p⌝ is true relative to w iff
(i) $\text{Dox}_{w,S} \cap p \neq \emptyset$ and $\text{Dox}_{w,S} \cap p \neq W$; and
(ii) $\text{Bul}_{w,S} \subseteq p$; and
(iii) $EV_{w,S}(p) > EV_{w,S}(\neg p)$

The final amendment to our entry concerns the objects over which the preference relation ranges. We turn to this next.

3.3 Alternatives vs worlds

One concern with Account 2 is that by combining von Fintel and Levinson's approaches, we lose some of the good-making properties of each account. In particular, one of the central features of decision-theoretic accounts is that they can handle so-called "insurance cases". Consider the following example adapted from Levinson (2003):

> *Insurance*: Sue is going on a cross-country trip. As a favor to Sue, Bill agreed to organize the car rental. As she sets off, Sue remembers about car insurance, which she isn't sure if Bill bought. She estimates that the chances of the car being in an accident are $\frac{1}{1000}$. But the results would be very bad: she'd have to pay for the cost of repairs which will be at least \$10,000. Comprehensive car insurance costs \$100. Sue can't find out from Bill if he purchased insurance—he's at a meditation retreat for the duration of her trip.[13]

(12) Sue hopes that Bill bought insurance.

If Sue is like most of us, (12) is true: even though she thinks it's likely that the car won't be involved in an accident, there is a small possibility that it will, and the badness of this possibility outweighs the cost of buying insurance.[14]

[13] We make it explicit that Sue won't find out if Bill bought insurance, otherwise it could be claimed that Sue most prefers worlds where Bill buys insurance *and she finds out*, since her peace of mind in such worlds has greater utility than the cost of insurance (Büring, 2003; von Fintel, 2012).

[14] The way that desire interacts with probability is also discussed by (Lassiter, 2011; Jerzak, 2019; Phillips-Brown, Forthcoming).

Examples such as (12) are often taken to pose a problem for accounts that ground the semantic value of desire reports in preference orderings over worlds, e.g. von Fintel's account. Given such an ordering over worlds, the problem is that in order to make (12) come out true, it must be claimed that Sue's most preferred worlds are ones where she buys insurance. But intuitively this isn't the case; it's quite clear that Sue most prefers worlds where she spends no money on insurance (and there's no accident).[15] Insurance cases have been used to motivate building decision-theoretic concepts into the meaning of desire verbs. For instance, granted plausible assumptions, it can be shown that Levinson's entry for 'hope' from §2.2 predicts that (12) should be true: even though Sue knows that buying insurance is incompatible with the best outcome, the expected value of buying insurance outweighs the expected value of not buying it.

Unfortunately, Account 2 can't capture examples such as (12). Since von Fintel's entry predicts that the report should be false, this is predicted by Account 2 as well. In response, we propose that the preference ordering relevant for the evaluation of hope reports ranges over *propositions* rather than worlds.[16] There are several ways of developing this idea, but we will implement it in a fairly simple way so as not to distract from our central arguments.

We will say that $\mathcal{A}$ is a set of *alternatives* if it is a set of pairwise incompatible propositions. So, if $A, B \in \mathcal{A}$, then $A \cap B = \emptyset$. To illustrate, let ANN, MARY, PETE, and SUE represent the propositions that Ann wins the race, Mary wins the race, Pete wins the race, and Sue wins the race, respectively. Then $\mathcal{A}_1 = \{\text{ANN, MARY, PETE, SUE}\}$ is a set of alternatives. We propose that the set of objects that is relevant for the evaluation of a desire ascription ⌜S hopes p⌝ is a set of contextually supplied alternatives.[17]

Given a set of alternatives $\mathcal{A}$ and a world w, $\mathcal{O}^{\mathcal{A},w}(\cdot)$ is an *ordering function* from individuals to orderings over $\mathcal{A}$. It is assumed that $\mathcal{O}^{\mathcal{A},w}(S)$ is a strict partial order. Intuitively, $\mathcal{O}^{\mathcal{A},w}(S)$ represents S's preference ordering over $\mathcal{A}$ in w, denoted $\succ_{w,S}$.[18] For instance, Bill's preferences over $\mathcal{A}_1$ are represented below:

[15] As far as we're aware, this argument was first put forward by Levinson (2003). It has been endorsed by Lassiter (2011), Jerzak (2019), and Phillips-Brown (Forthcoming).

[16] This idea has antecedents in the desire literature, e.g. both Villalta (2008) and Phillips-Brown (2018) develop accounts of want ascriptions on which what is relevant is the subject's preferences over propositions. However, the way that Villalta and Phillips-Brown implement this idea is quite different from the proposal developed below. Moreover, Villalta and Phillips-Brown aren't motivated by trying to capture insurance cases.

[17] One might want to allow the set of alternatives to vary from world to world. One could capture this by maintaining that interpretation proceeds relative to a function from worlds to sets of alternatives, rather than just a set of alternatives. But we'll ignore this complication in what follows.

[18] We will often drop the world subscript when no confusion will arise.

$\text{ANN} \succ_{\text{Bill}} \text{MARY} \succ_{\text{Bill}} \text{PETE} \succ_{\text{Bill}} \text{SUE}$

We propose that hope reports are evaluated relative to a contextually determined ordering function. Given an ordering $\mathcal{O}^{\mathcal{A},w}(S)$, the function $\text{BEST}(\cdot)$ returns the maximal elements in the ordering. For instance, $\text{BEST}(\mathcal{O}^{\mathcal{A}_1}(\text{Bill})) = \text{ANN}$.[19]

Our final proposal can be expressed as follows:

Hybrid semantics for *hope*
⌜S hopes p⌝ is true relative to $\langle w, \mathcal{A}, \mathcal{O} \rangle$ iff

(i) $\text{Dox}_{w,S} \cap p \neq \emptyset$ and $\text{Dox}_{w,S} \cap p \neq W$; and

(ii) for every $q \in \text{BEST}(\mathcal{O}^{\mathcal{A},w}(S))$: $q \subseteq p$; and

(iii) $EV_{w,S}(p) > EV_{w,S}(\neg p)$

In short, ⌜S hopes p⌝ is true just in case (i) S neither believes p nor $\neg p$, (ii) all of the top-ranked alternatives entail p, and (iii) p has greater expected value, for S, than $\neg p$.

To get a feel for how this account works, consider our original *Coins* scenario. Let us suppose that the relevant set of alternatives is $\mathcal{A} = \{\text{HH}, \text{HT}, \text{TH}, \text{TT}\}$, where HH is the proposition that both coins land heads, HT is the proposition that the first coin lands heads and the second lands tails, etc. Given the payoffs associated with each outcome, Bill's ordering over these alternatives is:

$\text{HH} \succ_{\text{Bill}} \text{HT} \succ_{\text{Bill}} \text{TH} \succ_{\text{Bill}} \text{TT}$

Then it is fairly easy to see that this account captures our target contrasts. For instance, (1a) ('Bill hopes the coins land HH') is predicted to be true, since *the coins land HH* is entailed by $\text{BEST}(\mathcal{O}^{\mathcal{A}}(\text{Bill})) = \text{HH}$. On the other hand, (1b) is predicted to be false, since *the coins land HT* is not entailed by HH.

Alternatives are relatively coarse-grained entities. So, even if there are some *worlds* in an alternative B that are bad by S's lights, S can still rank B higher than the other alternatives. This is the key to handling insurance cases. For instance, let us suppose that the relevant set of alternatives in the *Insurance* scenario is $\mathcal{A} = \{\text{INSURANCE}, \overline{\text{INSURANCE}}\}$, where INSURANCE and $\overline{\text{INSURANCE}}$ are the propositions that Bill bought insurance, and that he didn't buy insurance, respectively. Moreover, let us suppose that Sue's preferences over these alternatives look as follows:

[19] As a shorthand, we will write $\text{BEST}(\mathcal{O}^{\mathcal{A}_1}(\text{Bill})) = \text{ANN}$ when we mean $\text{BEST}(\mathcal{O}^{\mathcal{A}_1}(\text{Bill})) = \{\text{ANN}\}$.

$\text{INSURANCE} \succ_{\text{Sue}} \overline{\text{INSURANCE}}$

In this case, (12) ('Sue hopes that Bill bought insurance') is predicted to be true.

At this point, two natural meta-semantic questions arise for our account: (i) how exactly does the set of alternatives $\mathcal{A}$ get determined in context, and (ii) how is the subject's ordering over alternatives $\succ_S$ structured. Taking the second issue first, one idea that we're attracted to is that it is determined by the relevant decision-theoretic notions in play, e.g. expected value. In that case, for alternatives A, B: $A \succ_S B$ when $EV_S(A) > EV_S(B)$. This would explain why, for example, Sue ranks INSURANCE above $\overline{\text{INSURANCE}}$ in the *Insurance* example. If that's correct, then decision-theoretic concepts play two roles in our account: first, they are used to rank alternatives; and second, they are used to formulate a requirement on the prejacent of hope reports, i.e. condition (iii) above. Note that there is no redundancy here. If we didn't have condition (iii) in our semantics, then even if the ranking over alternatives was fixed by, e.g. expected value, we wouldn't be able to explain the negative contrast. And if we didn't have condition (ii), then we'd essentially be left with Levinson's account from §2.2, which as we've seen can't explain the positive contrast.

We won't be able to provide a complete answer to the first meta-semantic question here. That said, we will try to give the reader a sense of how we are thinking about these issues. We suggest that alternatives are at least partly fixed by the subject's *planning* and *decision-making*. That is, alternatives will tend to represent states of the world that are pertinent to the subject's plans and decisions. For instance, the way that the coins land in *Coins* makes a difference to Bill's plans, e.g. if they land TT then he'll have to pay $1000, and will have to forgo purchasing new golf clubs. So, we should expect that the alternatives relevant in this scenario are tied to possible configurations of the coins.

The idea that alternatives are related to the subject's plans finds support from an observation by Bovens (1999). Bovens argues against an analysis on which hoping is factored into desire along with a doxastic requirement of believing possible. He maintains that desiring and believing possible are necessary, but not jointly sufficient for hoping. His primary motivation comes from examples such as the following:

> *Inheritance*: Bill gets a call from a lawyer. The lawyer informs Bill that a long-lost relative has left Bill a large amount of money in their will. Although Bill knew it was possible that he'd be left an inheritance, he had never given it much thought.

(13) # Bill hoped that one of his relatives would leave him a fortune.

(13) is unacceptable in context. Grounding alternative-sensitivity in a subject's plans provides a fairly intuitive explanation for why the report is false. The issue of being left money by a relative is not one that ever featured in Bill's decisions: Bill never developed contingencies around this state of affairs obtaining or failing or obtain. Consequently, the issue of inheritance was never represented by any alternatives that Bill was deciding between. If that's right, then even though Bill finds being left an inheritance desirable, and he thinks that this is possible, (13) is still not true.[20]

Note that not every proposition that the subject deems possible and desirable (or undesirable) needs to appear as an alternative. A dominant theme in recent philosophical literature is that sufficiently low-credence propositions may be judged irrelevant for decision-making purposes. Such propositions will be ignored or "backgrounded" given their low probability, where all sorts of practical contingencies determine which low-probability propositions get ignored (Wedgwood, 2012; Weisberg, 2013; Weatherson, 2016).[21] This feature helps to make sense of a puzzle discussed by Meirav (2009) involving the relationship between hope and despair. Essentially, the puzzle is that two subjects can have the same desires and credences, and yet one can be hopeful about an outcome while the other despairs of it. This is best illustrated through an example:

> *Tennis*: Ann and Bill are passionate Federer fans. The French Open is coming up, and the bookies have only given Federer a 1% chance of winning (since it's his first tournament after surgery),

[20] Bovens maintains that in addition to desire and believing possible, hoping requires a 'devotion of mental energy to what it would be like if some projected state of the world were to materialize' (674-675). We are sympathetic to this general idea (at least if "devoting mental energy" to a state of affairs amounts roughly to that state of affairs featuring in one's planning). However, for Bovens, a hope report is true only if the subject's mental energy is trained on the prejacent of the report. This condition seems too strong. For instance, (3) ('Bill hopes that the first coin lands heads') is true in *Coins* even though Bill devotes no mental energy to the proposition that the first coin lands heads. Instead, the exertion of mental energy more plausibly concerns the background set of alternatives that is in play, rather than the prejacent of the report.

[21] Many authors connect this sort of backgrounding for practical purposes with the notion of full belief. For instance, in characterizing an 'increasingly popular view in epistemology', Staffel (2019, 937) writes that 'outright beliefs simplify our reasoning processes by allowing us to disregard small probabilities of error...Forming an outright belief...lets us reason as if we had full confidence in it. This is useful in many contexts, because we can thereby dramatically narrow the number of possibilities we need to consider in reasoning and decision-making'. The idea, essentially, is that one fully believes a proposition when one takes it for granted in practical reasoning. These connections between planning and full belief suggest that the belief requirements on hoping shouldn't be spelled out in terms of familiar Bayesian credences, but rather compatibility with what is outright believed. (This shouldn't necessarily be taken to sever the ties between hope and subjective probability, e.g. Wedgwood introduces a second kind of credence, where full belief entails practical credence 1 rather than "theoretical credence" 1.)

which is much lower than his rivals Nadal (30%) and Djokovic (25%). Upon hearing the news, Ann says 'Well at least Federer has a shot at winning!', while Bill just says 'Oh no!'.

(14) a. Ann hopes that Federer wins.
b. Bill despairs of Federer winning.

The central observation is that *both* (14a) and (14b) are acceptable in *Tennis*. However, Ann and Bill both desire that Federer wins, and they have the same credences in this proposition. Also, it is natural to assume that hope and despair are incompatible states. How, then, can both of the reports in (14) be true? We suggest that these ascriptions are evaluated relative to different sets of alternatives. More specifically, (14a) is evaluated relative to a set of alternative that includes the proposition that Federer wins. Given Ann's desires, this explains why (14a) is true. By contrast, the set of alternatives relative to which (14b) is evaluated doesn't include this proposition. The proposition is excluded because for Bill it is sufficiently low-credence to warrant ignoring. Without getting too far into an analysis of despair, let us say that ⌜S despairs of p⌝ is true relative to $\langle w, \mathcal{A}, \mathcal{O} \rangle$ iff (i) S hoped that p in the past, but now (ii) every alternative in $\mathcal{A}$ entails $\neg p$.[22] Then (14b) will be true as well, if we assume that $\mathcal{A}$ contains the proposition that Nadal wins, the proposition that Djokovic wins, etc. Moreover, note that if Nadal is Bill's second favorite player, then he can perfectly well say 'Now I hope that Nadal wins'. This can also be explained if we suppose that Bill is effectively ignoring the proposition that Federer wins.[23]

We also find it plausible that there is a temporal aspect to the way that alternatives get fixed. Consider the following variant of the *Coins* scenario:

> *Diachronic Coins*: The setup is the same as in *Coins*, but it is made clear that the coins are flipped consecutively, e.g. with a minute pause between flips. Also, the payoffs are as follows: HH = \$400, TT = \$300, TH = \$300, HT = -\$1000.

In this context, we find it fairly easy to hear (15) as true:

[22] With this entry, we are assuming that despair has a comparative aspect, like surprise.

[23] Meirav's proposal for distinguishing between hope and despair is built around the following two ideas: (i) hope and despair are only appropriate when the desired state of affairs is beyond the subject's causal control, and is instead in the control of an "external agent"; and (ii) one hopes for an outcome when one's thinks of the external agent as good, and one despairs of an outcome when one thinks of the agent as bad (228-233). We think that (i) is problematic: it's simply not the case that one only hopes for states of affairs beyond one's control. For instance, even if I could bring it about that Bill gets offered the job, e.g. by blackmailing the head of the company, I can still hope that Bill gets the job in a setting where I'm unwilling to deploy those causal resources. We also aren't sympathetic to (ii), but we won't attempt to unpick Meirav's notion of an "external agent" here.

(15) Bill hopes that the first coin lands tails.

But now consider a version of the case where both coins are flipped at the same time:

> *Synchronic Coins*: The setup is the same as in *Diachronic Coins*, but it is made clear that the coins are flipped at the same time, e.g. John is the flipper and he simultaneously flips one coin in his left hand, and the other coin in his right hand.

In this scenario, we find it fairly challenging to hear (16) as true:

(16) ?? Bill hopes that the coin in John's left hand lands tails.

This contrast can be explained if alternatives are "chunked" with respect to a period of time that is salient in context. In other words, given such a time-frame, the only alternatives that are relevant are ones that distinguish between states of the world within the time-frame. In *Diachronic Coins*, a fairly natural time-span is the one that begins before the first flip and ends just after it. Relative to this stretch of time, the only states that matter are those where the first coin lands heads, and those where the first coin lands tails. Thus, the relevant set of alternatives in play here is $\mathcal{A}_1 = \{\text{T}, \text{H}\}$, where T is the proposition that the first coin lands tails, and H is the proposition that the first coin lands heads. Relative to $\mathcal{A}_1$, it is fairly easy to check that (15) is true. By contrast, since the coins are flipped simultaneously in *Synchronic Coins*, every relevant time-span will be such that both coins are flipped during that period. So, relative to these time-spans, the relevant set of alternatives will be $\mathcal{A}_2 = \{\text{H}_l\text{H}_r, \text{H}_l\text{T}_r, \text{T}_l\text{H}_r, \text{T}_l\text{T}_r\}$, where, e.g., H_lH_r is the proposition that the coin in John's left hand lands heads and the coin in John's right hand lands tails. Relative to $\mathcal{A}_2$, (16) is false, since *the coin in John's left hand lands tails* isn't entailed by the top-ranked alternative, namely H_lH_r.

The temporal aspect of alternative-sensitivity also explains why one can hear (17) as true in *Diachronic Coins*, but why (18) is unacceptable:

(17) Bill hopes that both coins land heads.

(18) # Bill hopes that the first coin lands tails, and he hopes that both coins land heads.

In *Diachronic Coins*, a natural time-span is one that encompasses both coin flips. Relative to this stretch of time, every configuration of the coins matters. Thus, the relevant set of alternatives in play here would be $\mathcal{A}_3 =$

$\{\text{HH}, \text{HT}, \text{TH}, \text{TT}\}$. Relative to $\mathcal{A}_3$, (17) is true. However, there is no set of alternatives relative to which both conjuncts of (18) are true: (17) is false relative to $\mathcal{A}_1$, and (15) is false relative to $\mathcal{A}_3$.

Undoubtedly, there are further factors that determine which alternatives are relevant in context, and more work needs to be done making these elements explicit. But hopefully our discussion has at least started to make progress on this issue, and helped to show that our alternative-sensitive approach provides us with a promising theory of hoping that has the potential to account for a fairly wide range of phenomena.

4 Monotonicity

Before we conclude, we want to discuss a detail in the logic of desire. It is fairly straightforward to check that on von Fintel's analysis from §2.1, hope reports are closed under entailment, i.e. they are *upward monotonic*:[24]

Monotonicity If $p \models q$, then S *hopes* $p \models S$ *hopes* q

However, our hybrid semantics makes hope reports non-monotonic. To see this, we repeat the *Coins 2* scenario from earlier:

> *Coins 2*: The setup is the same as in *Coins*, but the HT and TT payoffs are switched. That is, the payoffs are: HH = \$400, TT = \$300, TH = -\$300, HT = -\$400.

Given the set of alternatives $\mathcal{A} = \{\text{HH}, \text{HT}, \text{TH}, \text{TT}\}$, our semantics predicts that (1a) should be true, but (3) should be false (both are repeated from above). But of course *the coins land HH* entails *the first coin lands heads.*

(1a) Bill hopes the coins land HH.

(3) Bill hopes that the first coin lands heads.

As mentioned, this prediction conforms to our intuitions: given that the bad HT outcome is compatible with the first coin landing heads, (3) cannot be said to be true in context. On the other hand, (1a) is straightforwardly true.[25]

[24] Technically, on von Fintel's official account desire reports are only "Strawson monotonic" (von Fintel, 1999), since he treats both the p- and $\neg p$-conditions as presuppositions triggered by desire ascriptions. We can safely ignore this subtlety.

[25] It is also worth recalling one of our central observations from §1: 'Bill hopes he doesn't win \$300' is unacceptable in *Coins 2*, even though *The coins land HH* obviously entails *Bill doesn't win \$300.* For another example, suppose that Federer and Nadal are by far your two favorite tennis players. Then if you like Federer just a little bit more than Nadal, you can't say 'I hope Nadal loses at Wimbledon' even though *Federer wins Wimbledon* entails *Nadal loses at Wimbledon.*

Note that the pattern exhibited by (1a) and (3) in the *Coins 2* scenario is fairly widespread, and arises with a broad range of inference rules. For instance, (19) is intuitively false in context, and doesn't follow from (1a) either:

(19) Bill hopes the coins land HH or HT.

This suggests that disjunction introduction in the complement of hope reports isn't truth preserving.[26] We can also provide counterexamples to conjunction elimination; (21) is true, but it doesn't entail (3):

(21) Bill hopes the first coin lands heads and the second coin lands heads.

However, von Fintel (1999, 120) raises a challenge for approaches to desire that reject Monotonicity. The central observation is that conjunctions such as (22) are unacceptable:

(22) # Bill hopes the coins land HH, but he doesn't hope that the first coin lands heads.

But this is surprising if hope reports are non-monotonic: if (1a) is true and (3) is false, then why can't one felicitously conjoin (1a) with the negation of (3) as in (22)? By contrast, this is easily explained on accounts that validate Monotonicity—conjunctions such as (22) can never be true. von Fintel takes this to be a compelling argument for thinking that desire is closed under entailment.[27]

In response, we agree that conjunctions such as (22) raise a puzzle, but we don't think this shows that Monotonicity is valid. For one thing, as Blumberg (2021) observes, it simply isn't the case that conjunctions of the form ⌜S hopes p but S doesn't hope q⌝ are always unacceptable when p entails q. Consider the following scenario:

[26] (1a) also doesn't entail (20):

(20) Bill hopes the coins land HH or his house burns down.

The unacceptability of (20) is plausibly related to Ross's Puzzle in the domain of deontic modality which involves the observation that 'You ought to mail the letter' doesn't seem to entail 'You ought to mail the letter or burn it' (Ross, 1941). Indeed, once one bears down on Ross's examples, it is clear that counterexamples to disjunction introduction are easy to come by. Note that many authors have used Ross's Puzzle to argue against a monotonicity principle for deontic modals, e.g. (Jackson, 1985; Jackson & Pargetter, 1986; Goble, 1996; Cariani, 2013; Lassiter, 2017).

[27] This argument is also endorsed by Crnič (2011) and Pasternak (2019).

> *Uncertain Murderer*: Bill thinks that there is exactly one murderer in the dock, and that this individual is either Joe or Ted. Bill also thinks that the murderer might be hanged. Joe is Bill's enemy, so it would be best for Bill if Joe is the murderer and is hanged. By contrast, Ted is Bill's friend, so even if Ted is the murderer, Bill would not like him to be hanged.

(23) a. Bill hopes that the murderer is Joe and Joe is hanged.
b. # Bill hopes that the murderer is hanged.
c. Bill hopes that the murderer is Joe and Joe is hanged, but Bill doesn't hope that the murderer is hanged.

(23a) is acceptable, but (23b) is not. A natural response to (23b) would be 'No, for all Bill knows Ted could be the murderer, and Bill does *not* want Ted to be hanged'. But of course *the murderer is Joe and Joe hangs* obviously entails *the murderer hangs.* Importantly, the conjunction in (23c) is perfectly acceptable. This would be difficult to explain if Monotonicity was valid.

Moreover, the pattern exhibited by (22) also arises with attitude verbs that are quite clearly non-monotonic. For instance, consider 'fear'. Suppose that you've just lost your job. Because you have bills to pay, (24a) is true. But it doesn't follow that either (24b) or (24c) are:

(24) a. You fear that you'll only earn $10 000 next year.
b. You fear that you'll earn at least $10 000 next year.
c. You fear that you'll earn money next year.

Now consider the following scenario:

> *Fortune*: Three coins will be flipped, and Bill's reckless brother has bet the family fortune on the outcome. If the first coin lands heads, and the second or third coin lands tails, the fortune will be doubled. Any other configuration of the coins leads to the fortune being lost.

(25) is easily heard as true in this scenario:

(25) Bill fears that all three coins will land heads.

After all, if all three coins land heads, Bill knows that the fortune will be lost, and he would certainly not like that. But by the same token, (26) is also easily heard as false:

(26) Bill fears that the first coin will land heads.

After all, if the first coin lands heads, there's a good chance that the fortune will be doubled, and Bill would certainly like that. However, observe that infelicity results if we try to conjoin (25) with the negation of (26):

(27) # Bill fears that all three coins will land heads, but he doesn't fear that the first coin will land heads.

Intuitively, the unacceptability of (27) is related to the infelicity of (22). Since 'fear' is non-monotonic, the unacceptability (27) can't be explained by appealing to monotonicity. Thus, the infelicity of (22) shouldn't be explained by appealing to Monotonicity either. A more general explanation is needed. To be clear, such an explanation still needs to be provided, so there is more work to be done here.[28] But for our purposes, the important point is that conjunctions such as (22) don't obviously tell against our non-monotonic analysis of hope reports.

5 Hoping, wanting, and wishing

We have motivated and developed a hybrid semantics for hope reports. On our account, hoping is essentially analyzed as a combination of the two main theories of desire in the literature. Hoping both (i) tracks what's best; and (ii) involves a notion of expected value. By way of a conclusion, we want to briefly consider how hoping contrasts with other desiderative attitudes,

[28]It is plausible that the unacceptability of conjunctions such as (22) and (27) is related to so-called "Sobel sequences" that have been discussed in the literature on counterfactual conditionals (Lewis, 1973; Moss, 2012; Ippolito, forthcoming). On standard analyses of counterfactuals, these constructions are non-monotonic in their first argument. For instance, both (28a) and (28b) can be true:

(28) a. If Mary goes to the concert, she'll have fun.
b. If Mary goes to the concert and is stuck behind a tall person, she won't have fun.

However, one cannot felicitously conjoin (28b) with (28a):

(29) # If Mary goes to the concert and is stuck behind a tall person, she won't have fun, but if she goes to the concert, she'll have fun.

One question, then, is whether existing accounts of Sobel sequences have application to conjunctions such as (22). We are fairly optimistic that this is indeed the case. In particular, it seems to us that Ippolito's (forthcoming) recent proposal has the potential to explain why our target conjunctions are infelicitous. But we must leave a detailed investigation of this matter for future work.

namely wanting and wishing. Interestingly, although wanting and hoping pattern differently, wishing and hoping are similar in relevant respects.

First, let us consider wanting. It will be helpful to repeat our original *Coins* scenario:

> *Coins*: Two fair coins will be flipped, and Bill's reckless brother has made a bet on Bill's behalf. The payoffs are as follows: HH = \$400, HT = \$300, TH = -\$300, TT = -\$400.

Embedding negation under 'want' sounds somewhat awkward to us. Still, we detect a contrast between (30a) and (30b):

(30) a. Bill wants the coins to not land TT.
b. # Bill wants the coins to not land HT.

This suggests that, as with hoping, it doesn't seem reasonable to want a good outcome to not obtain. On the other hand, both (31a) and (31b) seem acceptable:

(31) a. Bill wants the coins to land HH.
b. Bill wants the coins to land HT.

In particular, we find it fairly easy to hear (31b) as true. Also note that if someone were to ask Bill 'How many outcomes do you want to obtain?', it would be quite natural for Bill to respond by saying 'Two'. By contrast, one can't even felicitously ask the question 'How many outcomes do you hope obtain?'. This all suggests that, unlike hoping, one can want what isn't best. This idea also finds support from recent work by Phillips-Brown (Forthcoming). He discusses the following scenario:

> *Tickets*: You will be given a single ticket from a hat. Most of the tickets are worthless. Two tickets, though, have cash value, the blue ticket (worth \$100) and the red ticket (worth \$50).

Phillips-Brown points out that both (32a) and (32b) are acceptable here:

(32) a. I want to get the red ticket.
b. I want to get the blue ticket.

In particular, (32a) sounds true, even though getting the red ticket clearly isn't the best outcome. By contrast, the analogous hope report is unacceptable:

(33) # I hope to get the red ticket.

This points to there being an interesting difference between wanting and hoping.[29,30]

Finally, let us consider wishing. We will assume, as is standard, that ⌜S wishes p⌝ can be true only if S believes $\neg p$ (Heim, 1992; von Fintel, 1999; Blumberg, 2018).[31] So, let us consider a continuation of the *Coins* scenario where it is known that the coins land TT. Then (34a) is acceptable, but (34b) is not:

(34) a. Bill wishes that the coins had landed HH.
b. # Bill wishes that the coins had landed HT.

This suggests that, like hoping, one can only wish for what's best. Also consider the following:

(35) [It is known that the coins landed TT.]
a. Bill wishes that the coins hadn't landed TT.
[It is known that the coins landed HT.]
b. # Bill wishes that the coins hadn't landed HT.

(35a) is felicitous, but (35b) is not. This suggests that, like hoping, one cannot wish that a good outcome hadn't occurred. In short, unlike wanting, wishing patterns with hoping in terms of our target contrasts.

Needless to say, there is much more work to be done on the fine-grained differences between desiderative attitudes. This area is rich and relatively underexplored. Hopefully the account we have developed is on the right track, and our discussion will prove helpful for future research.

[29]Here is another way to bring out the contrast. Suppose your favorite type of pasta is spaghetti bolognese, with lasagna a close second. You're late for dinner, so your friend orders for you. As you sit down, the waiter brings you a plate of lasagna. If your friend points to the food and asks 'Did you want that?', you can perfectly well say 'Yes'. But if your friend instead asks 'Did you hope for that?', a positive reply isn't nearly as appropriate.

Although something being best and having high expected value isn't necessary for being wanted, it is plausible that these conditions are sufficient. If that's correct, then on our account hoping will entail wanting, which seems reasonable. Thanks to an anonymous reviewer for discussion here.

[30]This difference points to a flaw in the Standard Account of hoping, at least when the desiderative component of the account is precisified using the verb 'to want'. Although only the best outcome can be hoped for, as we've just seen the same is not true of wanting.

[31]This doxastic requirement holds, at least, when 'wish' takes a finite rather than an infinitive complement. Note that the Standard Account of hoping is sometimes implemented in the philosophical literature on desire by using the verb 'to wish' (Day, 1969). But such implementations must be treated with care, given that, as we have just remarked, wish reports can impose doxastic requirements that are distinct from those imposed by hope reports.

References

Anand, Pranav, & Hacquard, Valentine. 2013. Epistemics and attitudes. *Semantics and Pragmatics*, **6**(8), 1–59.

Bloeser, Claudia, & Stahl, Titus. 2017. Hope. *In:* Zalta, Edward N. (ed), *The Stanford Encyclopedia of Philosophy*, spring 2017 edn. Metaphysics Research Lab, Stanford University.

Blumberg, Kyle. 2018. Counterfactual Attitudes and the Relational Analysis. *Mind*, **127**(506), 521–546.

Blumberg, Kyle. 2021. *A Problem for the Ideal Worlds Analysis of Desire.* Dianoia Institute of Philosophy.

Blumberg, Kyle, & Holguín, Ben. 2019. Embedded Attitudes. *Journal of Semantics*, **36**(3), 377–406.

Bovens, Luc. 1999. The Value of Hope. *Philosophy and Phenomenological Research*, **59**(3), 667–681.

Buchak, Lara. 2013. *Risk and Rationality.* Oxford University Press.

Büring, Daniel. 2003. To want is to want to be there: a note on Levinson (2003). *In:* Schlenker, Philippe, & Sportiche, Dominique (eds), *Division of Cognitive Labor: The la Bretesche Workshop.*

Cariani, Fabrizio. 2013. 'Ought'and Resolution Semantics. *Noûs*, **47**(3), 534–558.

Condoravdi, Cleo, & Lauer, Sven. 2016. Anankastic conditionals are just conditionals. *Semantics and Pragmatics*, **9**(8), 1–69.

Crnič, Luka. 2011. *Getting even.* Ph.D. thesis, MIT.

Day, John Patrick. 1969. Hope. *American Philosophical Quarterly*, **6**(2), 89–102.

Downie, R. S. 1963. Hope. *Philosophy and Phenomenological Research*, **24**(2), 248–251.

Drucker, Daniel. 2017. Policy Externalism. *Philosophy and Phenomenological Research*, **94**(3), 1–25.

Goble, Lou. 1996. Utilitarian Deontic Logic. *Philosophical Studies*, **82**(3), 317–357.

Graff Fara, Delia. 2013. Specifying Desires. *Noûs*, **47**(2), 250–272.

Grano, Thomas. 2017. The Logic of Intention Reports. *Journal of Semantics*, **34**(4), 587–632.

Grano, Thomas, & Phillips-Brown, Milo. 2020. *(Counter)factual want ascriptions and conditional belief.* MIT.

Heim, Irene. 1992. Presupposition Projection and the Semantics of Attitude Verbs. *Journal of Semantics*, **9**(3), 183–221.

Hintikka, Jaakko. 1962. *Knowledge and Belief.* Ithaca: Cornell University Press.

Iatridou, Sabine. 2000. The Grammatical Ingredients of Counterfactuality. *Linguistic Inquiry*, **31**(2), 231–270.

Ippolito, Michela. forthcoming. Varieties of Sobel Sequences. *Linguistics and Philosophy*, 1–39.

Jackson, Frank. 1985. On the Semantics and Logic of Obligation. *Mind*, **94**(374), 177–195.

Jackson, Frank, & Pargetter, Robert. 1986. Oughts, Options, and Actualism. *Philosophical Review*, **95**(2), 233–255.

Jerzak, Ethan. 2019. Two Ways to Want? *Journal of Philosophy*, **116**(2), 65–98.

Kahneman, Daniel, & Tversky, Amos. 1988. *Prospect theory: An analysis of decision under risk.* New York, NY, US: Cambridge University Press.

Lassiter, Daniel. 2011. *Measurement and Modality: The Scalar Basis of Modal Semantics.* Ph.D. thesis, New York University.

Lassiter, Daniel. 2017. *Graded Modality: Qualitative and Quantitative Perspectives.* Oxford: Oxford University Press.

Levinson, Dmitry. 2003. Probabilistic Model-theoretic Semantics for 'want'. *Semantics and Linguistic Theory*, **13**(0), 222–239.

Lewis, David K. 1973. *Counterfactuals.* Blackwell.

Maier, Emar. 2015. Parasitic Attitudes. *Linguistics and Philosophy*, **38**(3), 205–236.

Meirav, Ariel. 2009. The Nature of Hope. *Ratio*, **22**(2), 216–233.

Moss, Sarah. 2012. On the Pragmatics of Counterfactuals. *Noûs*, **46**(3), 561–586.

Pasternak, Robert. 2019. A Lot of Hatred and a Ton of Desire: Intensity in the Mereology of Mental States. *Linguistics and Philosophy*, **42**(3), 267–316.

Pearson, Hazel. 2016. The semantics of partial control. *Natural Language & Linguistic Theory*, **34**(2), 691–738.

Phillips-Brown, Milo. 2018. I want to, but... *Proceedings of Sinn und Bedeutung 21 preprints*.

Phillips-Brown, Milo. Forthcoming. What does decision theory have to do with wanting? *Mind*.

Portner, Paul, & Rubinstein, Aynat. 2012. Mood and contextual enrichment. *In:* Chereches, Anca (ed), *Proceedings of SALT 22*.

Ross, Alf. 1941. Imperatives and Logic. *Journal of Symbolic Logic*, **6**(3), 105–106.

Rubinstein, Aynat. 2012. *Roots of Modality*. Ph.D. thesis, University of Massachusetts Amherst.

Scheffler, Tatjana. 2008. *Semantic operators in different dimensions*. Ph.D. thesis, University of Pennsylvania.

Staffel, Julia. 2019. How Do Beliefs Simplify Reasoning? *Noûs*, **53**(4), 937–962.

Villalta, Elisabeth. 2008. Mood and Gradability: An Investigation of the Subjunctive Mood in Spanish. *Linguistics and Philosophy*, **31**(4), 467–522.

von Fintel, K. 2012. The best we can (expect to) get? challenges to the classic semantics for deontic modals. Central APA, Chicago, IL.

von Fintel, Kai. 1999. NPI Licensing, Strawson Entailment, and Context Dependency. *Journal of Semantics*, **16**(2), 97–148.

Weatherson, Brian. 2016. Games, Beliefs and Credences. *Philosophy and Phenomenological Research*, **92**(2), 209–236.

Wedgwood, Ralph. 2012. Outright Belief. *Dialectica*, **66**(3), 309–329.

Weisberg, Jonathan. 2013. Knowledge in Action. *Philosophers' Imprint*, **13**.

Williamson, Timothy. 2020. Knowledge, Credence, and the Strength of Belief. *In:* Flowerree, Amy, & Reed, Baron (eds), *Expansive Epistemology: Norms, Action, and the Social World*. Routledge: London.

Wrenn, Chase. 2010. A Puzzle About Desire. *Erkenntnis*, **73**(2), 185–209.