Wanting what's important to us

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1   Introduction

- On an intuitive level, there is a similarity in meaning between (1a) and (1b):

(1)   a. Mary wants Sam to go to the party.
      b. It is important to Mary that Sam go to the party.[1]

- **Primary goal of this talk:** Convince you that *want* and *important (to NP)* share a core semantic component.
- **Secondary goal of this talk:** Sketch the ultra-basics of an analysis of *want*.

2   Parallels between *want* and *important (to NP)*

2.1   Entailments

- (1b) entails (1a), but not vice versa. Hence, (2a) is fine, while (2b) is contradictory.

(2)   a.   Mary wants Sam to go to the party, but it's not important to her (that he do so).
      b.   # It's important to Mary that Sam go to the party, but she doesn't particularly want him to do so/she has no particular desire that he do so.[2]

- Note also that while (3a) is fine, (3b) is somewhat odd. This is because *in fact* typically requires some form of strengthening.

(3)   a.   Mary wants Sam to go to the party. In fact, it's important to her (that he do so).
      b.   ? It's important to Mary that Sam go to the party. In fact, she wants him to (do so).

- An entailment relation between *want* and *important to NP* involving comparatives can be seen in (4). In particular, (4a) entails (4b), and (4b), in conjunction with (4c), entails (4a).

(4)   a. It's more important to Mary that Sam go to the party than it is that he go to the game.
      b. Mary wants Sam to go to the party more than she wants him to go to the game.
      c. It's important to Mary that Sam go to the party.

- Similar entailments with *as…as* and *less than* comparatives can be seen in (5) and (6). These examples also illustrate that, with both *want* and *important to NP*, comparisons are permissible across distinct experiencers (i.e., different desirers).

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[1] Some English speakers prefer *goes* instead of *go* in examples like (1b). I have opted for the latter as it accords with my own intuitions, though as far as I can tell this variation is strictly syntactic.

[2] I include *particular(ly)* here to prevent a neg-raising interpretation of *not want*. Thus, whereas *I don't want Bill to leave* is generally interpreted as meaning the same thing as *I want Bill not to leave*, *I don't particularly want Bill to leave* is compatible with my having no strong feelings either way.

(5) a. It's as important to Mary that Sam go to the party as it is to Ann that Becca go to the game.

b. Mary wants Sam to go to the party as much as Ann wants Becca to go to the game.

(6) a. It's less important to Mary that Sam go to the party than it is to Ann that Becca go to the game.

b. Mary wants Sam to go to the party less than Ann wants Becca to go to the game.

2.2 Scale structure

- (7) illustrates that both *want* and *important (to NP)* utilize **ratio** scales, i.e. scales with well-defined degree addition and a meaningful zero value. (Contrast this with temperature as measured in Celsius, which is an **interval** scale: 20-degree water is 10 degrees warmer than 10-degree water, but not "twice as warm".)

(7) a. I want the Ravens to win twice as much as you do.

b. For the Ravens to win is twice as important to me as it is to you.

- Classification by presence/absence of min/max degrees:

(8) a. **lower closed (upper open):** bent, dirty, wet, dangerous

b. **upper closed (lower open):** straight, clean, dry, safe

c. **fully closed:** empty, full, open, closed

d. **fully open:** hot, cold, expensive, cheap

- Starting with *important*, adjectives with scales with maximum degrees (i.e., upper and fully closed scales) are acceptable with *fully, 100%*, and *completely* (on a non-intensifier meaning), while those without maxima cannot be so modified (Kennedy & McNally 2005, Kennedy 2007):

(9) a. fully/100%/completely straight/clean/dry/safe

b. fully/100%/completely empty/full/open/closed

c. # fully/100%/completely bent/dirty/wet/dangerous

d. # fully/100%/completely hot/cold/expensive/cheap

- As can be seen below, *important (to NP)* is not acceptable with *fully/100%/completely* (on non-intensifier reading), indicating that its scale is either fully open or lower closed:

(10) # It is fully/100%/completely important (to Mary) that Sam go to the party.

- As for presence/absence of a minimum, adjectives whose scales have a minimum degree are acceptable with *slightly*, while those without one aren't. (Note: Some of the unacceptable examples are OK on a different, "too much" reading.) As it turns out, *important* is okay with *slightly*:

(11) a. # This book is slightly expensive/cheap.

b. # This stick is slightly straight/clean/dry.

c. This stick is slightly bent/dirty/wet.

d. This bag is slightly empty/full/empty/closed.

(12)   It's slightly important to Mary that Sam go to the party.[3]

- Thus, signs point to *important* using a lower closed (upper open) scale.[4]
- Next up: *want*. *Want* cannot be modified by *slightly*, but this may be syntactic in nature.

(13)   # Mary slightly wants Sam to go to the party.

- A better test is subsequent modification with *but only a little bit*, which is unacceptable with scales without minima (except for the aforementioned "too much" reading). As can be seen below, *want* is acceptable with *but only a little bit*, indicating that it has a minimum degree. (Note also that as (16) shows, *important* is also compatible with *but only a little bit*.)

(14)   a. My stick is bent/dirty/wet, but only a little bit.
        b. This book is expensive/cheap, #but only a little bit.
        c. Baltimore is clean/dry/safe, #but only a little bit.

(15)   Mary wants Sam to go to the party, but only a little bit.

(16)   For Sam to go to the party is important to Mary, but only a little bit.

- As for the lack of maximum for *want*, (17), which (at least for me) is highly marginal but not totally out, might be construed as a counterexample.

(17)   ?/?? Mary fully/100%/completely wants Sam to go to the party.

- The relevant reading seems to be as follows. It's possible to want p and to want $\neg p$ simultaneously: I want to go to the store because I want a soda, but I want to not go to the store because I want to stay home and play with my dog. The acceptable interpretation of (17) seems to be one in which Mary wants Sam to go to the party, and has no other, conflicting desire.
- So is the degree to which x wants p simply the degree to which there is a lack of conflict in x's desires between p and $\neg p$, in which case (17) is a genuine counterexample to *want* lacking a maximum? Signs point to no. (18a-b) are out, as expected: if x and y are both completely empty/straight, then they both reach the maximum standard of emptiness/straightness, so one cannot be emptier/straighter than the other. But (18c) is no worse than (17):

(18)   a. # My glass is completely empty, and yours is too, but mine is more empty than yours.
        b. # My stick is completely straight, and yours is too, but mine is straighter than yours.

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[3]As a real world example of *slightly important*, many instances of Likert scales used for questionnaires include "slightly important" as a choice.

[4]One potentially problematic data point comes from positive uses of *important*. As discussed by Rotstein & Winter (2004), Kennedy & McNally (2005), and Kennedy (2007), lower closed adjectives tend to have a minimum standard (e.g., a stick is bent iff it has a non-0 degree of bend). Thus we predict (ii) to be contradictory for the same reason as (i) is. Instead, from consulting various (both naïve and non-naïve) speakers, (ii) is contradictory for some, and non-contradictory for others.

(i)   # My stick isn't bent, and neither is yours, but mine is more bent than yours is.

(ii)   % For Sam to leave isn't important to Mary, nor is it important to Ann, but it's more important to Mary than it is to Ann.

As Kennedy & McNally (2005) note, (some) adjectives with maximum or minimum standards allow a certain degree of imprecision: for example, in spite of *empty* being a characteristic maximum standard adjective, one can felicitously refer to a theater as empty even if there are a few people in it. I imagine that such imprecision is responsible for (ii), but I leave this for future research.

c. ?/?? Mary fully/100%/completely wants to leave, and Ann does too, but Ann wants to leave more than Mary does.

- So (17) can marginally have a meaning in which Mary lacks a conflicting desire for Sam to not go to the party, but more importantly for our purposes, it *lacks* the reading that we'd expect if *want* had a maximal degree: namely, that the strength of Mary's desire is somehow maximal.

- Summary: both *important (to NP)* and *want* use a lower closed (upper open) scale. For the sake of simplicity, I will represent the degrees on this scale as the real numbers in the interval $[0, \infty)$

2.3 Presupposition projection

- A typical utterance of (19) carries with it the presupposition that Bill is eating. Unsurprisingly, an utterance of (20) no longer carries this presupposition.

(19) Mary wants Bill to stop eating.

(20) Bill is eating, and Mary wants him to stop (eating).

- Somewhat more surprisingly, Karttunen (1973) observes that sentences like (21) also lack the presupposition that Bill is eating:

(21) Mary believes that Bill is eating, and she wants him to stop (eating).

- (22) and (23) illustrate that similar facts hold for *important to NP*. In particular, an utterance of (22) presupposes that Bill is eating, while an utterance of (23) does not.

(22) It is important to Mary that Bill stop eating.

(23) Mary believes that Bill is eating, and it is important to her that he stop (eating).

- Heim (1992) and Maier (2015), in analyzing the projection facts in (19-21), propose theories of desiderative attitude verbs like *want* in which one's desires are in some sense parasitic (to use Maier's term) on one's beliefs. While accounting for such projection is beyond the scope of this paper, it is worth noting that the theory I adopt in Section 3 incorporates a similar dependence of desires on beliefs.

2.4 Domain restriction by *if* clauses

- Notice that (24a) and (24b) mean two very different things:

(24) a. If I become a zombie, I want you to shoot me.
      b. If I become a zombie, I will want you to shoot me.

- (24b) is a claim about a potential desire state of mine—I would be a suicidal zombie.

- (24a) is more like the following: Given my *current* desire state, if I restrict my set of belief-worlds to those in which I become a zombie, then my desires are such that you shoot me.

- The same thing can be seen in (25a-b):

(25) a. If I become a zombie, it's important to me that you shoot me.
      b. If I become a zombie, it will be important to me that you shoot me.

- Once again, (25b) is a claim about potential desires of mine, while (25a) is about my current desires when considering a restricted range of possibilities.

2.5 Lack of upward monotonicity

- On a traditional Hintikkan approach to attitudes, *x wants p* is true iff *p* is true in all of *x*'s desire-worlds. However, as noted by Villalta (2008), Lassiter (2011), and many others, this makes the false prediction that (26a) entails (26b):

(26)   a. Ann wants Becca to die peacefully.
       b. Ann wants Becca to die.

- This shows that the propositional complement of *want* is not an upward monotonic environment: we cannot infer from *x wants p* and *if p then q* (or even *x believes that if p then q*) that *x wants q*. We see the same lack of inference for *important (to NP)*

(27)   a. It is important (to Ann) that Becca die peacefully.
       b. It is important (to Ann) that Becca die.

3   *Want*

3.1   Overarching principles

- Here's two things that I think are particularly appealing about premise-semantic theories of intensionality (e.g., Kratzer 1981):

  - They draw a distinction between those propositions that are desired in and of themselves (in the ordering source), and those due to practical reasoning.
  - They incorporate the notion that determining what one wants (or what one must, should, or can do) often involves resolving conflicts between mutually incompatible premises.

- Recent premise-semantic proposals of gradable modality (Portner & Rubinstein 2014, Pasternak to appear) have operated on three intuitively plausible assumptions:

  - Gradable intensionality uses the same basic quantificational mechanisms as modals.
  - Not all premises are created equal: some are of higher priority than others.
  - The relative importance (for example) of two propositions correlates with the relative priority of the premises that necessitate them. **(The more nitpicky we need to be in order to make p mandatory, the less important p is.)**

- von Fintel & Iatridou (2008): *must p* assymetrically entails *should p*. The reason for this is because *should* universally quantifies over a subset of the set of worlds *must* quantifies over. That is, *must p* says *p* is true in all *acceptable* worlds, while *should p* says *p* is true in all of the *best* worlds. Since universal quantification over a subset is weaker than universal quantification over a superset, the right entailment relations are achieved.

- Pasternak (to appear): Each degree on the scale of importance/desire is associated with a set of worlds, such that for all degrees d_1 and d_2, if $d_1 < d_2$, the set of worlds associated with d_1 is a subset of the set associated with d_2.

  - In other words, the further down the scale we go, the more nitpicky we are about what constitutes an ideal world.

- The importance of p is then the highest degree such that p holds in all of the worlds associated with that degree.

  - If we don't have to be very nitpicky in order to mandate that p (that is, if we don't have to go very far down the scale to find a degree at which p holds in all associated worlds), p is highly important.

3.2 In detail

- μ is a measure function that takes a desire state and a proposition and returns a degree. This is the degree to which that proposition is desired *in and of itself* (that is, without accounting for conflict resolution).

- $g_\mu(e,d) = \{p \mid \mu(e,p) = d\}$

  - g_μ looks an awful lot like an ordering source: more specifically, an event-relative ordering source (cf. Hacquard 2006), with the addition of a degree argument (cf. Pasternak to appear).

- At a given degree d, $g_\mu(e,d)$ can be used to order worlds like for Lewis (1981) and Kratzer (1981):

(28) $\dfrac{u \preccurlyeq v}{g_\mu,e,d}$ iff $\{p \in g_\mu(e,d) \mid p(u)\} \supseteq \{p \in g_\mu(e,d) \mid p(v)\}$

- If $\dfrac{\preccurlyeq}{g_\mu,e,d}$ orders worlds at a single degree, $\dfrac{\preccurlyeq^+}{g_\mu,e,d}$ orders worlds at a degree *and all degrees above it.* Long story short: the premises at lower degrees can only serve as tiebreakers for world-orderings generated at higher degrees: if two worlds have already been determined to be strictly ordered or incomparable at higher degrees, then they will remain so at lower degrees.

(29) $\dfrac{u \preccurlyeq^+ v}{g_\mu,e,d}$ iff $\dfrac{u \approx^+ v}{g_\mu,e,d}$ or $\dfrac{u \prec^+ v}{g_\mu,e,d}$, where:

  a. $\dfrac{u \approx^+ v}{g_\mu,e,d}$ iff $\forall d' \geq d [\dfrac{u \approx v}{g_\mu,e,d'}]$

  b. $\dfrac{u \prec^+ v}{g_\mu,e,d}$ iff $\exists d' \geq d [\dfrac{u \prec v}{g_\mu,e,d'} \wedge \forall d'' \geq d'[\dfrac{u \preccurlyeq v}{g_\mu,e,d''}]]$

- Example: Let's say that $\mu(e,p_1) = \mu(e,p_2) = 2$, $\mu(e,q) = 1$, and for all other propositions r, $\mu(e,r) = 0$. Thus, $g_\mu(e,2) = \{p_1, p_2\}$, and $g_\mu(e,2) = \{q\}$. In this case, the figure below illustrates the orderings generated by $\dfrac{\preccurlyeq^+}{g_\mu,e,2}$ (left) and $\dfrac{\preccurlyeq^+}{g_\mu,e,1}$ (right), with more ideal worlds towards the top.
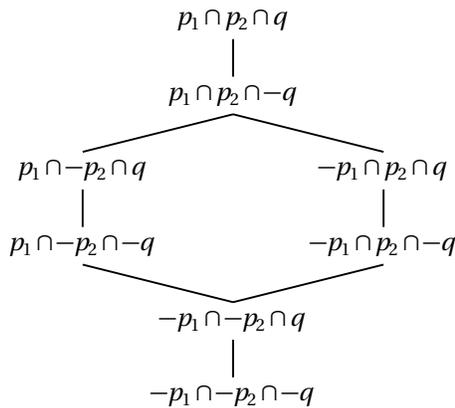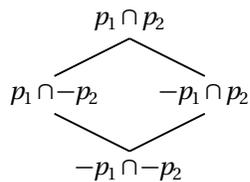
- Notice that $\frac{\preceq^+}{g_\mu,e,1}$ is more fine-grained than $\frac{\preceq^+}{g_\mu,e,2}$: all non-equivalence relations between worlds are preserved from the latter to the former, but some equivalence relations are replaced with strict ordering relations.

- Note also that the set of $\frac{\preceq^+}{g_\mu,e,1}$-ideal worlds is a subset of the set of $\frac{\preceq^+}{g_\mu,e,2}$-ideal worlds. This is guaranteed by the definition of $\preceq^+$. We thus have the desired association between degrees and sets of worlds discussed in the previous subsection.

- Let $\text{Dox}(e)$ be the set of all worlds consistent with the beliefs of the experiencer of e.

- Let $\text{Best}(g_\mu, e, d) = \{u \in \text{Dox}(e) \mid \neg \exists v \in \text{Dox}(e)[\frac{v \prec^+ u}{g_\mu,e,d}]\}$

  - This returns the set of $\frac{\prec^+}{g_\mu,e,d}$-ideal worlds in $\text{Dox}(e)$.

(30) $[\![a \text{ wants } p]\!] =$
   $\lambda w.\ \max(\{d \mid \exists e[\text{in}(e, w) \wedge \text{Exp}(e, a) \wedge \forall u \in \text{Best}(g_\mu, e, d)[p(u)]]\}) > 0$

(31) $[\![a \text{ wants } p \text{ more than } b \text{ wants } q]\!] =$
   $\lambda w.\ \max(\{d \mid \exists e[\text{in}(e, w) \wedge \text{Exp}(e, a) \wedge \forall u \in \text{Best}(g_\mu, e, d)[p(u)]]\}) >$
   $\qquad \max(\{d \mid \exists e[\text{in}(e, w) \wedge \text{Exp}(e, b) \wedge \forall u \in \text{Best}(g_\mu, e, d)[q(u)]]\})$

3.3 Fixing the monotonicity problem

3.3.1 The problem

- Unfortunately, this analysis predicts that (25a) should entail (25b). (Both are repeated below.)

(25) a. Ann wants Becca to die peacefully.
      b. Ann wants Becca to die.

- For example, if e is Ann's desire state, let $\text{Dox}(e) = \{w_1, w_2, w_3\}$, where Becca dies horribly in w_1, she dies peacefully in w_2, and she doesn't die at all in w_3. Furthermore, let $\mu(e, \{u \mid \text{Becca doesn't die in } u\}) = 3$, $\mu(e, \{u \mid \text{Becca dies peacefully in } u\}) = 2$, and $\mu(e, \{u \mid \text{Becca dies horribly in } u\}) = 0$. In this case, for all $d > 3$, $\text{Best}(g_\mu, e, d) = \{w_1, w_2, w_3\}$, and for all $d \leq 3$, $\text{Best}(g_\mu, e, d) = \{w_3\}$. Thus, Ann's desire for Becca not to die is 3, and her desire for Becca to die peacefully is undefined (since there is no degree such that at all worlds associated with that degree, Becca dies peacefully.) If we remove w_3 from $\text{Dox}(e)$, we get the right result that Ann wants Becca to die peacefully (since $\text{Best}(g_\mu, e, 2) = \{w_2\}$), but since Becca also dies in w_2, we also get that Ann wants Becca to die.

3.3.2 Informal sketch of a solution: Likelihood and something like the Diversity Condition

- In order to determine if a wants p, there must be under consideration some p worlds and some $\neg p$ worlds.

- But we're not totally free to choose which worlds are under consideration: if world u is believed to be less likely than world v, then if u is under consideration, so is v.

- *a wants p* will then be true iff there is *some* acceptable set of worlds under consideration such that the condition in (30) holds of them.

- Back to the Ann and Becca example, let's say that unfortunately, a believes w_1 to be the most likely world, followed by w_2, followed by w_3. In order for (25a) to be true, we must find a set of worlds such that:

- Becca dies peacefully in some—but not all—worlds under consideration.
- For all worlds u and v, if v is at least as likely as u and u is under consideration, v is under consideration as well.

- There are thus two acceptable sets of worlds under consideration: $\{w_1, w_2\}$ and $\{w_1, w_2, w_3\}$. Let's start with this first one. In this case, once we get down to degree 2, the set of ideal worlds in $\{w_1, w_2\}$ will be $\{w_2\}$, so in all ideal worlds, it will be the case that Becca dies peacefully. Since the condition above only stated that *some* acceptable set of worlds under consideration must be such that the condition in (30) holds, we thus get (25a) to be true.

- What about (25b)? Well now the set of worlds under consideration must contain some worlds in which Becca dies, and some worlds in which she doesn't. But the only set of worlds that meets this condition and the likelihood condition is $\{w_1, w_2, w_3\}$. As discussed above, relative to this set, we will never reach a point at which Becca dies in all ideal worlds, and in fact we *will* reach a point at which Becca dies in *no* ideal worlds. Thus, not only do we predict (25b) to be false, but we rightly predict *Ann wants Becca not to die* to be true.

4 Data that would be really helpful/interesting

- My analysis predicts that it should be hypothetically possible for there to be an objective, experiencer-less *want* (much like *important* without a *to NP* phrase). It further predicts that this experiencer-less *want* should mean the same thing as *should* (at least on non-ability root interpetation). Any synchronic/diachronic evidence for/against this?

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