Wanting, acquiescing, and neg-raising*

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1. Introduction

I argue that neg-raised readings for *want* are the result of *want* expressing an underlying weak (existential) quantificational force, which gives rise to globally strong ($\neg\exists$) meanings under negation. The stronger universal interpretation that is attested for non-negated *want*, then, is derived as an implicature, in a manner analogous to Free Choice disjunction, as analyzed in Fox (2007). As evidence for this, I present new data from various downward entailing environments where the underlying weak meaning for *want* can be detected in the form of acquiescence readings (which are unavailable in upward-entailing environments).

2. Homer's Puzzle

It seems reasonable to assume that the negative adverbial *no longer* presupposes that the clause in its scope denotes a proposition that used to be true. Thus, (1) presupposes (2).

(1) I no longer live in Cambridge (2) I used to live in Cambridge

Homer (2015) observes that considering this assumption, sentence like (3) present a puzzle.

(3) I no longer want to be called an idiot.[1] (Homer 2015)

Homer suggests that on its most salient reading, it is not assumed that the speaker ever had a desire to be called an idiot (although it can also have the less natural reading where this is the case). It is instead assumed only that the speaker used to be called an idiot.

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[1]Thank you to Keny Chatain for bringing similar French examples to my attention, and for suggesting their significance to neg-raising, and for helpful discussion of the data. Homer (2015) includes examples from French, as well. My discussion is limited to English for reasons of space.

To explain this apparent absence of *want* from the presupposition of *no longer* on the most salient reading of (3), Homer entertains the hypothesis that *want* may be a 'mobile positive polarity item' (PPI), and thus may be able to QR over *no longer*. Contrary to this hypothesis, I propose an alternate view in which *want* is indeed within the presupposition of *no longer*, but what is being presupposed is a basic, unenriched meaning of *want*, which I call the acquiescence meaning.[2] Thus, an accurate paraphrase for (3) is not (4a), but (4b).

(4) a. I wanted to / used to want to be called an idiot, but now, I don't want to be (called an idiot).
b. I used to tolerate/acquiesce to being called an idiot, but now, I don't want to be (called an idiot).

2.1 New Data: *want* is in the scope of no longer

To see evidence that a presupposition involving acquiescence is triggered when *want* is in the scope of *no longer*, consider a context in which an attitude holder never *acquiesced to*, or *found tolerable* a proposition *p*. In such a context, to say that the attitude holder *no longer wants p* should be infelicitous. For example, consider a situation in which speaker A never found it acceptable that Trump would be president, and in fact always wanted it to be the case that Trump not be president.[3] Here, it is not felicitous to utter (5a). It is, however, fine to utter (5b), where word order indicates that *want* is not c-commanded by *no longer*.

(5) (Uttered by speaker A in the above context)
a. # I no longer want Trump to be president.
b. I want Trump to no longer be president.

The contrast in (5a-b) would be mysterious under the assumption that *want* can QR over *no longer*. Here, covert movement of *want* in (5a) should be an effectively equivalent way of removing *want* from the scope of *no longer*, in order to derive the intended meaning that can be expressed in (5b). The contrast is, however, predicted if (5a) requires the presupposition that the speaker used to *acquiesce to* or *find tolerable* the proposition that Trump is president. As this is not supported by the context, the sentence is bad. Since (5b) presupposes only that Trump was president at a time before UT, the sentence is fine.

Additional evidence for the view that *want* is within the scope of *no longer* in sentences like (3) is the intuition that a sentence of the form *x no longer wants p* is infelicitous if *p* was not known by *x* to be a live possibility prior to UT, as illustrated in the following pair.

(6) Context: Speaker who previously thought that Bill was a non-smoker just found out that Bill smokes.
a. # Wow, Bill smokes?! I no longer want him to do that.
b. Wow, Bill smokes?! I want him to no longer do that.

[2]This follows von Fintel and Iatridou's (2017) terminology for weak readings of imperatives.
[3]Thank you to Sabine Iatridou, p.c., for suggesting this context.

The contrast in (6a-b) is not predicted if *want* can QR out of the scope of *no longer*. It is predicted, however, if (6a) presupposes that the speaker used to acquiesce to Bill smoking (assuming that acquiescing to some proposition *p* requires knowing that *p* is a salient possibility, as seems intuitively correct). Sentence (6b), however, requires no presupposition of past acquiescence, only the presupposition that the speaker currently believes that Bill smoked in the past. As this is supported by the context, (6b) is fine.

2.2 Evidence from disjunctions

To create a baseline for the behavior of universal modals, consider (7). This shows that a disjunction embedded under the universal modal *required* (*'required p or q'*) does not create a context that will satisfy the presupposition that is triggered when either disjunct is in the scope of *no longer* (*'no longer required p/q'*). This is expected, as a disjunction in the scope of a universal modal like *require* does not entail that either disjunct is required (and in fact, strongly implies that neither disjunct is required, but both are allowed).

(7) a. Tasha used to be required to either do the reading or the homework.
b. ... # but she's no longer required to do the reading.

This being the case, the differing behavior of disjunctions embedded under *want*, as in (8), would be surprising if one assumes that *want* expresses a basic universal force.

(8) a. Tasha used to want to either be a doctor or a lawyer.
b. ... but she no longer wants be a doctor.[4]

The felicity of (8b), however, is predicted if the presupposition triggered by *no longer* is understood as the underlying acquiescence meaning, and the preceding disjunction in (8a) implies that both disjuncts were *acquiesce*-able. Note also that assuming QR of *want* over *no longer* in (8b) would not explain why it is good, as QR would lead to the presupposition that Tasha was (or was going to be) a doctor, which does not follow from (8a).[5]

3. Analysis

This section will spell out the meaning for *want* that accounts for the data in the previous section. In doing so, I will assume the entry for *no longer* in (9). This presupposes that there is some interval before matrix time, throughout which the complement clause used to be true. It then asserts that the complement is not true at matrix time.

(9) $[\![\text{no longer}]\!]^{w,t}(\text{p})$ is defined only if $\exists i < t$: $\forall t' \in i$: $\text{p}(\text{w})(\text{t}') = 1$.
If defined, $[\![\text{no longer}]\!]^{w,t}(\text{p}) = 1$ iff $p(w)(t) = 0$.

[4]Thank you to Danny Fox (p.c.) for suggesting the disjunction data as a test for weak presuppositions.

[5]For the same reason, this also provides evidence against a reviewer's suggestion that acquiescence readings correlate with veridicality. I agree (3) carries a strong inference that *want's* complement used to hold. But as (8) shows, veridicality is not a necessary feature of acquiescence, so I leave its analysis to future work.

3.1 Kratzer-style modal meaning for *want* (von Fintel 1999)

I begin with an entry for *want* that adopts von Fintel's (1999) Kratzerian modal analysis, modified to include a time argument (to model *want*'s interaction with *no longer*).[6]

(10) $[\![\text{want}]\!]^{f,h,w,t}$ (x)(p) is defined only if

a. f(x,w,t) = DOX^{+}(x,w,t)

b. h(x,w,t) is the set of proposition that form *x*'s preferences in *w* at *t*.

c. if defined, $[\![\text{want}]\!]^{f,h,w,t}$ (x)(p)= 1 iff
$\forall w' \in max_{\text{h(x,w,t)}}(f(x,w,t)) : p(w')(t) = 1$

Here, *want* is interpreted relative to a doxastic modal base (f) (following Heim 1992), and a preference-based ordering source (h), which the function *max* takes as arguments. In (10a), the modal base is defined to be DOX^{+}(x,w,t). This is (a slight modification of) the set of worlds compatible with the subject *x*'s beliefs in *w* at *t*.[7] In (10b), the ordering source *h* is defined as a set of propositions that specifies *x*'s preferences in *w* at *t* and creates a strict partial order of the worlds in DOX^{+}.[8] The function *max* then picks out the best worlds in the modal base according to the partial order (the worlds that maximally satisfy the subject's preferences).[9] *Want p* then asserts that *p* is true at *t* in every world in that set.

In order to capture *want's* underlying acquiescence meaning in the presupposition of *no longer*, I follow work on free-choice disjunction (FC) (Kratzer and Shimoyama 2002, Fox 2007, a.o.), that take the meaning that is present under negation to be basic. I modify (10), and propose that *want* expresses existential, rather than universal quantificational force, as in (11). Section 4 will then provide a mechanism that gets back to von Fintel's intuitively correct universal meaning in positive sentences in a manner analogous to FC.

(11) if defined, $[\![\text{want}]\!]^{f,h,w,t}$ (x)(p)= 1 iff
$\exists w' \in max_{\text{h(x,w,t)}}(f(x,w,t)) : p(w')(t) = 1$

This entry asserts that there exists a world that is in the set of maximally desirable worlds according to the subject where *p* is true. This is a much weaker assertion than the one in (10c), and intuitively expresses a meaning roughly paraphrasable as *acquiesce/tolerate*.

Assuming this as the underlying meaning has the effect of deriving the globally strong neg-raised (NR) interpretation of negated *want* without a need to appeal to any additional mechanisms, as it is simply the negation of the basic meaning. It also derives the correct

[6] One motivation for adopting von Fintel's entry is that it is monotonic, which has the desirable result of capturing the fact that NPIs are licensed in the scope of negated *want*, when NPI licensing conditions are understood to include Strawson DE environments, as proposed in von Fintel's account.

[7] Von Fintel's entry also includes the diversity presupposition following Heim: $[\text{f(x,w,t)} \cap p \neq \emptyset] \wedge [\text{f(x,w,t)} - p \neq \emptyset]$. See Heim 1992 for discussion for a discussion of this and for details of DOX^{+}.

[8] For any set of propositions P, we define a strict partial order $<_{\text{p}}$:
$\forall w', w'' : (w' <_{\text{p}} w''$ iff $\forall p \in P(w'' \in p \rightarrow w' \in p)$ and $\exists p \in P(w' \in p \;\&\; w'' \notin p))$

[9] For a given strict partial order $<_{\text{p}}$ on worlds, define the selection function $\max_{\text{P}}$ that selects the set of $<_{\text{p}}$-best worlds from any set X: $\forall x \subseteq W : max_{\text{p}}(X) = \{w \in X : \neg\exists w' \in X : w' <_{\text{p}} w\}$.

acquiescence meaning in the presupposition of the negative adverbial. For example, the LF in (12) will generate the presupposition in (13a) and the truth conditions in (13b).

(12) No longer [I [want [PRO to be called an idiot]]]

(13) a. Presupposes there is some interval before UT, throughout which the set of worlds maximally consistent with speaker's preferences (as constrained by their beliefs) contained at least one world where they were called an idiot.
b. Asserts that at UT, it is not the case that there exists a world in the set of worlds maximally consistent with the speaker's desires (as constrained by their beliefs) in which they are called an idiot.

The existential quantification over worlds derives the intuitively correct presupposition and truth conditions above, and is accurately reflected in the paraphrase of (3), repeated below.

(14) I used to tolerate/acquiesce to being called an idiot, but now, I don't want to be (called an idiot).[10]

There may be a concern that even this weakened meaning for *want* is too strong for (12). Since *want* quantifies over optimally preferable 'best' worlds (determined by *max*), it may be counter-intuitive that worlds in which the subject is called an idiot would make it in at all.[11] In response to this, I suggest that this level of strength is precisely what is intended. In a sense, the presupposition in (13a) suggests that *not being called an idiot* was not among the speaker's preferences at some prior time. Or if it was (as is likely the case), then *being called an idiot* was too, presumably by virtue of being entailed by another competing preference (like being maximally agreeable and avoiding conflict). This conveys the idea that previously, the speaker was such a pushover that *being called an idiot* was part of one competing preference. But now the speaker is fed up and, and worlds in which the speaker is called an idiot are absent from the best worlds altogether. This creates the rhetorical effect of the sentence. Note also that the disjunction data in (8) do not raise similar concerns, as both disjuncts represent plausible conflicting preferences. Additionally, this correctly predicts (5a) to be ruled out, as *Trump being president* was never part of any of the speaker's competing preference at all, as specified by the context.

4. Strengthening of *want* in UE environments

While the analysis above correctly generates weakened truth conditions for *want* in negative environments, an additional mechanism is needed to derive the stronger meaning that is attested in upward entailing (UE) environments. In contrast to *want* in the scope of *no*

[10]These paraphrases are only meant to point towards what a basic existential meaning for *want* might be in a UE environment if it weren't strengthened (something which is never actually attested, due to a condition that I make explicit in the next section). (11), then, shouldn't be taken as a precise denotation of any of these paraphrases, as they all may come with their own lexical idiosyncrasies / presuppositional baggage.

[11]This concern was raised independently by both Magdalena Kaufmann and Danny Fox (p.c).

longer, in UE sentences, *want* can only have a strong interpretation, as shown in the first clause of (4a). This shows that even when uttered in an identical context, with an identical rhetorical intent, an attempt to convey the information that is expressed in (3) in the presupposition of *no longer* completely fails as soon as *want* is uttered in a UE environment.

Sensitivity to entailment is the key motivation for assuming a basic weak meaning, then taking strong readings to be the result of obligatory implicatures. Without this, there could be other ways to derive acquiescence readings while keeping the basic meaning strong. For example, one could suggest that the weakened sense of *want* is the result of universally quantifying over a smaller set, perhaps due to context sensitivity of the f or h parameters, or the contribution of an additional restrictor/ordering source. Such analyses, however, won't straightforwardly capture the sensitivity to logical environments that is a natural consequence of an implicature based analysis.

4.1 Strengthening as a Free Choice effect

Under this proposal, the apparent ambiguity between *want's* meaning in UE sentences and its meaning under negation and in the presupposition of *no longer* is viewed as an instance of a more general phenomenon in which an underlying weak element (disjunction or $\exists$ quantification) strengthens in positive sentences (to conjunction or $\forall$ quantification) due to the generation of implicatures, as has been suggested to be the case with free-choice disjunction (FC) (Kratzer and Shimoyama 2002, Fox 2007, a.o.). Here, a disjunction in the scope of an existential modal leads to a conjunctive inference, as in (15a). Being an implicature, this inference goes away under negation, as (15b) does not give rise to the negation of the conjunctive meaning. Instead, (15b) simply expresses negation of the basic meaning ($\neg \diamond [p \vee q]$).

(15) a. You are allowed to sing or dance. ($\diamond[p \vee q]$)
$\approx$ You are both allowed to sing and allowed to dance. ($\diamond p \wedge \diamond q$).

b. You aren't allowed to sing or dance. ($\neg \diamond [p \vee q]$)
$\not\approx$ You aren't both allowed to sing and allowed to dance. ($\neg[\diamond p \wedge \diamond q]$)

Recent research has extended similar analyses to items that reflect a weak meaning under negation, but strengthen in UE sentences due to a lack of a universal scalar alternative (Bar-Lev and Margulis 2014, Bowler 2014, Meyer 2015, Singh, Wexler, Astle-Rahim, Kamawar, and Fox 2016, a.o.).

My proposal will build on Bassi and Bar-Lev's (2016) analysis of bare conditionals, which applies these ideas in a modal context. Here, I assume that *want* triggers subdomain alternatives which need to be exhaustified, as in Chierchia's (2013) analysis of polarity items. The subdomain alternatives that *want* triggers consist of all of the subsets of the original domain, [$\max_{\text{h(x,w,t)}}$(f(x,w,t))]. An intensional definition is given in (16).[12]

(16) $[\![want]\!]^{f,h,w,t}_{Alt} = \{\lambda x \lambda p \lambda w\, \exists w' \in (\, [max_{\text{h(x,w,t)}}(f(x,w,t))] \cap D \,)\, [p(w')] : D \subseteq W\}$

[12] One could think of these as *want* quantifying over all the different restrictions of the original domain.

4.2 Exhaustification and Innocent Inclusion

To derive the strengthening, I assume that an EXH operator applies (obligatorily as in Magri 2009). For concreteness, I adopt Bar-Lev and Fox's (2017) EXH operator (given below), which takes as arguments a proposition (p) (the prejacent), and a set of alternatives (C). Then it returns the conjunction of all of the negated *innocently excludable* (IE) alternatives and all of the asserted *innocently includable* (II) alternatives:

(17) a. $[\![\text{EXH}]\!](\text{C})(\text{p})(\text{w}) \Leftrightarrow \forall q \in \text{IE(p, C)}[\neg \text{q(w)}]$
$\wedge \forall r \in \text{II(p, C)}[\text{r(w)}]$

b. Given a sentence p and a set of alternatives C:
(i) $\text{IE(p,C)} = \bigcap\{\text{C}' \subseteq \text{C: C}' \text{ is a maximal set in C, s.t. } \{\neg \text{ q: q} \in \text{C}'\} \cup \{\text{p}\} \text{ is consistent}\}$
(ii) $\text{II(p,C)} = \bigcap\{\text{C}'' \subseteq \text{C: C}'' \text{ is a maximal set in C, s.t. } \{\text{r: r} \in \text{C}''\} \cup \{\text{p}\} \cup \{\neg \text{ q: q} \in \text{IE(p,C)}\} \text{ is consistent}\}$

Here, the IE alternatives are all those that can be negated without contradicting the prejacent, and without making arbitrary choices. The II alternatives are those that can be included consistently with the prejacent and without contradicting the negated IE alternatives.

Now consider a toy example where an occurrence of *x wants p*, given evaluation world *w*@, modal base *f*, and ordering source *h*, gives us a domain of two best desire worlds: that is $\max_{\text{h(x,w@,t)}}(\text{f(x,w@,t)}) = \{w1, w2\}$. Here, we generate the following meaning.

(18) $[\![want]\!]^{f,h,w}(\text{x})(\text{p}) = 1$ iff $\exists w' \in \{w1, w2\}$: p(w')
$= 1$ iff $p(w1) \vee p(w2)$

The set of alternatives of (18) is given in (19). It will consist of the original meaning, as well as the result of existentially quantifying over each of the singleton subdomains. A crucial assumption here is that there is no universal / conjunctive scalar alternative in this set.[13] This creates a space of alternatives that is not closed under conjunction, which is the property that allows for strengthening via exhaustification (see Fox 2007).

(19) $\text{Alt((18))} = \{p(w1) \vee p(w2), p(w1), p(w2)\}$

None of these are IE, as excluding $p(w1)$ would entail including $p(w2)$ and vice versa. All domain alternatives, however, are II. Thus, the result of EXH applied to (18) in our toy model (with the alternative set C given in (19)) is the conjunction of all of the alternatives. This is given in (20), and is equivalent to universal quantification over the original domain.

(20) EXH_C ((18))$= 1$ iff $[p(w1) \vee p(w2)] \wedge p(w1) \wedge p(w2) = p(w1) \wedge p(w2)$
$=1$ iff $\forall w' \in \{w1, w2\}$: p(w')

[13] This assumption seems reasonable as *want* has no obvious dual. A more thorough discussion of this and the predictions that follow from it, however, must be left to future work for reasons of space.

In the case of negated *want*, assuming that EXH takes highest scope, its effect is vacuous, as all alternatives are entailed. This results in the attested NR readings. Acquiescence readings in the presupposition of *no longer* in (21) then result from the fact that *no longer* presupposes the unexhaustified meaning of TP1. I remain agnostic as to whether a matrix EXH above TP2 should be present (as it would be vacuous on the assertion).[14]

(21) [$_{TP2}$ No longer [$_{TP1}$ I want [PRO to be called an idiot]]]

5. Additional predictions: DE Environments

In this analysis, locally strengthened readings for *want* in DE sentences require EXH to be embedded under the DE operator. Fox and Spector (2018) propose that embedded EXH is constrained by economy conditions, the results of which are summarized in (22).[15]

(22) Embedded FC (and embedded implicatures in general) via EXH are:

a. Strongly dispreferred under sentential negation, and in the scope of neg DPs (unless accompanied by special focus intonation on the scalar item).
b. Optional in weaker DE environments, such as antecedents of conditionals (Fox 2007), restrictor of universal and neg DPs. (Fox and Spector 2018)

This makes predictions for available interpretations of *want*. Since non-NR readings require EXH embedded under negation, (22a) predicts them to be dispreferred with neutral intonation. This appears correct, as illustrated by the infelicity of the continuations in (23a-b).

(23) a. I don't want Mary to leave...(# I don't care either way.)
b. Nobody wants Mary to leave... (# everybody will be happy either way.)

Data from weaker DE environments also conform to predictions that follow from (22b). Since embedded implicature generation is optional, and not required in these positions, weak readings for *want* can be detected in conditionals and questions, as in (24) and (25).

(24) If you want to wait here for a minute, I'll be right back.
(cf. If you acquiesce to waiting here for a minute, I'll be right back)

(25) a. Do you wanna give me a hand with this box?
(cf. Will you acquiesce to giving me a hand with this box?)

b. Do you think he'd wanna take a picture with me?
(cf. Do you think he'd acquiesce to a request to take a picture with me?)

[14]There are also debated issues concerning how weak elements in presuppositions project when they encounter a higher EXH (see Gajewski and Sharvit 2012, a.o.). I leave a discussion of the present analysis in the context of this debate to future research.

[15]Essentially, Fox and Spector's economy condition disallows the insertion of EXH in a given position if its effect is vacuous or weakening on a sentence's overall meaning (unless accompanied by focus intonation).

As indicated in the paraphrases, the sentences in (24)-(25) show that *want* expresses a weaker attitude towards the prejacent than is attested in UE environments. For example, it is not assumed that anyone really might have a *desire* to wait / lift a box, etc. Instead, it is assumed that the listener might acquiesce, in the sense that they won't refuse.[16]

The following show that acquiescence readings that are detectable in the presupposition *no longer* generalize to additional NPI triggers ((26a)), but not positive ones ((26b)).

(26) a. The kids don't yet want to deal with the obligations of school.
(The kids will tolerate the obligations of school at some future point.)

b. As an adult, Kai still wants to eat broccoli.[17]
(#In the past, Kai used to tolerate eating broccoli)

One environment, however, where weak readings are predicted to be available (as described in (22b)) but don't appear to be attested, is in DE restrictors like the following:

(27) Nobody that wanted to give me a hand with the box managed to lift it in the end.

While this is a potential problem for this analysis, I will point out that inferences associated with homogeneity and NR in restrictors are not easily accounted for with other approaches, such as Gajewski's (2005) presuppositional account, and present a difficult topic in general. Interestingly, the acquiesce reading is more easily detectable in the restrictor in (28):

(28) There was nobody that wanted to help me.[18]

It appears that while acquiescence readings are widely available in DE environments, their presence in weaker DE environments is subject to additional constraints. These are likely the result of intervening implicatures or presuppositions, which are known to have an effect on polarity-sensitive items (see Linebarger 1987, Chierchia 2013, a.o.). [19]

6. Conclusion

This article proposed an account of NR for *want* that assumes an underlying weak meaning (in analogy to analyses of free choice), evidence of which is found in the distribution of acquiescence readings, which are only available in DE environments. It also suggests that the presuppositions of DE adverbials like *no longer* can help probe the underlying meanings of items in its scope. It is not immediately clear how other approaches to NR could account for the data presented here. An investigation of this, as well as possible extensions of this analysis to additional NR predicates and homogeneity phenomena is left to future work.

[16](25b) is from an example from Google where fans of Justin Bieber wonder if he would agree to a request.

[17]Thank you to a NELS reviewer for pointing out the contrast between *no longer* and *still*.

[18]Thanks to Kai von Fintel (p.c.) for suggesting this example.

[19]A reviewer suggests that politeness may be involved in generating acquiescence readings in (24)-(25a). Sentence (25b), however, with the 3rd person subject indicates that this isn't a necessary condition. A more detailed examination of the implicatures and presuppositions that are relevant is left to future work.

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