On "-ever"

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0 Overview

Project: unified analysis of "-ever".

(1)   Alfonso talked to whoever Joanna did.   ("-ever" free relative)

(2)   Whatever happened to Alfonso?   (extreme ignorance question)

(3)   Whoever Alfonso talked to, he got upset.   (unconditional)

- "-ever" free relatives: well(-ish) studied (Dayal 1997; von Fintel 2000; Caponigro 2003; Condoravdi 2005; Tredinnick 2005 a.o.)
- What insights can we get by starting in a different place?
- Strategy 1: take a comparative look at all three constructions, using results from the FR literature.
- Strategy 2: focus on analyzing extreme ignorance questions / unconditionals.
  - (In fact, I have argued that these are the same case.)
- Results from strategy 1:
  - "Indifference" reading specific to FRs.
  - "Ignorance" general to all.
  - Quantificational/"free choice" readings found in FRs/unconditionals.
- Result from strategy 2:
  - Particular analysis of "-ever" that explains the "free-choice"ish properties of (primarily) unconditionals and extreme ignorance questions.
  - "-ever", and wh-epithets, as markers of *intensional domain wideness*.
  - Domain: local context.
- Some residual questions:
  - Port analysis to FRs? (embedded in larger question – can "wh"-items be analyzed in a uniform way?)
  - Compositional account of "-ever"?
  - How can indifference readings be analyzed? (Proposal: forced attributive readings of definite descriptions.)
  - (Strategy 3: look at marked "wh"-items in other languages.)

1 "-ever" across constructions

- Some free relative review (Tredinnick 1994; Iatridou and Varlakosta 1996; Dayal 1997; von Fintel 2000; Caponigro 2003; Tredinnick 2005).

(4)   Whatever I'm coming down with had better not be swine flu.[1] (*ignorance*)

(5)   I grabbed whatever tool was handy. (von Fintel; *FR-indifference*)

(6)   Last year, whatever I read disappointed me. (*free choice/quantificational*)

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[1]Seen in a facebook status message this morning.

1.1 The common denominator: ignorance

- Ignorance readings possible in all three constructions.
  - Obligatory in questions.

  (7)   Whatever I'm coming down with, I had better be able to go to the conference.
  (8)   Whatever happened to Alfonso?

- What factors lead to an ignorance reading, when there are options?
  - "it"-clefting.
  - Episodicity.

1.2 Quantificational/FC readings

- (Note: "free choice" because they often have an "any" paraphrase, typically involving subtrigging.)
- Possible for unconditionals/FRs, not for (root) questions.

(9)   Alfonso read whatever books Joanna did.
(10)   Whatever book Joanna read, Alfonso read it too.

- Not even very easy to see what the analogue for questions would be like. (Possibiliy: pair-list readings; not possible.)

1.3 Indifference

- Found only with FRs.
- Minimal unconditional/FR pair:

  (11)   Alfonso grabbed whatever tool was handy.
  (12)   Whatever tool was handy, Alfonso grabbed it.

- Indifference reading absent in (12).
- Question:

  (13)   Whatever tool is handy?

- Might expect this to have a biased/rhetorical reading – "It doesn't matter what tool is handy, but I guess you could tell me." Absent.
- What factors lead to an indifference reading in a DP?
  - Modal predicate ("handy", tough predicates, etc)

    (14)   Alfonso looked at whatever tool was green. (bias toward ignorance)

  - Use of "simply", "just".

    (15)   Alfonso simply looked at whatever tool was green. (indifference)

  - FR structure not actually a necessary condition...

(16)　　Alfonso simply/just grabbed the tool that was handy.

(17)　　Alfonso simply/just grabbed what was handy.

- Embedded indifference. von Fintel: possible. My claim: hard/impossible without a "simply"/"just".

(18)　a.　Unless Zack simply voted for whoever was at the top of the ballot, he must have spent at least 5 minutes in the voting booth. (von Fintel 2000)

　　　b.　# Unless Zack voted for whoever was at the top of the ballot, he must have spent at least 5 minutes in the voting booth. (von Fintel 2000)

(19)　a.　Unless John simply takes whatever car becomes available first, we won't make the ferry. (Condoravdi 2005)

　　　b.　# Unless John takes whatever car becomes available first, we won't make the ferry.

1.4　Generalizations

- What to make of all this?
    - (i) Don't want to center analysis around indifference.
    - (ii) Do want to center analysis around ignorance.
    - (iii) Indifference is about (attributive readings of) definite descriptions.
- Important point: in contexts where FR-indifference reading arises without supporting adverb, not obligatory in parallel definite description.
    - A goal (not fulfilled here): derive this fact from some property of "-ever" interacting with the definiteness of FRs.
    - Also: why no mixed indifference/ignorance readings?
- Dayal on attributive readings – her system is intended as a mechanism for deriving them. (Based on Farkas 1982.)
    - I think that only indifference readings are attributive.
- Point (ii) leads directly to strategy 2…

2　Extreme ignorance questions

2.1　Overview

- What is the difference between a regular constituent question, and an extreme ignorance question?
- "-ever", "on earth", "the hell", "in the world", "the devil", etc.

Scenario 1: S is at NELS, and sees Alfonso talking to someone they don't recognize.

(20)　　S: Who is Alfonso talking to?

(21)　**Extreme ignorance questions**
　　a.　S: Who on earth is Alfonso talking to?
　　b.　S: Whoever is Alfonso talking to?

- First pass: (extra) ignorance, low likelihood, surprise (Lee 1994; den Dikken and Giannakidou 2002).
    - What is the right precise characterization of these differences?

- What is the right way of deriving these differences?
- What can we learn about free choice from extreme ignorance questions?

- Proposal: "-ever", "on earth" trigger domain widening (following den Dikken and Giannakidou 2002).
  - Hamblin 'indefinitist' approach (in the sense of Horn 2000).
  - Motivation for doing things this way – will allow the semantics of "-ever" to interact with the pragmatics of questioning.

- However, domain widening can't be "extensional" as D&G propose (and as is often seen in the free choice literature).
  - Evidence: examples where extensional domain is fixed, and *couldn't* be any different.
  - Must be intensional – widen the set of possible worlds/situations under consideration (cf. Dayal 1998).
  - Any widening of extensional domain is epiphenomenal.

- Technically, widening takes the form of a wideness presupposition – *presupposition that context set is as wide as possible, given the circumstances*.

- Any actual widening (in a procedural sense) is the result of presupposition accommodation.

- Plan for this section:
  - Background on questions.
  - Extensional domain widening analysis.
  - Fixed domain data, consequences.
  - Intensional domain widening proposal.

2.2 Background: on the semantics of interrogatives

- Groenendijk and Stokhof 1997 – **Hamblin's picture** (cf. Hamblin 1958, 1973; Groenendijk and Stokhof 1984)

  (i) An answer to a question is a sentence, or statement.

  (ii) The possible answers to a question form an exhaustive set of mutually exclusive possibilities.

  (iii) To know the meaning of a question is to know what counts as an answer to that question.

- Hamblin 1973 (see also Karttunen 1977; Hagstrom 1998; Kratzer and Shimoyama 2002; Lahiri 2002 among many others):
  - An interrogative denotes a set of alternative propositions, corresponding to possible answers.

  (22) Polar question

  $$[\![\textbf{Did Alfonso come to the party}]\!] = \left\{ \begin{array}{l} \lambda w . \text{Alfonso came to the party in } w, \\ \lambda w . \text{Alfonso did not come to the party in } w \end{array} \right\}$$

  (23) Constituent question

  $$[\![\textbf{Who came to the party?}]\!] = \left\{ \begin{array}{l} \lambda w . (\text{Only}) \text{ Alfonso came to the party in } w, \\ \lambda w . (\text{Only}) \text{ Joanna came to the party in } w, \\ \lambda w . (\text{Only}) \text{ Henry came to the party in } w, \\ \lambda w . (\text{Only}) \text{ Alfonso and Joanna came to the party in } w, \\ \qquad\qquad\qquad . \\ \qquad\qquad\qquad . \\ \qquad\qquad\qquad . \end{array} \right\}$$

- Hamblin 1973; Kratzer and Shimoyama 2002: "wh"-pronoun denotes a set of alternative individuals.
- Groenendijk 1999: dynamic effect of alternative set is to partition the (set of possible world making up the) context.
- ex: raining only in worlds 1,2,3.

$$(24) \quad c = \left\{ \begin{array}{lllll} \langle w_1, w_1 \rangle & \langle w_2, w_1 \rangle & \langle w_3, w_1 \rangle & \langle w_4, w_1 \rangle & \langle w_5, w_1 \rangle \\ \langle w_1, w_2 \rangle & \langle w_2, w_2 \rangle & \langle w_3, w_2 \rangle & \langle w_4, w_2 \rangle & \langle w_5, w_2 \rangle \\ \langle w_1, w_3 \rangle & \langle w_2, w_3 \rangle & \langle w_3, w_3 \rangle & \langle w_4, w_3 \rangle & \langle w_5, w_3 \rangle \\ \langle w_1, w_4 \rangle & \langle w_2, w_4 \rangle & \langle w_3, w_4 \rangle & \langle w_4, w_4 \rangle & \langle w_5, w_4 \rangle \\ \langle w_1, w_5 \rangle & \langle w_2, w_5 \rangle & \langle w_3, w_5 \rangle & \langle w_4, w_5 \rangle & \langle w_5, w_5 \rangle \end{array} \right\}$$
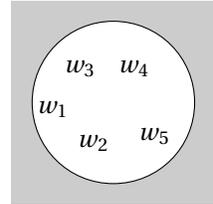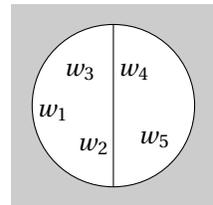
- Someone asks:

  (25)   Is it raining?

- Result:

  (26) $c' = c \oslash \textit{it is raining} =$

$$\left\{ \begin{array}{lllll} \langle \mathbf{w_1, w_1} \rangle & \langle \mathbf{w_2, w_1} \rangle & \langle \mathbf{w_3, w_1} \rangle & & \\ \langle \mathbf{w_1, w_2} \rangle & \langle \mathbf{w_2, w_2} \rangle & \langle \mathbf{w_3, w_2} \rangle & & \\ \langle \mathbf{w_1, w_3} \rangle & \langle \mathbf{w_2, w_3} \rangle & \langle \mathbf{w_3, w_3} \rangle & & \\ & & & \langle w_4, w_4 \rangle & \langle w_5, w_4 \rangle \\ & & & \langle w_4, w_5 \rangle & \langle w_5, w_5 \rangle \end{array} \right\}$$

- Complete answer would remove one of the cells.

2.3   The extensional domain widening account

- den Dikken and Giannakidou 2002, focusing on epithet questions with "the hell": such questions trigger "domain extension" – similar to domain widening in the sense of Kadmon and Landman 1993.

  "When attached to a *wh*-word, the modifier *the-hell*, we argue, extends the domain of quantification to include familiar and novel values. This we call domain extension. As a result of domain extension, the domain of quantification for *wh-the-hell* is the entire domain *D*, and not just a presupposed subset of it, as with regular *wh*-words." (den Dikken and Giannakidou 2002 p. 43)

- Related proposals:
  – Conlin et al. 2003 (independently) propose widening to account for a kind of question particle in ASL, conveying uncertainty.
  – Polinsky 2007: "wh"-epithet DPs are non-referential/act property-like, in the sense that they don't presuppose any domain set, and aren't compatible with there a restricted one.
- Regular constituent question: "Wh"-item presupposes some salient domain. (cf. Westerstahl 1984; von Fintel 1994; Stanley and Szabó 2000 among others)
  – Simplest Hamblin-style analysis: denotation of "wh"-item is the set of individuals in the salient domain. (cf. Kratzer and Shimoyama 2002)

- Recall scenario 1: S is at NELS, and sees Alfonso talking to someone they don't recognize.

  (27)   Who is Alfonso talking to?

- ⟦**who**⟧ might be the set of people at the conference, the set of people who Alfonso knows, etc.

  (28)   Whoever / who on earth is Alfonso talking to?

- ⟦**Whoever**⟧/⟦**Who on earth**⟧?
  – Possibility 1: all people (D&G).
  – Possibility 2: some set that is sufficiently wider than any salient domains.
- Ignorance follows from the inclusion of unlikely or non-prototypical examples in the domain set.

2.3.1   Negative attitude
- D&G also propose that "wh"-epithets introduce a presupposition of "negative attitude".

  (29)   Who the hell talked to Ariadne?
           presupposes: "If there is a person x in w, and x talked to Ariadne in w: x should not
           have talked to Ariadne in w."

- Technical implementation:

  (30)   **Presupposition of negative attitude of "wh-the-hell"**
                                              (den Dikken and Giannakidou 2002 ex. 38)
           In the actual world w: If $\exists x\,[P(x)(w) \wedge Q(x)(w)] \rightarrow \text{SHOULD}\neg Q(x)(w)$, for all possible
           values of x.
           (where x is the variable of "wh-the-hell", P is the property denoted by the "wh-the-hell"
           phrase, and Q is the property denoted by the VP.)

- This presupposition does not seem to be general to the whole class, only triggered for "the hell", "the fuck", etc.

  (31)   What the hell did Alfonso do to the coffee maker?
  (32)   What on earth did Alfonso do to the coffee maker?

- Deontic claim does not appear in all circumstances:

  (33)   Who the hell is Alfonso talking to?
  (34)   What the hell am I supposed to do with this form?
  (35)   Where the hell is Alfonso?

- Expressive content more like speaker frustration at lack of an answer.
- Modal negatives of various kinds may be inferrable from frustration, including those captured by negative attitude presup.
  – e.g. in (35), the modal component is that the speaker should be here, stronger than the claim that he shouldn't be where he is.
- I will set the negative attitude issue aside – not general to all epithet questions, or to "-ever" questions.

2.4 Fixed domains

- A puzzle: extreme ignorance questions felicitous in contexts where extensional domain is completely fixed.

(36) Scenario 2: A reality show is nearing the end of its season. 5 candidates are left, and the competition is fierce. On the task for this episode, all of the competitors do extremely well. It is hard to tell who the judges will pick as the person to send home.

    a.   Who will they pick?

    b.   Which contestant will they pick?

    c.   Whoever will they pick?

    d.   Who on earth will they pick?

- Domain identical between all four examples.

- Extensional domain widening prediction: extreme ignorance questions should be infelicitous, or have the same interpretation as other constituent questions.

  - Wrong!
  - Domain is not just fixed, it is *necessarily fixed* – can't even expand to include individuals who are only possible answers.

- Rather than having us consider unlikely individuals, such questions have us consider unlikely ways of differentiating them.

- Extensional domain widening can be neither the right characterization of the difference between the two kinds of questions, nor the right analysis of it.

  - See Arregui 2008 for a related observation about free choice items – plain indefinites often prefer extensional domains just as wide as free choice indefinites.
  - Side note: given fixed domain, no difference in informativity (at least w.r.t. quantity) between any of the questions above.

2.5 Analyzing extreme ignorance

- Proposal: "-ever" etc. indicate that the domain of discourse is as wide as possible, relative to the issue the question raises.

- Domain of discourse? Context set (Stalnaker 1978).

  - Set of possible worlds(/situations) that could be actual, as far as discourse participants are (publicly) concerned.

- What does it mean to be wide? Domain includes worlds where propositions in question are very unlikely but still possible.

- Set of individuals under consideration may have to be wide as a consequence (but won't necessarily widen).

- Cf. Chierchia 2006: "uncertainty about quantificational domains may also have qualitative aspects." My claim: 'qualitative' aspects primary.

- Technical implementation (utterance-level):

(37) $c + [\text{whatever/on earth } [\alpha]] = c + [\text{what } [\alpha]]$
defined only if
$$\text{Dom}(c) \supseteq \{w \,|\, \exists p \in [\![\mathbf{what}\ [\alpha]]\!]^{c} : p \text{ is a slight possibility in } w \text{ relative to } f_c \text{ and } g_c\}$$
where f_c is a speaker-oriented epistemic modal base and g_c a circumstantial ordering source.

- Paraphrase: the domain of the context (context set) includes worlds where alternative propositions are a slight possibility.

- "Slight possibility": see Kratzer 1981, 1991.

  – Different versions.
  – Kratzer 1981 version reduces above formula to simple compatability (as in Rawlins 2008a).

- Not a widening presupposition, but a wide**ness** presupposition.

  – May of course be accommodated.
  – Accommodating presupposition can affect what individuals might correspond to possible answers – end effect of question is to partition the context set.

- Another way of putting it: extreme ignorance questions not compatible with implicit domain narrowing. What do I mean by domain narrowing?

- Discourse circumstances radically underspecify contexts: the context is subject to vagueness.[2]

- Lewis 1979: In normal circumstances we tend to ignore possibilities that we consider unlikely or not relevant by default.

  – E.g. implicit domain narrowing.

- However, the boundary can be explicitly shifted outwards via accommodation.

- Lewis 1979 p.183, my emphasis: "Suppose I am talking with some elected official about the ways he might deal with an embarrassment. So far, we have been ignoring those possibilities that would be political suicide for him. He say: 'You see, I must either destroy the evidence or else claim that I did it to stop Communism. What else can I do?' I rudely reply: 'There is one other possibility – you can put the public interest first for once!' *That would be false if the boundary between relevant and ignored possibilities remained stationary.* But it is not false in its context, for hitherto ignored possibilities come into consideration and make it true. And the boundary, once shifted outward, stays shifted. If he protests 'I can't do that', he is mistaken."

  – Wideness presupposition enforces attention to the unlikely possibilities in just this way.
  – Ensures that worlds where an alternative is extremely unlikely are contained in the alternative.
  – Recall from Hamblin: alternative here = possible answer.
  – If an alternative would consist of worlds where the proposition in question is unlikely, it may spring into existence as a consequence of accommodating wideness.

- Explanation of both free domain and fixed domain data.

  – Scenario 1: context set will have to be wide enough to include unlikely possibilities for who Alfonso is talking to. Accommodating this may will expand number of alternatives (a la Lewis).
  – Scenario 2: context set will have to be wide enough to include unlikely propositions about one of the candidates being eliminated in the alternative set. Number of alternatives fixed. Felicitous because possibilities do expand.

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[2]The idea I pursue here, while quite different, seems potentially related to Dayal's 1998 contextual vagueness condition. As I am ignoring the licensing issues, I leave this connection for the future.

2.6 Deriving extensional domain widening (when necessary)

- Need to use a Karttunen-inspired entry for interrogative pronouns.

  (38) **Simple "wh"-item (Hamblin-style version)**
  $$[\![\textbf{who}]\!]^{g,c} \underset{\text{def}}{=} \{x \mid x \text{ is human}\}$$

  (39) **Domain-restricted "wh"-item (Karttunen-style version)**
  Where α denotes a function from alternative sets of individuals to alternative sets of propositions:
  $$[\![\textbf{who } [\alpha]]\!]^{g,c} \underset{\text{def}}{=} \left\{ p_{\langle st \rangle} \;\middle|\; \begin{array}{c} p \in [\![\alpha]\!]^{g,c}(\{x \mid x \text{ is human}\}) \\ \wedge \quad \exists w \in cs_c : p(w) \end{array} \right\}$$

- Adding "-ever" (diss version, assuming Kratzer 1981):

  (40) **Denotation for "-ever"**
  Where α denotes a function from alternative sets of individuals to alternative sets of propositions:
  $$[\![\textbf{who-ever } [\alpha]]\!]^{g,c} = \left\{ p_{\langle st \rangle} \;\middle|\; \begin{array}{c} p \in [\![\alpha]\!]^{g,c}(\{x \mid x \text{ is human}\}) \\ \wedge \quad \exists w \in cs_c : p(w) \end{array} \right\}$$
  defined only if cs_c is WIDE relative to $[\![\alpha]\!]^{g,c}(\{x \mid x \text{ is human}\})$ and g_c
  where g_c is a contextually provided epistemic background.

- Need to characterize the interaction of the compositional Hamblin semantics with the pragmatics (cf. Kratzer and Shimoyama's 2002 G&S version of the question operator; (iv) in section 3):

  (41) where α is a root interrogative, and c a context,
  $$cs_c + \alpha \underset{\text{def}}{=} \{\langle w_1, w_2 \rangle \in cs_c \mid \forall p \in [\![\alpha]\!]^{g,c} : (p(w_1) = p(w_2))\}$$

- How to do "-ever" compositionally?
  - Not exactly a simple matter.
  - The puzzle: "who" etc. have a clause built in that excludes alternatives that aren't possible relative to the context set.
  - "-ever" needs to combine before this exclusion happens, but needs to interact with "core" of interrogative pronoun.

2.7 Conclusions (EIQs)

- Recap: "on earth", "-ever", etc. mark domain wideness, in the spirit of Kadmon and Landman 1993.
- Widening = wideness + accommodation.
- Domain wideness involves the inclusion of distant possibilities, not (necessarily) the inclusion of unlikely or non-typical individuals.
- Follows recent work by Kratzer (Forthcoming) – quantifier domains are not sets of individuals.
- The role of widening in other free choice constructions:
  - The form of widening I invoke here could be dropped in as part of the analysis of FC items. (Should it be?)

- Wideness presupposition – similar to a modal "even" (cf. Lee and Horn 1994; Krifka 1995; Lahiri 1998).
- Explains why FC items have a modal component (Dayal 1998).
- Should wideness be derived via (Gricean) pragmatic principles, rather than stated as a property of lexical items? Seems to be conventional for extreme ignorance questions.

- Questions:
  - Differences among types of extreme ignorance questions? ("-ever" on its way out?)
  - Interaction with D&G's licensing puzzles? (cf. Pesetsky's 1987 description of such phrases as "aggressively non-D-linked".)

3 Applying this to Unconditionals, FRs

- Straightforward in the case of unconditionals. (At least on the interrogative analysis.)
  - To fit together the pieces, do (apparently) need a "shifting" analysis of conditionals, not a binding account (i.e. Rawlins 2008b won't work).
- Single occasion puzzle: episodicity entails ignorance.
  - Solution follows, with constraint against 1-alternative question denotations (Beck & Kim).
  - See ex. 628, p. 210.
  - Derivation of Dayal's variation presupposition.
- FRs: more complicated.
  - Complication – FR pronouns interpreted differently that interrogative pronouns (Caponigro 2003). Property-denoting, no existential force. Caponigro: no alternative-denoting constituents at all.
  - Not easy to retrofit Karttunen denotation to this case – non-compositional account in dissertation.
- However – single-occasion puzzle replicates, solution essentially identical.
  - *Ignorance* – looking across multiple possibilities for the same occasion.
  - vs. quantification/FR – looking across multiple occasions.
- Lots more to do here...

4 Conclusions

- Account of extreme ignorance questions – "-ever" induces widening/wideness in the domain against which questioning happens.
- Wideness presuppositional (not implicature).
- Unconditionals/FRs – wideness is presupposition about the domain against which assertion happens (or more local update).
- Mechanism does not derive indifference (and perhaps, shouldn't).
  - Clues about indifference in the semantics of "just"/"simply"...

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