

Arbitrary monsters: *you* and *one*.*

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0. Introduction: monsters and arbitrary pronouns.

- Shifting indexicals, termed *monsters* by Kaplan (1989) caused much debate (Fillmore 1981, Anderson and Keenan 85, Kaplan 1989, Partee 1989, Nunberg 1993, Israel and Perry 1996, Lewis 98, Schlenker 2003, Recanati 2004, *inter alia*).
- Two questions about monsters are still open:
 - Do they exist? and If they do, what is their semantics?
 - Schlenker (2003) argues for the existence of monsters.
- I will discuss arbitrary pronouns in English (and Russian, in the paper)
 - I'll argue that they should be analysed as shifting indexicals.
 - If my analysis is correct, this means that monsters can be found much closer to home, and that they are pervasive in the world's languages.
- Very little has been said in the semantic literature about the arbitrary interpretation of 2nd-person pronouns as in (1)¹; semantics of the arbitrary pronoun *one*² (2) has also received little attention.
 - (1) Nowadays, you don't get this kind of view of the countryside anymore.
 - (2) One should be careful with money.
- I present three sets of little-noted or previously unobserved data, and motivate a semantic analysis of the 2nd-person (singular) pronoun,

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¹ Alonso-Ovalle (2002) proposes a semantics of arbitrary 2nd-person pronouns in Spanish, unifying them with the deictic interpretation of the item. His analysis, however, differs substantially from mine; I discuss the differences below. There is also substantial pragmatic literature on arbitrary 2nd-person pronouns (Sankoff and Laberge 1979, Yule 1982, Kitagawa and Lehrer 1990, among others).

Great thanks to an anonymous reviewer for the CSSP conference for pointing out this literature to me.

² I am distinguishing the generic *one* from the N¹-anaphoric *one* as in (i) below.

(i) Would you like an apple? Take one!

unifying some of its properties with those of the arbitrary *one*, and contrasting both pronouns with German impersonal pronoun *man* (3).

- (3) Man wäscht die Hände vor dem Essen.
MAN washes the hands before the meal.
'One washes one's hands before meals.'
- The first set of data shows that *you* and *one*, like *man*, pattern with indefinites in contexts involving adverbial quantification. This data goes against previous claims in Safir (2004) on *one* and Kratzer (1997) on *man*, who treat these items as definites.
 - The second set of data presents a set of contexts in which *you* necessarily receives a deictic interpretation and arbitrary *one* is ruled out, in contrast to the German *man*.
 - On the basis of this data, I propose a unified semantics for the arbitrary and deictic uses of *you*, treating it as a shifting indexical or monster (Kaplan 1989); at the same time, I propose that *one* is also a special kind of indexical.
 - The third set of data presents another instance of variable-like behaviour of the 2nd-person pronoun. This data shows that *you* patterns with other types of variables in multiple-pronoun sentences, motivating an addition of contexts (to be defined below) to the ontology of discourse referents (Stone and Hardt 1997, Bittner 2001, *inter alia*).

1. 1st data set: *you*, *one*, and *man* behave like indefinites

- Sentences containing indefinites and quantificational adverbs (Q-adverbs) like *always*, *usually*, or *sometimes* yield the effect of quantification over the variable introduced by the indefinite (QVE) (4) (Lewis 1975), both in the classic QVE configuration (4a, 4b) and in donkey sentences (4c)
- (4) Indefinites: QVE available: Most linguists = QVE on linguists
- a. A linguist is usually smart
 - b. Linguists are usually smart.
 - c. If a guy is a linguist, he's usually smart.
- BUT: Q-adverbs fail to produce QVE in definites and demonstratives (5)³

³ As Nakanishi and Romero (*in press*) note, QVE with definites is achieved with expressions like *for the most part* (i), rather than Q-adverbs. Which operators succeed in achieving QVE over definites is a fascinating question; for my purposes, it is enough to note that Q-adverbs fail here.
(i) The students sitting over here now are for the most part smart. (*Most students...* = QVE on students)

- (5) Definites: no QVE, only reading: 'Now they're smart, now they're not'
- a. # The linguists sitting here now are usually smart.
 - b. # He /this linguist is usually smart.
 - c. #If this guy is a linguist, he's usually smart.
- The same pattern holds in Russian and German: Q-adverbs succeed in quantifying over the variable introduced by the indefinites in their scope, and fail to quantify over the denotation of definites/demonstratives.
- Crucially, arbitrary *you*, *one*, and German *man* pattern like indefinites and unlike definites/demonstratives in producing QVE with Q-adverbs (6). This pattern was noticed for *one* by Moltmann 2003, and for Spanish 2nd-person singular pronoun by Alonso-Ovalle (2002)⁴.

(6) a. *you*

- i. In those days, you always/usually/rarely lived to be 60.
- ii. If you deal with the Mafia, you always/usually/sometimes get killed.

b. *one*

- i. In those days, one always/usually/rarely lived to be 60.
- ii. If one deals with the Mafia, one always/usually/sometimes gets killed.

c. German *man*

- i. Damals lebte man immer / normalerweise / selten bis 60 Jahre.
Then lives MAN always / usually / rarely till 60 years
'In those days, one always/usually/rarely lived till 60.'
- ii. Wenn man mit der Mafia verhandelt, wird man immer / normalerweise /
If MAN with the Mafia deals will MAN always / usually /
manchmal ermordet.
sometimes get.killed

'If one deals with the Mafia, one will always/usually/sometimes get killed.'

- In (6a-i), the sentence entails that, depending on the adverb, all, most, or few of the people at the time lived to be 60; similarly in sentences with *one* (6b-i) and *man* (6c-i).
- The (ii) examples illustrate the same point for donkey sentences⁵.

⁴ Alonso-Ovalle (2002) notes that certain adverbs seem to produce QVE over the 2nd-person pronoun, but then goes on to deny this by citing an example when a Q-adverb fails to do so. I discuss his data.

⁵ These examples are complicated by the fact that *you/one/man* are the only forms available to refer back to *you/one/man*. So, they are used for this purpose instead of regular pronouns in the consequent clause of the donkey sentences. Since these example involve variables co-varying under quantification, the co-construal of the two occurrences of the same pronoun cannot be analysed as simple coreference or mediated by extra-linguistic reasoning (as is done in Koenig and Mauner 2000 for the French impersonal pronoun *on*).

➤ This pattern shows that these arbitrary pronouns behave like indefinites and unlike definites and demonstratives, both in the scope of quantificational adverbs and in the if-clauses of donkey sentences.

➤ A few objections:

1. Alonso-Ovalle (2002) argues against this claim for Spanish, citing an example (7a) in which Q-adverb *raras veces*=*few times* fails to produce QVE with the 2nd-person pronoun. However, examples in (7b,c) don't raise an eyebrow – *rara veces* succeeds in producing the QVE there.

- Alonso-Ovalle bases his analysis of arbitrary *you* on the claim that *you* (in Spanish) is not susceptible to QVE with Q-adverbs, but rather can only have a quasi-universal or a deictic reading, radically differing in this respect from regular indefinites.
- His analysis thus radically differs from the one presented below, and fails to account for the facts in (6), (7b,c).

(7) a. (En las fiestas de ese departamento) *raras veces* *bebes* *vino*.
 In the parties of that department *few times* *drink.2ND.SING* *wine*
 'In the parties of that department, people rarely drink wine.'

(Not: 'In the parties of that department few people drink wine.')

b. En aquella epoca, *rara vez* *vivias* *hasta cumplir los 60*.
 In that *time*, *rare time* *lived.2ND.SING* *until to. fulfill the 60*.
 'In those days, few people lived until 90.'

c. Si *engañas a* *la mafia*, *rara vez* *vives para contarlo*.
 If *deceive.2ND.SING* *the Mafia* *rare time* *live.2ND.SING* *to. count.it*
 'If you deceive the Mafia, you rarely live to tell it.'

2. In her 1997 presentation, Angelika Kratzer argues that *man* is actually definite, based on its unacceptability in there-sentences (8a), unlike the indefinites like *wer* or *jemand* (someone) (8b).

(8) German (kratzer:97, examples 1-3)

- a. *Es *war man* gekommen. b. Es *war wer/jemand* gekommen.
 There was *MAN* come. There was *someone* come

Intended reading: 'Someone had come.' 'Someone had come.'

3. The same argument is given in Safir (2004) for the definiteness of *one* (9a), which contrasts with the indefinite *someone* (9b)

(9) English

- a. *She always knew there would be one waiting in the wings.

b. She always knew there would be someone waiting in the wings

However, as Prince (*to appear*) points out for the pronoun *me(n)* - the Yiddish counterpart of *man* - the pronoun is unable to appear in positions in which it receives intonational prominence or contrastive focus (Rooth 1992). This is also true for *man* (10a) and *one* (10b).

(10) a. German

Jemand / #Man, sage ich, war hier.

Someone / MAN, say I, was here.

'Someone / #one, I'm telling you, was here.'

b. English

Someone /# One, I'm telling you, is always waiting in the wings.

However, the postverbal position in existential *there*-sentences is exactly the one in focus, both in the sense of being hearer-new information (Ward and Birner 1995), and in having intonational prominence!

So: it is the unfocusability of *one* and *man* (however explained) that rules them out in *there*-sentences, and not their definiteness.

2. 2nd data set: *you* and *one* are not real indefinites.

- On the basis of the data in previous section alone, we might conclude that arbitrary *you* and *one*, like *man*, are indefinites.
- At the same time, we can present two arguments that *you* and *one* are not real indefinites, the first concerning both of these pronouns, and the second pertaining to *you* alone.

Arbitrary *you* and *one* are not regular indefinites:

In sentences lacking overt Q-adverbs or silent generic quantification, regular indefinites and *man* are interpreted as existentially quantified (11a,b). In contrast, arbitrary *you* and *one* are impossible in such sentences, and only the deictic interpretation of *you* is available there⁶. (11c,d).

(11) a. Yesterday, a linguist/linguists just burned a house.

b. Gestern, hat man ein Haus abgebrannt.

Yesterday has MAN a house burned

'Yesterday, someone has burned a house.'

c. Yesterday, you just burned a house (*arbitrary you)

⁶ This has been noted for Spanish 2nd-person pronoun in Alonso-Ovalle (2002).

d. *Yesterday, one just burned a house.

This contrast suggests that arbitrary *you* and *one* have special quantificational requirements, and thus cannot be analysed as regular indefinites.

Arbitrary *you* presents a further argument against the indefinite analysis:

The impossibility, under such analysis, of presenting a uniform semantics for the arbitrary and deictic uses of *you*. The chief theoretical challenge posed by the data in (6) and (11) is reconciling the indexical nature of the pronoun (2nd-person is usually taken to denote deixis to the addressee) with its behaviour as a bound variable in (6).

- A natural question at this point is, is there any relation between the deictic and the arbitrary *you*? Why not posit a separate lexical entry for the arbitrary use of *you*?
- The chief argument against such an ambiguity is that arbitrary *you* (singular, wherever such distinction exists for the 2nd-person) appears with astounding systematicity in language after language. The arbitrary use of singular 2nd-person pronoun is attested in Slavic, Romance, Germanic, and Dravidian languages, among many others. The explanatory power of our theory would be lost if we were to ignore this ubiquitous connection.
- Another reason for relating the two uses of *you* is that even in its arbitrary guise, the pronoun always carries a special connection with the addressee - if not by entailing addressee's inclusion, then by invariably communicating an appeal for addressee's empathy. In this, *you* contrasts with *one* (12).

In both sentences in (12), the empathy/perspective resides with *you*:

- (12) a. In those days in England, one had to show you some respect.
b. In those days in England, you had to show one some respect.

Sentences with arbitrary *you* always involve this special sort of empathy - an appeal to the addressee to place himself/herself in the situation(s) introduced. Thus, paraphrasing (6a), repeated below in (13a) in accordance with this intuition, we get (13b) below.

- (13) a. In those days, you usually/rarely/sometimes lived to be 60.
b. For most/few/some x in those days, place yourself in the shoes of x, you live until 60.

- A final blow to the proposal which separates the deictic and arbitrary *you* is the new set of data presented below (14). This data, discussed in detail in section 5, shows that the pattern in which deictic and arbitrary readings for *you* arise in a multiple-pronoun sentence duplicates the pattern of strict and sloppy readings in multiple-pronoun sentences with VP-ellipsis⁷. In particular, note that in both cases, reading (iii) is missing - an inexplicable gap if the two uses of *you* arise from different lexical entries.

- (14) a. John said he saw his mother, and Bill did too.
- i. Bill said John saw John's mother.
 - ii. Bill said Bill saw Bill's mother.
 - iii. *Bill said John saw Bill's mother.
 - iv. Bill said Bill saw John's mother.
- b. In those days, you could marry your sister.
- i. Addressee could marry addressee's sister.
 - ii. One could marry one's sister.
 - iii. *Addressee could marry one's sister.
 - iv. One could marry addressee's sister.

In fact, under the indefinite analysis for arbitrary *you* (and the usual analysis for deictic *you*) the absence of reading (iii) in (14b) is a complete mystery, since the two lexical entries would give rise to this reading in the same way as the indefinite and the demonstrative contribute to the meaning of (15) below.

(15) In those days, this duke could marry a queen's sister.

- I conclude that neither *one* nor *you* are real indefinites, and that a tenable analysis of *you* must address the challenge of unifying its indexical nature with its variable-like behaviour in (6) and (14b).

3. Main proposal: *you* is a monster

- A similar challenge was addressed by Schlenker (2003) in proposing a semantics for the 1st-person pronoun (usually treated as deixis to the speaker) in Amharic, and for the present tense (a deictic to the utterance time) in Russian. These indexicals shift in attitude reports to the holder and time of reported attitude, respectively (16), so that the indexicals appear to be bound by the attitude verbs.

⁷ I am considering the case when the ellipsis is interpreted to be large: *Bill did too* = *Bill said he saw his mother*. (Dahl 1973).

(16) a. Russian: Last month, John said "I am building a house."
 V proshlom mesjace Vanja skazal, chto on stroit dom.
 In last month John said that he builds.PRES house
 'Last month John said that he was building a house.'
 (lit.: 'Last month John said that he is building a house.')

b. Amharic: John says, "I am a hero."

ǰ on ǰ əgna nə -ññ yǰl -all
 John hero be.PRF-1sO 3M.say-AUX.3M
 'John says that he is a hero' (literally: 'John says that I am a hero')

➤ Schlenker reanalyses attitude verbs (previously treated as quantifiers over situations) as quantifiers over contexts.

○ A context is a tuple <agent, recipient, time, world>

○ an indexical then refers to one of the coordinates of this tuple.

This analysis for (16b) would be as indicated in (17), where <John, x2, t1, w1> is the context of the reported speech act.

(17) SAY_{<John,x2,t1,w1>c_i} be.hero(I(c_i), time(c_i), world(c_i))

I propose to treat *you*, both on its arbitrary and deictic use, as an indexical, always referring to the addressee coordinate of the context.

➤ Extending (Schlenker 2003), I reanalyse quantificational adverbs (previously treated as quantifiers over situations) as quantifiers over contexts.

➤ I modify slightly Schlenker's definition of a context, replacing the world coordinate with a situation coordinate instead.

Thus, the quantification appearing with arbitrary *you* involves possible worlds, or rather, situation-slices of possible worlds as one of the coordinates of the contexts being quantified over.

➤ The new contexts introduced (and the worlds in them) are imaginary ones, in which the speaker and, via recognition of speaker's intent, the addressee pretend to place themselves into the situation described in the restrictor phrase, such as *in those days*.

➤ In sentences that involve no quantification over contexts, *you* is forced to pick the addressee of the speech context → obligatory deictic interpretation as in (11c).

- Following Kratzer (1989, 1990, 2002), I treat propositions as properties of situations/contexts.

Thus, the sentence (17a) is analysed as in (17b) (ignoring tense); in our extension to contexts, we simply replace situation variables with variables ranging over contexts.

You picks out the addressee coordinate of the context c_0 , while the verb refers to the situation s_0 , which is one of the coordinates of the context c_0 .

(17) a. You burned a house.

b. $\lambda c_0. \exists x. \text{house}(x) \ \& \ \text{burn}(\text{you}(c_0), x, s_0)$

- When quantification over contexts is introduced, *you* will additionally have the option of referring to the addressee coordinate of the quantified context, leading to QVE as in (6a).

So, on the arbitrary reading of *you*, the sentence (18a) below would be represented as in (18b) (ignoring tense); again, the situation variables are simply switched to context variables in our analysis.

You then co-varies with the context, acquiring the quantificational force of the Q-adverb; the variable s is one of the coordinates of the context c .

(18) a. [In those days] You always/usually/sometimes loved the queen.

b. $\lambda c_0. \forall c / \text{Most } c / \exists c. \lambda x. \text{queen}(x, s) \ \& \ \text{love}(\text{you}(c), x, s)$

- Unlike indefinites or *man*, in episodic sentences like (17a) *you* fails to acquire an existential reading similar to the *sometimes* version of (18a), since there is no existential quantification over contexts that *you* could pick up.
- Thus, the restriction on the distribution of arbitrary *you*, illustrated in (11), can be formulated as the need for quantification over contexts in order for the indexical to shift.

The empathy effect, most clearly illustrated in (12), results from the nature of the context: new addressee is simply the addressee of the speech context in the shoes of some person in the newly introduced situation.

Thus, a more precise representation of a sentence with arbitrary *you* (19a) should include this restriction (19b, where s_1 is the situation coordinate of c_1).

(19) a. In those days, you always lived well.

b. $\lambda c_0. \forall c_1. [\text{you}(c_1) = \text{you}(c_0) \ \& \ \text{placed-in}(\text{you}(c_0), s_1)] . \text{In-those-days}(s_1) \rightarrow$

→live-well(you(c₁),s₁)

I take this speech-act part of the meaning of sentences involving arbitrary *you* to be the result of a presupposition introduced by *you* itself.

- By accommodating this presupposition, the hearer fulfills the speech act, pretending to place himself in the required situation(s).
- The presupposition is filtered out in the deictic use of *you* since the hearer is already placed in the speech context.

4. Regarding *one*

- From the data in (6) and (11) above, it becomes clear that *one* is licensed only in sentences involving quantification over contexts.
- This would be puzzling if *one* was not somehow indexical.
 - Safir (2004) notes that , if uttered without further qualifications, the reference of *one* must include the hearer(s).

E.g., a Martian addressing an audience of humans cannot felicitously say (20a), nor can a member of his audience felicitously answer with (20b).

- (20) a. Fortunately, nowadays one is not susceptible to human disease.
b. On the contrary, one is always susceptible to human disease!

- Two types of potential counterexamples exist: those in which the inclusion of the hearer is ruled out by extra-linguistic factors, and those in which the hearer is excluded explicitly.

Regarding the first type: while *one* can be used in situations that exclude the hearer, like (21) below, such examples always leave the observer with the feeling that the speaker is talking to herself.

- (21) Scenario: a mother is addressing only her daughter
One raises kids, sacrifices so much for them, and then they move where one cannot even see the grandchildren!

Regarding the second type: examples of this type, illustrated in (22) below, acquire a deontic ('one should take a shower every day') or qualified ('one tends to take a shower every day') flavour. Thus the hearer is actually included in the generalisation with *one*.

- (22) In the States, one takes frequent showers, although you, my dear, never do.

- I thus conclude that *one*, like *you*, is an indexical ($one \approx one\ of\ us\ people$), which shifts, co-varying with the context in sentences containing Q-adverbs, resulting in QVE (6b).
- One important difference between the arbitrary *you* and *one* is the absence of the appeal for empathy in the latter.
- This is explained if *one* includes no presupposition like the one associated with *you*.

This difference is most sharply felt in sentences in (12), but can be also observed in the examples in (6).

- Another difference, which currently remains unexplained, is the inability of *one* to appear in sentences that lack quantification over contexts.

On the current account, nothing prevents *one* from doing so, acquiring in these sentences a meaning *one of us*.

5. 3rd data set: *you* and sloppiness

- Treating arbitrary *you* as a monster also helps account for the similarity of its behaviour in multiple-pronoun sentences to the behavior of other variables in such sentences: *de se* pronouns in dream reports, and sloppy variables in VP-ellipsis.
- Dahl (1973) observes that not all readings are possible in cases of VP ellipsis involving multiple pronouns.

The full pattern of Dahl's puzzle is shown in (23) below.

- When the ellipsis in (23a, b) is interpreted to be large (e.g., 'Bill did too' = 'Bill said he saw his mom.'), the two potential antecedents for the sloppy pronouns *he/him/his* are John and Bill.
- As the judgments reported below show, one of the mixed readings for (23a) is unavailable, namely the strict-sloppy one (23a-iii).

- (23) a. John said he saw his mom, and Bill did too.
- i. Bill said that John saw John's mom.
 - ii. Bill said that Bill saw Bill's mom.
 - iii. *Bill said that John saw Bill's mom.
 - iv. Bill said that Bill saw John's mom.
- b. John said his mom saw him, and Bill did too.
- i. Bill said that John's mom saw John.
 - ii. Bill said that Bill's mom saw Bill.

- iii. Bill said that John's mom saw Bill.
- iv. Bill said that Bill's mom saw John.

- In fact, as pointed out by Hardt (2003), the Dahl's puzzle pattern in (23) is exactly replicated by the one observed in Percus and Sauerland (2003) for *de se* pronouns in dream reports (24), where different readings arise in the scenario where John dreams that he is Bill.
 - Then, the two pronouns in a dream report have two potential antecedents: John and Bill (John's dream-self).
 - This gives rise to some incestuous readings, but also to some mixed ones.
 - Note that the <real-self, dream-self> reading for (24a) is unavailable, in exact parallel to the pattern in (23).

- (24) a. John dreamed he married his granddaughter.
- i. John dreamed that John married John's granddaughter.
 - ii. John dreamed that he, as Bill, married Bill's granddaughter.
 - iii. *John dreamed that John married his=Bill's granddaughter.
 - iv. John dreamed that he, as Bill, married John's granddaughter.
- b. John dreamed his granddaughter married him.
- i. John dreamed that John's granddaughter married John.
 - ii. John dreamed that his=Bill's granddaughter married him=Bill.
 - iii. John dreamed that John's granddaughter married him=Bill.
 - iv. John dreamed that his=Bill's granddaughter married John.

- Here, I point out previously unobserved pattern of arbitrary and deictic interpretations for sentences involving several 2nd-person pronouns (a full version of the pattern mentioned in (14b) above).
- This pattern (25) turns out to be completely parallel to those observed in Dahl's puzzle and multiple-pronoun dream reports.

- (25) a. In those days, you could marry your cousin.
- i. Addressee could marry addressee's cousin.
 - ii. One could marry one's cousin.
 - iii. *Addressee could marry one's cousin.
 - iv. One could marry addressee's cousin.
- b. In those days, your cousin could marry you.
- i. Addressee's cousin could marry addressee.
 - ii. One's cousin could marry one.
 - iii. Addressee's cousin could marry one.
 - iv. One's cousin could marry addressee.

- Given that, for Schlenker (2003), *de se* pronouns are just a subclass of monsters, the similar behaviour of the two should not be surprising.
- For the purposes of this paper, the exact analysis for *de se* pronouns is not important, as long as the same mechanism can be proposed for the three identical patterns above.
- To derive the pattern in Dahl's puzzle and *de se* pronouns in dream reports, Hardt (2003) uses a Centering-inspired dynamic-semantic mechanism for sloppiness, together with syntactic QR-like movement to derive mixed (non-incestuous) readings.
 - The shifting variable (whether sloppy variable in VP-ellipsis, or a *de se* pronoun) is sensitive to salience, switching its reference, e.g. from real-self to dream-self, or from John to Bill, when the corresponding antecedent becomes more salient.
 - The reference of all pronouns is thus fixed for the duration of the clause, deriving unmixed readings ([i] and [ii] readings for the sentences in (23, 24).
 - The mixed readings are derived when the most salient antecedents shifts (e.g., from John in the first clause to Bill in the second clause in (23), or from real-self to dream-self following the verb *dream* in (24).
 - To derive the mixed readings, Hardt (2003) allows expressions that denote discourse referents (Kamp and Reyle 1983) to move outside the clause, and thus escape the influence of the new salient antecedent.
 - By moving a constituent that contains a salience-sensitive pronoun, the reference of that constituent is fixed (26), and so the reference of the pronoun it contains is fixed as well.

(26) John [his mom]₁ [said t₁ saw him], and Bill did too. →
 John [his mom]₁ [said t₁ saw him], and Bill [said t₁=John's mom saw him=Bill].

- The readings in (23a-iii) and (24a-iii) are unavailable, since the pronoun *he*, if we attempt to move it out of the clause, leaves behind a salience-sensitive trace, and so the reference of the trace will still shift to the new salient antecedent (27a). (compare with 27b)

Subscript * indicates sensitivity to salience, resulting in co-reference with the closest antecedent marked with superscript *. The crucial trace is in **bold**.

(27) a. UNAVAILABLE: Bill said John saw Bill's mom.
 John^{1*} [he*] [said t* saw [his* mom]²]³, and Bill^{4*} did₃ too. (said t* saw [his* mom]₂)

b. OK: Bill said Bill's mom saw John.
 John^{1*} [saw him_{*}]⁵ [said [his_{*} mom]² VP₅]³, and Bill^{4*} did₃ too. (said [his_{*} mom]₂ VP₅)

- Extending this analysis directly to account for (25) presents a challenge, since *you* is a function of context, pointing to the addressee coordinate in it, and is not a salience-sensitive variable.
- We can circumvent this problem while preserving the spirit of Hardt's analysis by including contexts (tuples as above) in our ontology of discourse referents (antecedents for salience-sensitive variables).
- *You* is then a function of a salience-sensitive context variable c_* , as is indicated in (28), the indexed representation for (25a-ii).

It is that context-variable and not *you* that shifts from the speech-context antecedent to quantified-context one.

- Thus, all the sentences in (23) – (25) will involve a salience-sensitive variable, and two potential antecedents for it, resulting in the same pattern of strict and sloppy (shifted) readings.

(28) ^{TOP-CONTEXT*} In those days ^{NEW CONTEXT*} you(c_*) could marry your(c_*) cousin.

6. Conclusion

- I have presented evidence that shifting indexicals (monsters) are to be found in English, among other languages.
- In particular, 2nd-person (singular) pronoun and the arbitrary pronoun *one* are monsters.
 - The behaviour of these pronouns in QVE configurations (6), together with unavailability of arbitrary pronouns in sentences lacking quantification over contexts (11) served as the initial evidence for their monsterhood.
 - In addition, the pattern of deictic and arbitrary readings that *you* exhibited in multiple-pronoun sentences (14b, 25) established that a unified semantics is necessary for these uses of *you*, in the same way that different readings are derived for the multiple-pronoun pattern with VP-ellipsis and *de se* dream reports.
- I offer a semantic analysis accounting for this data, extending the idea of Schlenker 2003.

- In particular, I reanalyse Q-adverbs as quantifiers over contexts. This allows *you* and *one* (analysed as functions of context) to shift in the presence of Q-adverbs.
- A special presupposition introduced by the 2nd-person pronoun accounts for the empathy effect, absent with *one* (12).
- A closer look at the multiple-pronoun data provides us a better understanding of the nature of contexts and context-shifts. Contexts, defined following Schlenker 2003 as tuples, are added to our ontology of discourse referents, following individuals, times, worlds and possibilities argued for in Stone and Hardt (1997) and Bittner (2001).
- Discourse referents can vary in salience; salience-sensitive variables (over individuals, times, or contexts) change their reference to the most salient antecedent.
- Context-shifts, in this framework, are governed by the same mechanism as shifts in other variables, whether sloppy variables in VP-ellipsis, or *de se* pronouns in dream reports.
- While many gaps in our knowledge of arbitrary pronouns and of contexts remain, this paper is a step towards a clearer understanding of the semantic issues involved.

THANK YOU.

Please see the paper for references:

<http://semantics-online.org/lsacc/malamud.2005.arbitrary.pdf>

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