Covert Quantifier Restrictions in Natural Languages

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Pedantry

A: Everybody is frowning.

B: My mother in Mindelheim isn't.

A: I was only talking about everybody in this room in the Palazzo Feltrinelli, of course.

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Covert domain restriction variables?

A: Everybody$_C$ is frowning.

B: My mother in Mindelheim isn't.

▪   B filled in an obviously unintended value for the domain restriction variable.

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Execution of the domain variable idea

▪   Westerståhl 1984, von Fintel 1994, Martí 2003: Quantifiers come with unpronounced domain restriction variables ranging over properties of individuals.

▪ $[[every_C]]^g =$
$\lambda P \, \lambda Q \, \lambda w \forall x[\, [g(C)(x)(w) \, \& \, P(x)(w)] \rightarrow Q(x)(w)]$

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Refinement

(1)   Every girl finished every task (she was supposed to do).

- Implicit domain restrictions are more complex. They consist of functional variables and appropriate argument variables: von Fintel 1994.

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Where is the variable?

- Domain restriction variables do not come with quantifiers, but with common nouns. Stanley & Szabo 2000, Stanley 2002.

- Most people$_C$ are starving. They are poor.

'in this village'

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More support for nominal restriction

- Superlatives (Delia Graff p.c. to Stanley 2002)

(1)   Vanessa climbed the highest mountain$_C$.

in New Hampshire

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Not just superlatives…

(1)   Nina is a remarkable violinist$_C$.

- Stanley 2002.

Comparison Class: 9-year olds

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But there are some new puzzles now

- If determiner quantifiers are implicitly restricted via variables that come with their common nouns, where do implicit restrictions for adverbial quantifiers come from?

- Martí 2003.

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Breheny Examples

- Every fake philosopher$_C$ is from Idaho.

American

Not: Every fake American philosopher is from Idaho. Take a genuine European philosopher who pretends to be American.

- Breheny 2003, Stanley yesterday.

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An unanswered syntactic question

- Are there natural languages with overt domain restriction variables? If not, what is it that forces those domain restriction variables to be covert?

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Looking at the semantics

- How do contexts provide values for the assumed domain restriction variables?

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Finding values for the variables

Me: Everybody$_C$ is smiling.

- Why is my utterance most readily understood as talking about everybody in this room in the Palazzo Feltrinelli?

- What if there are salient properties of subgroups present in this room?

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A salient group of smilers

- Me: Everybody$_C$ is smiling.

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- What I said is still likely to be judged false.

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Observation

- Even very salient properties of individuals are not readily picked up as values for domain restriction variables.

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Worse things to come ....

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Definitely not pedantry!

A: Lisa is a phonologist. I think that most linguists$_C$ would agree with what she said.

B: I don't think any syntactician or semanticist would.

A: I was only talking about phonologists, of course.

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Hard to explain…

■ Lisa is a phonologist. I think that most linguists$_C$ would agree with what she said.

■ *Phonologist* is of the right semantic type, it is the closest possible antecedent, it is salient, and pragmatically very plausible. Yet it is not a possible antecedent for C.

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Contrast: Overt anaphora

A: Lisa is a phonologist. I think that most such linguists would agree with what she said.

B: # I don't think any syntactician or semanticist would.

Chris Potts p. c.

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Another mystery

(1) A man called who had climbed Monte Disgrazia, and a woman did, too.

(2) A man called who had climbed Monte Disgrazia. A woman called, too.

■ (1) is much more readily understood as entailing that a woman who had climbed Monte Disgrazia called. Why?

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And why this contrast?

(1)   Meredith stepped up on the ladder. The rung broke.

(2)   # Meredith stepped up on the ladder. The rung was aluminum.

- Evans 2004.

Interim Summary
Three unanswered questions about domain variables

Problem one: Location

- The variable comes with determiners: Problems with NP-anaphora, superlatives, modifying adjectives like *remarkable*.

- The variable comes with nouns: Problems with adverbial quantifiers, adjectives like *fake* or *alleged*.

Problems two & three

- Why should domain variables have to be covert in every natural language? Distribution of overt and covert property anaphora?

- Why are domain variables so unwilling to pick up most kinds of contextually provided properties of individuals?

A different route…

- Are there independently needed devices that might covertly restrict quantification domains for both nominal and verbal quantification?

Yes!

- Situations - partial worlds, that is.

- Barwise & Perry 1983. Barwise & Etchemendy 1987. Kratzer 1989. Poesio 1993. Cooper 1996. Recanati 1996.

An Austinian Account of Covert Quantifier Restrictions

Our initial example

Me: Everybody is frowning.

- Why is my utterance most readily understood as talking about everybody in this room, here in the Palazzo Feltrinelli?

An Austinian answer

- My utterance is about a particular actual situation, a mere part of the actual world.

- What I am claiming is that everybody in the situation we are talking about - the topic situation - is frowning.

- Barwise & Etchemendy 1987. Recanati 1996.

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The same account for adverbial quantifiers

(1)   This concert was performed exactly twice.

- (1), too, can be understood as a claim about a mere part of the actual world.

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A claim about America

- Every fake philosopher is from Idaho.
  Not: Every fake American philosopher is from Idaho.

- Breheny 2003, Stanley yesterday.

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Expectation

- Unless there is true ellipsis, salient subsituations, not salient properties, should guide the availability of covert quantifier domain restrictions.

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Everybody is frowning

- The present tense tells us that the topic situation is a current situation.

- If there isn't any other topical current situation, the utterance situation is the obvious fallback.

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Past topic situations

(1) Since it had snowed during the night, everyone shoveled their driveway.

- A felicitous utterance of (1) does not merely require a salient topic or reference <u>time</u>.

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Two claims about the same situation

(1) A man$_s$ called who had climbed Monte Disgrazia. A woman$_s$ called, too.

- We expect no pressure for the two common nouns to share restricting properties.

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Contrast with VP-ellipsis

(1) A man$_s$ called who had climbed Monte Disgrazia, and a woman$_s$ did, too.

- In the second conjunct of (1), the relative clause is copied in the process of reconstructing the elided VP.

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Generic claims about the actual world

Lisa is a phonologist$_s$.

w_0

I think that most linguists$_s$ would agree with what she said.

Zooming in with stage-level predicates

(1)   Juan drove up to the busy tollbooths. the tolltaker was rude.

(2)   Juan looked at the busy tollbooths.
     # The tolltaker was rude.

▪   Evans 2004.

Zooming out with individual-level predicates

(1)   Meredith stepped up on the ladder. The rung broke.

(2)   # Meredith stepped up on the ladder. The rung was aluminum.

▪   Evans 2004

More zooming-out

(1)   A harbor seal in California died last week.
     # Most pups die in the first few weeks of life.

▪   Gawron 1996.

Interim Summary

- Salient subsituations, rather than salient properties seem to provide covert quantifier restrictions.

- Tense and aspect help pick suitable topic situations: Generic versus episodic; present versus past.

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The pivotal role of topic situations

- Tense: Expresses a relation between utterance situation and topic situation.

- (Viewpoint) aspect: Expresses a relation between topic situation and described situation.

- Klein 1994; but Klein has times instead of situations.

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Topic situations instead of topic times

- It seems that topic situations should take the place of topic or reference times in the semantics of tense.

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Question

- If implicit quantifier restrictions were delivered via covert domain variables, why would tense and aspect affect the choice of domains in the way they do?

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The place of situations in semantics

Situations in Semantics

- What is the exact place of situations in natural language semantics?

- E. g. evaluation parameters, covert arguments of predicates, resource situations, situations supporting infons…

Cresswell 1990

- Natural languages have the expressive power of explicit (that is, object-language) quantification over worlds and times.

- Cresswell's arguments are extendable to situations.

Keeping track of situation parameters …

- If whenever it snowed, the local weather channel had reported that it hadn't snowed as much as it actually did, somebody would have complained immediately.

- If whenever it snowed, the local weather channel had reported that it hadn't snowed as much as it actually did, somebody would have complained immediately.

- We start with a set of actual snowing situations.

  Each snowing situation is matched with a set of reporting situations in counterfactual worlds.

  Each reporting situation is matched with a set of worlds that are compatible with the content of the report.

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How many eventually…?

- Whenever it snowed anywhere around here, some local person dreamed that it snowed more than it actually did, and that the local weather channel erroneously reported that it had snowed less, but still more than it snowed in reality.

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Representing situations

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Percus 2000

- Situations enter the semantics as situation arguments of lexical predicates.

- Parallel with Gallin's intensional semantics: all predicates have world arguments.

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Situation arguments with verbs and nouns:

- Every person in s is frowning in s.

within NP

Topic situation variable. Within extended verbal projection.

Regular argument saturation

- Situation arguments introduced by nouns are saturated within (extended) nominal projections.

- Situation arguments introduced by verbs are saturated within (extended) verbal projections: Topic situations.

Not necessarily the same!

- Enç 1981, Musan 1995, Percus 2000.

(1) The winner$_s$, (yesterday) lost$_s$ (today).

(2) The loser$_s$, (yesterday) won$_s$ (today).

Consequence for Domain Restriction

- We expect implicit domain restrictions to come in via nouns AND via the topic situation.

☞ Stanley & Szabo's arguments for nominal restriction. Martí's concerns about adverbial quantifiers. Breheny examples.

Situations in quantifier constructions

- Everyone finished every job.

  λs∀x[person(x)(s) → ∃s' [s'≤ s & M(s') = x

  & ∀y[job(y)(s') → finished(y)(x)(s')]]]

- A Matching Function in the sense of Rothstein 1995 is routinely introduced in the nuclear scope of distributive quantifiers.

Rothstein's Matching Functions are needed anyway

- Whenever I exercised, I slept badly.

- There have to be at least as many bad sleeps as events of exercising.

Mitchell-Partee examples

- The leader of the local union wrote a letter to every untenured professor in the state.

  Every untenured professor received a letter from the leader of the local union.

- Partee 1989.

Representing Austinian Propositions

Austinian Propositions

- An Austinian proposition is a pair consisting of an actual situation and a property of situations.

- Barwise & Etchemendy 1987. Recanati 1996, 2000.

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Austinian Assertion

- Suppose there is a functional head ASSERT that embeds Austinian propositions.

- $[[ASSERT]] (<s,p>) = p(s)$

- Right-to-left Schönfinkelization:
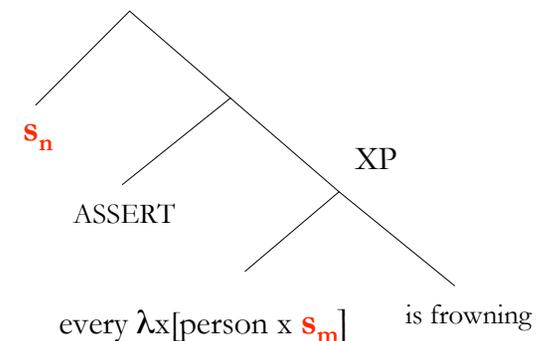 $[[ASSERT]] = \lambda p \lambda s\ p(s)$

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Austinian Domain Restriction

- $[[ASSERT]] (\lambda s \forall x[person(x)(s) \rightarrow \exists s' [s' \leq s \& M(s') = x \& frowning(x)(s')]])(s) = 1$

  iff

  for every person x in s there is a matching subsituation s' of s such that x is frowning in s'.

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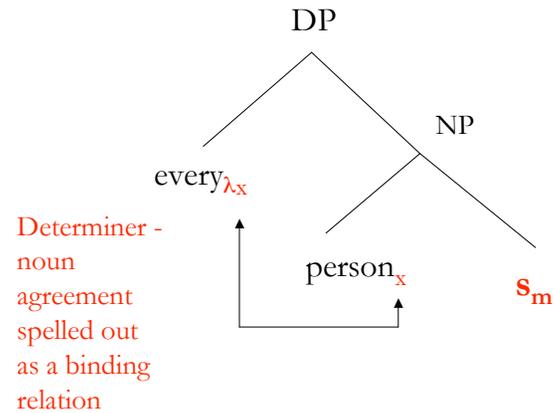## Austinian assertion in a tree

$\mathbf{s_n}$

ASSERT

XP

every $\lambda x[person\ x\ \mathbf{s_m}]$

is frowning

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Close-up of the DP

DP

every$_{\lambda x}$

NP

Determiner - noun agreement spelled out as a binding relation

person$_x$

s$_m$

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Lexical entries

- [[**every**]] =
  $\lambda P_{<et>}\ \lambda Q_{<e<st>>}\ \lambda s \forall x[P(x) \rightarrow \exists s'\ [s' \leq s\ \&\ M(s') = x\ \&\ Q(x)(s')]\ ]$

- [[**person**]] = $\lambda x\ \lambda s\ person(x)(s)$

- [[**is frowning**]] = $\lambda x\ \lambda s\ frowning(x)(s)$

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Consequence

- ASSERT cannot occur in the scope of intensional operators.

- Attitude verbs, then, cannot embed projections of ASSERT.

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Austinian Attitude Ascriptions

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Proposal

- Attitude verbs like *believe*, *know*, *suspect* etc. themselves embed Austinian propositions.

- Consequence: Attitude verbs have a *res* (= topic situation) argument realized as a situation variable.

Topic situations as *res*

- Temporal *de re*: Ogihara 1995, Abusch 1991 (but with times instead of situations), Kratzer 1998(a).

- Knowledge ascriptions: Kratzer 1990, 2002.

- Belief ascriptions: Kratzer 1998(b).

Res arguments for attitude ascriptions

- [[**believe**]] =
  $\lambda p \lambda s' \lambda x \lambda s$ [x believes p of s' in s].

Topic situation variable (= *res* argument).
Can be w_0 in the limiting case

Support for a *res* argument of attitude verbs

- *The Butler and the Judge* adapted from Kratzer 1998(b).

The Butler & the Judge: the bankruptcy episode

The judge was in financial trouble. He told his butler that he had been ready to commit suicide, when a wealthy man, who chose to remain anonymous, offered to pay off his debts. The butler suspected that Milford was the man who saved his master's life by protecting him from financial ruin and suicide.

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The Butler & the Judge: The ditch episode

While the butler was away on a short vacation, the judge fell into a ditch, drunk. Unconscious and close to death, he was pulled out by a stranger and taken to the local hospital, where he recovered.

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The Butler & the Judge: The mix-up

When the butler returned to the village, he ran into a group of women who were speculating about the identity of the stranger who saved the judge's life by taking him to the hospital. Believing that the women were discussing his master's financial traumas, the butler, who hadn't yet heard about the accident, voiced his suspicion that Milford saved the judge's life.

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The Butler & the Judge: A false attribution

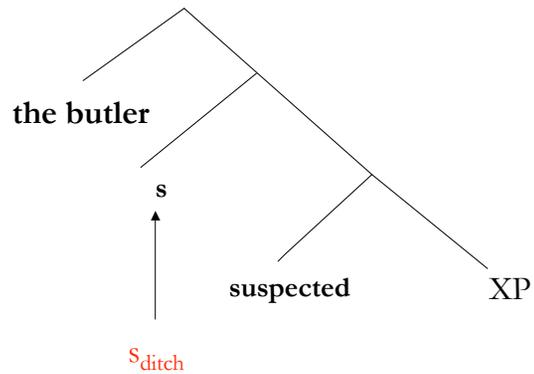The next day, when discussion of the judge's accident continued, somebody reported that

(1)   The butler suspected that Milford saved the judge's life.

Given that the butler's suspicion was not about the accident, there is a sense in which this attribution is false.

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Wrong *res*

the butler

s

s_{ditch}

suspected   XP

Which Austinian propositions does the butler believe?

No:
$<s_{ditch}, \lambda s.\ save(the\ butler)(Milford)(s)>$

Yes:
$<s_{bankruptcy}, \lambda s.\ save(the\ butler)(Milford)(s)>$

Yes:
$<w_0, \lambda s.\ save(the\ butler)(Milford)(s)>$

Conclusion

- *De re* attitude ascriptions provide additional support for the Austinian account of covert quantifier restrictions.

Pronounced Situation Variables!

Where?

- Cases I know of: Informal registers of South German dialects.

- Other German dialects?

- Other languages? Possibly Somali. Lecarme 2004.

What do they sound like?

- *Da* and *na. Na* cannot realize situation arguments of nouns, though.

- In my dialect, I would use *da* in all cases where *na* is used in the attested Bavarian examples I found.

Source of examples

- Karl Valentin & Liesl Karlstadt. Recorded by the Bayerische Rundfunk between 1928 and 1947.

  CD: Semmelknödel und andere Sprachclownerien. Der Hörverlag. München 2003. My transcription.

Topic situation pronouns

Biker and policeman

Da is gestern früh, zum Beispiel, da is
da   is   yesterday morning, for   example   ,   da is

a recht a starka Sturmwind gegangen, da
a   real   a   strong   storm wind   blown,   da

hab' I meine Steine nicht dabei g'habt.
have   I   my   rocks   not   with me had.

Radfahrer und Verkehrsschutzmann.

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In the zoo

Da zahlt man eine Mark Eintritt.
Da   pays   one   one   Mark   entrance

Und da sieht man einen ganz gewöhnlichen
And   da   sees   one   a   very   ordinary

Spatzen.
sparrow

Im Zoologischen Garten

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The roast rabbit

Was   riecht denn da so komisch?
What   smells   particle da so   strange
What's the strange smell here?

Da brandelt was. …..
Da   burns   something
Something is burning.

Der Hasenbraten

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Biker and policeman

Wenn Sie keinen Strom dazu brauchen
If   you no   electricity for it   need

da kann doch die Lampe nicht brennen.
da   can   particle the   lamp   not   burn

If you don't need any electricity for it, in that case the
lamp can't shine.

Radfahrer und Verkehrsschutzmann

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The duck dream

Wenn I dia   den Wuam wirkli fress'n hätt lass'n
 If   I to you the   worm   really   eat   had   let

na war der   jetzt hechstens recht schlecht.
na   would to you now   at most   very   sick

If I had really let you eat the worm, in that case you would be at best quite sick.

Der Ententraum

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NP-internal situation pronouns

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In the zoo

Wirst doch net streiten wegen   den zwei
you+will particle not   fight   because of the   two

Billietten da.

tickets   da.

Im Zoologischen Garten

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In the zoo

Des wean sich saudumm anhör'n wenn
That   would   refl. real stupid   sound   if

… die Wölfe da zwitschern würden.
  the   wolves da chirp   would

That would really sound stupid if the wolves da chirped.

Im Zoologischen Garten

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Conclusion

- Situation arguments, rather than covert domain variables, seem to be responsible for implicit quantifier restrictions that are not due to ellipsis.

- Situation arguments are independently needed to account for a wide range of phenomena, and have moreover overt counterparts in some languages.

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