# Telescoping

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# Telescoping

Every dog came in. #It was a border collie.

Every degree candidate walked to the stage. He took his diploma from the Dean and returned to his seat.

*Partee, in Roberts 1987*

# Existential and Universal

*Russell (among others)*

indefinite "a": existential quantification

A cat chased Molly, and
a cat chased Miles

∃x [x is a cat & x chases  ] &
∃x [x is a cat & x chases  ]

# Existential and Universal

*Russell (among others)* universal "every": universal quantification

Every cat likes Max. 

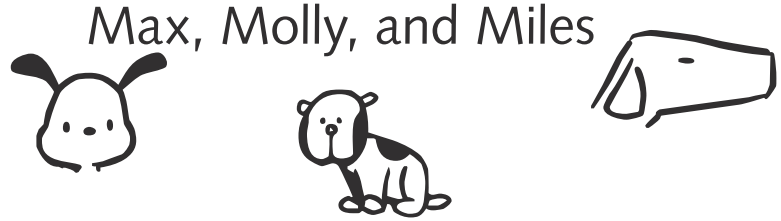
∀x [x is a cat → x likes  ]

∀

# Quantification and co-variation

Every dog ate its food.

Max, Molly, and Miles

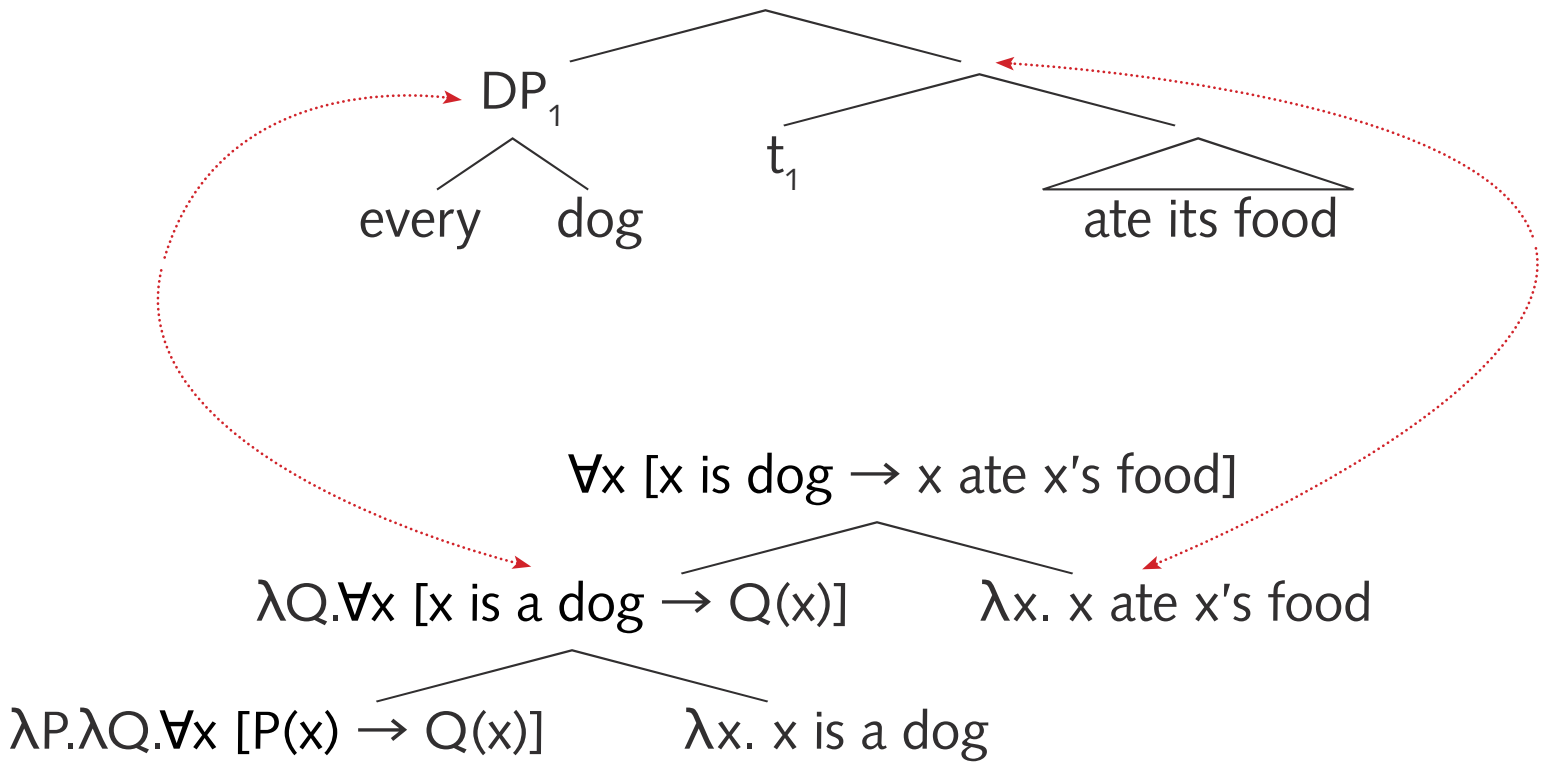


Max ate Max's food,
Molly ate Molly's food, and
Miles ate Miles' food.

(≠ Every dog ate every dog's food.)

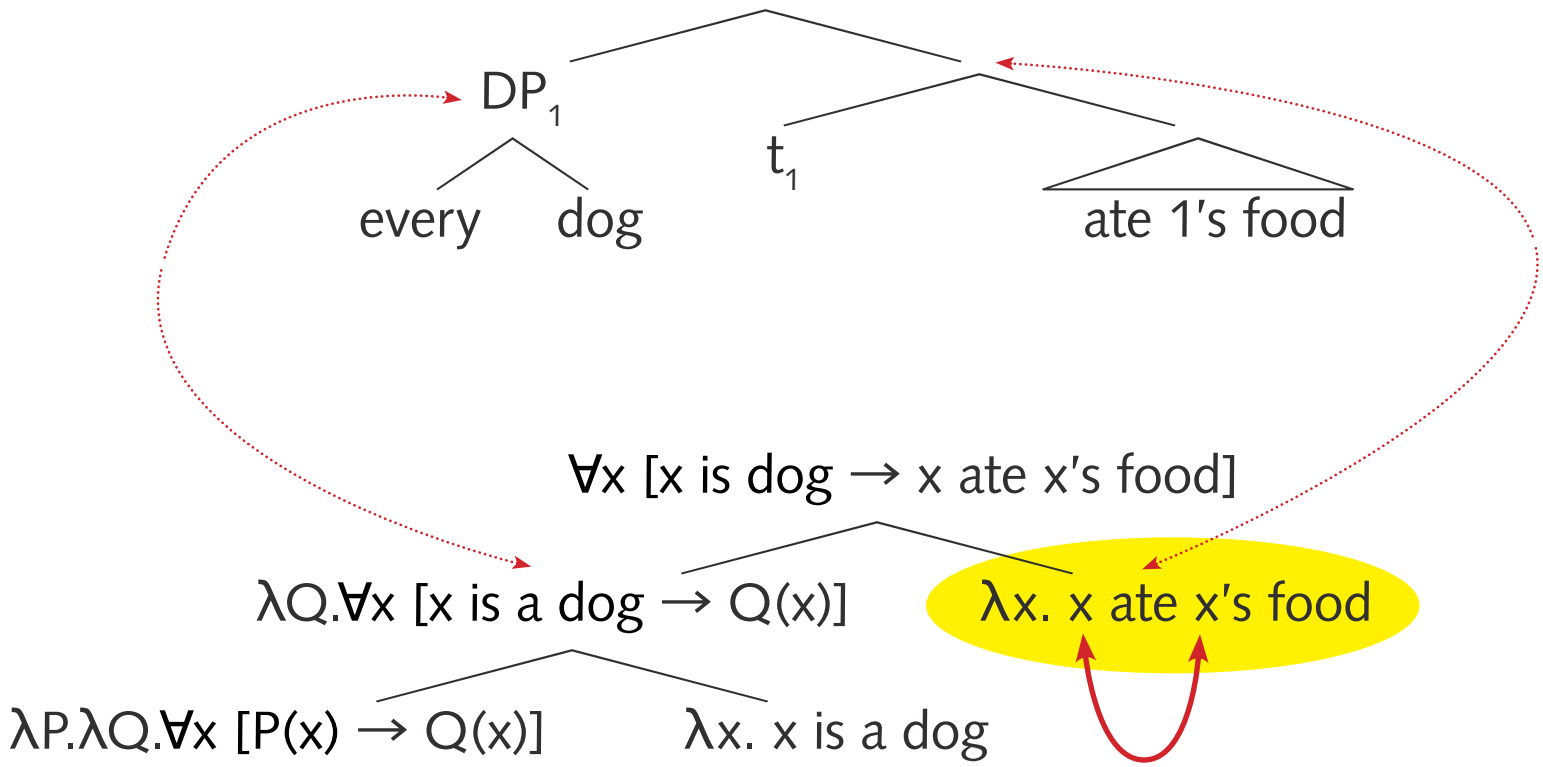
# Bound Pronouns

Every dog ate its food.



# Bound Pronouns

Every dog ate its food.



# Strict vs. Sloppy

Miles ate its food and Max did too.

strict: Miles and Max ate Miles' food.
sloppy: Miles ate Miles' food, Max ate Max's food.

λx. x ate  's food
λx. x ate x's food

strict: λx.x ate  's food (  ) &
λx.x ate  's food (  )
sloppy: λx.x ate x's food (  ) &
λx.x ate x's food (  )

# D-type pronouns

*Evans* Few congressmen admire Kennedy.
They are very junior.

Few x [ congressmen(x) ] [ admire(x,k) & junior (x) ]
Few x [ congressmen(x) & admire(x,k) ] [ junior (x) ]

Few congressmen admire Kennedy.
The ~~congressmen who admire Kennedy~~ are very junior.

*Elbourne* definite article + elided NP
= pronounced as a pronoun

# Bound Pronouns

Every dog ate its food.
∀x [x is dog → x ate x's food]

Every dog came in.
∀x [x is dog → x came in]

#It was a border collie.
x was a border collie

~~∀x [x is dog → [x came in & x was a border collie ]]~~

# Bound Pronouns

A dog ate its food.
∃x [x is dog & x ate x's food]

A dog came in.
∃x [x is dog & x came in]

It was a border collie.
x was a border collie

∃x [x is dog & x came in & x was a border collie ]

# Dynamic Semantics

A dog came in. It lay down under the table.

*Kamp, Heim*

the indefinite introduces a variable,
but is not the source of the quantificational force

*Groenendijk & Stokhof (a.o.)*

the indefinite introduces existential quantification,
but variable bindings can be passed on if sentences
are connected dynamically

# Dynamic Semantics

A dog came in. It lay down under the table.

deriving
∃x [x is dog & x came in & x lay down ]

from
∃x [x is dog & x came in] & x lay down

the ‘dynamic strategy’

# Telescoping

Each degree candidate walked to the stage. He took his diploma from the Dean and returned to his seat. (Partee, in Roberts 1987)

Each student in the syntax class was accused of cheating on the exam, and he was reprimanded by the Dean.

# Each student in the syntax class was accused of cheating on the exam, and he had a PhD in astrophysics. (Fodor and Sag 1982)

# Questions

- What is responsible for the contrast?

Each degree candidate walked to the stage. He took his diploma from the Dean and returned to his seat.

Every dog came in. #It was a border collie.

*non-accidentality*

# Questions

- What is responsible for the contrast?

- What could an account look like?

  Do these cases show that we need a dynamic account for the universal quantifier?

# The lifespan of a discourse referent

*Karttunen*

Bill has a car. It is black.
Bill doesn't have a car. #It is black.

You must send a letter to your parents.
#They are expecting it.

You must write a letter to your parents and mail it right away.
#They are expecting it.

The lifespan of discourse referents introduced by idefinites in the scope of other operators is limited to that operator's scope.

# A quick note on *de re*

You must send a certain letter that you will receive from the Dean today to your parents.

They are expecting it

∃x [x is a letter & Nec [ you send x to parents ]]

Here, we're concerned with the *de dicto* readings, where the indefinite is under the scope of the modal.

# Extending the lifespan

*Karttunen*

Mary wants to marry a rich man.
#He is a banker.
He must be a banker.

Harvey courts a girl at every convention.
#She is very pretty.
She is usually very pretty.

*Sells*

Lea sometimes brings a man to the dance.
He always seems very uncomfortable.

# Extending the lifespan

*Roberts* A wolf might come in.
It would eat you first.

A subsequent operator can expand the lifespan of "short-term" discourse referents.

#It always eats you first.
#It will eat you first.

Not any operator will do. There is a "compatibility requirement."

# Telescoping and regularities

*Sells*

*Every chess set* comes with a spare pawn. It is taped to *the top of the box*.

If this piece of scrap metal were a spare pawn, it'd be taped to the top of the box.

*BNC*

The menopause is a natural event in every woman's life. It marks the end of her periods and her capacity to bear children.

If I were a woman, the menopause would be a natural event in my life …

# Non-accidentality

*Goodman*

> " Not every true general principle is capable of sustaining a counterfactual conditional. It is true that every person now in this room is safe from freezing. It is also true that every person now in this room is English-speaking. Now consider a certain Eskimo who is at this moment nearly frozen to death somewhere in the Arctic. If he were now in this room he would be safe from freezing, but he would not be English-speaking."

law-like vs. accidentally true generalizations

# The non-accidentality requirement

*Goodman*

All the coins in my pocket were silver.

#If this penny had been in my pocket, it would have been silver.

All butter melts at 150° F.

If that piece of butter had been heated to 150° F, it would have melted.

# Discourse Relations for Telescoping

Contrasting referential and quantificational antecedents in non-accidental and accidental discourses.

| *Context sentence* | |
|---|---|
| Every NP $VP_1$. | quantified |
| The NP $VP_1$. | referential |

| | *Continuation sentence* |
|---|---|
| non-accidental | Thus he/she $VP_2$. |
| accidental | And also, he/she $VP_2$. |

24 native speakers of German, 16 test items (four discourses of each type), 38 filler discourses

# Predictions

If the contrast is dependent on discourse relations, and if the good cases are correctly characterized as describing some non-accidental regularity, then there should be a preference for telescoping in non-accidental vs. accidental cases.

For the co-referential cases, we expect no such difference (but they will tell us whether the discourse is more or less acceptable as such.)

☞ An interaction between *antecedent type* and *discourse relation*.

# Sentences

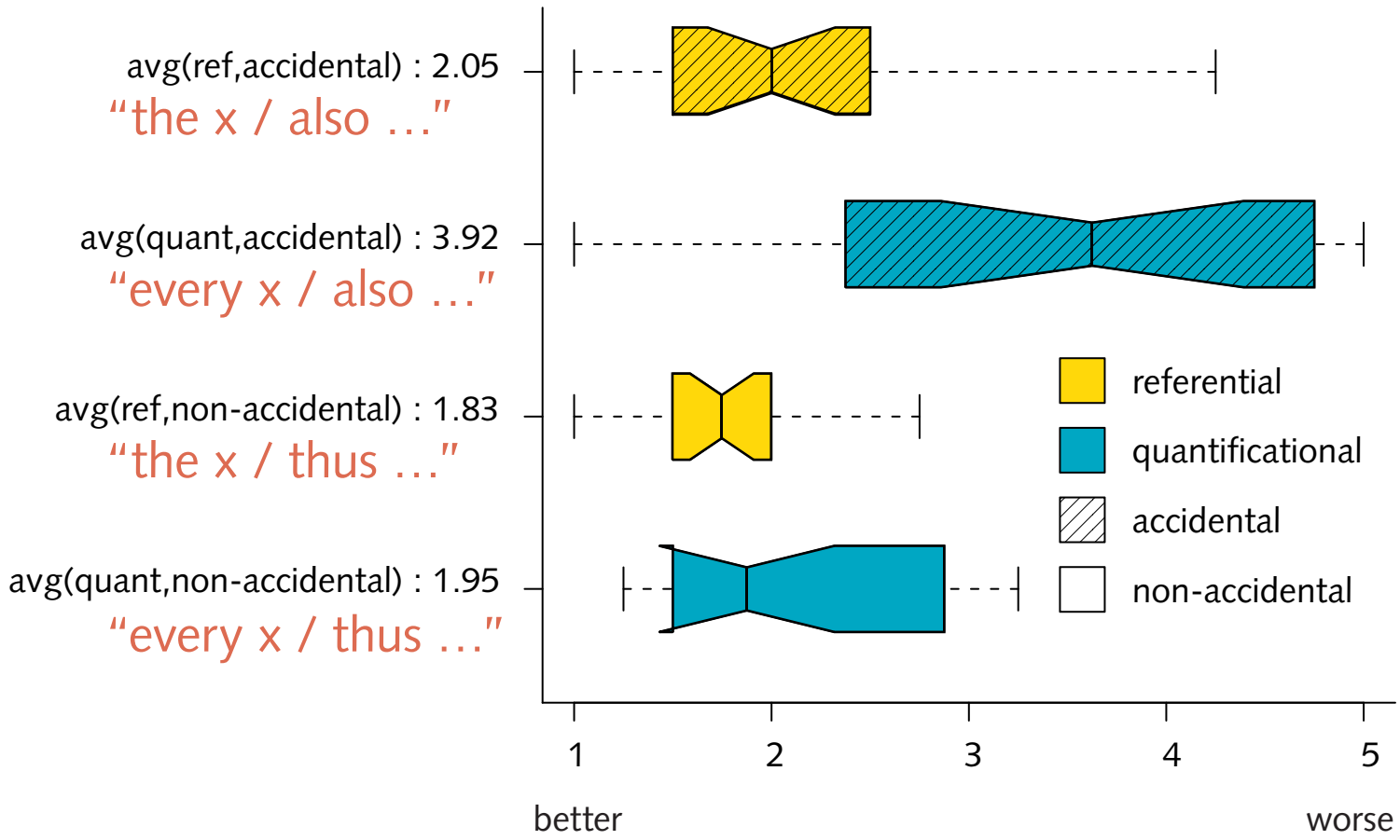
Jeder / Unser Hausmeister Q/R
Every / Our janitor
trägt einen großen Schlüsselbund
carries a large key chain
mit sich herum.
with self around

Er hat damit Zugang zu allen Räumen. NA
He has with that access to all rooms

Er hat auch schon seit ein paar Jahren A
He has also since a couple of years
graue Haare.
gray hair

2x2: Q-NA Q-A R-NA R-A

# Results




| | accidentality | antecedent-tye | interaction |
|---|---|---|---|
| by subject | $F_{1, 94}$=17.43, p<.001 | $F_{1, 94}$=18.54, p<.001 | $F_{1, 94}$=8.53, p<.005 |
| by item | $F_{1, 62}$=26.2, p<.001 | $F_{1, 62}$=26.75, p<.001 | $F_{1, 62}$=12.95, p<.001 |

# Results

Main effects of both antecedent type and discourse relation, qualified by a highly significant interaction between the two factors.

While it seems like people prefer referential antecedents over quantificational ones, and non-accidental discourses over accidental ones, this is competely driven by the negative ratings of accidental telescoping discourses (“every / also”).

☞ What we predicted.

# Questions

- What is responsible for the contrast?

  *non-accidentality*

- What could an account look like?

  Do these cases show that we need a dynamic account for the universal quantifier?

# Previous Accounts

*Poesio & Zucchi*

Right with respect to cases that involve an over operator.

No story pleases these children.
If it is about animals they yawn,
if it is about witches they frown, and
if it is about people, they fall asleep.

But unsatisfactory with respect to "true" telescoping cases that don't involve a second operator.

# Dynamic approaches

*Dekker 1999* "Techniques of dynamic interpretation ... are also the right ones for formulating the semantics of what Craige Roberts has dubbed 'telescoping'"

" The proposal doesn't give an explanation why and in which cases special ('telescoping') readings are plausible"

*Wang, McCready, Asher 2006*

# Assumptions

- Situation Semantics
- Restricted (generic) quantification
- D-type pronouns

# Situation Semantics

*Austin* Topic Situation

A sentence "may also be used on two occasions or by two persons in making the same statement, but for this the utterance must be made with reference to the same situation or event."

# Situation Semantics

We might imagine, for example, that there are two card games going on, one across town from the other: Max is playing cards with Emily and Sophie, and Claire is playing cards with Dana. Suppose someone watching the former game mistakes Emily for Claire, and claims that Claire has the three of clubs. She would be wrong on the Austinian account, even if Claire had the three of clubs across town.

(*Barwise & Etchemendy*)

# Situation Semantics

*Lewis* Possibilities: Possible worlds

*Kratzer* An extension of possible worlds semantics.

Possible world seen as the limiting case, but we can now also access parts of possible worlds, i.e. possible situations.

Situations are related to worlds and other situations by the part of relation.

# Situation Sensitivity

Switch Reference: Same Subject / Different Subject

Ø= hébà=**che** èm= sáu
[3s] enter.PF=**when.SS** [3s] sit.down
'When she$_{x}$ came in, she$_{x/*y}$ sat down.'

Ø= hébà=**e** èm= sáu
[3s] enter.PF=**when.DS** [3s] sit.down
'When she$_{x}$ came in, she$_{*x/y}$ sat down.'

Kiowa
*McKenzie 2007*

# Situation Sensitivity

However

Kathryn gà= gút **nàu** Esther=àl gà= gút.
Kathryn [3s] write **and.DS** Esther too [3s] write

Kathryn gà= gút **gàu** Esther=àl gà= gút.
Kathryn [3s] write **and.SS** Esther too [3s] write

'Kathryn wrote a letter and Esther wrote one too.'

*Watkins 1993*

McKenzie: Tracking of Topic Situations

# Contextual Quantifier Restrictions

*Kratzer 2004 & refs therein* — Quantifier restrictions via situations.

Everybody$_s$ came to my talk.

*Krifka et al.* — Generic quantifiers restricted via situations

A pheasant lays speckled eggs.

*Berman* — Quantificational adverbs & situations

When Kim visits her parents,
she often takes the train.

# Contextual Quantifier Restrictions

*A pheasant lays speckled eggs.*

Gen s [s is a pheasant birthing situation
+ possible additional assumptions]
[ ∃s′ such that s ≤ s′ and
the pheasant in s lays speckled eggs in s′]

*When Kim visits her parents,*
*she often takes the train.*

Often s [s is a situation of Kim visiting her parents]
[∃s′ such that s ≤ s′ and
Kim takes the train in s′]

# Generic Passages



Grandma used to bake wonderful pies on Saturdays.
She would go out to the orchard on shady lane.
There, she picked a bushel of apples and pears.
She would bake them into wonderful pies.
We used to wait for them to come out of the oven.

Every sentence is independently generic, but the subsequent generic operators are restricted through previous material.

# D-type pronouns and situations

Every farmer who owns a donkey feeds it ~~donkey~~.

*Heim 1982* Uniqueness will become problematic:

Everybody who bought a sage plant here
bought eight others along with it.

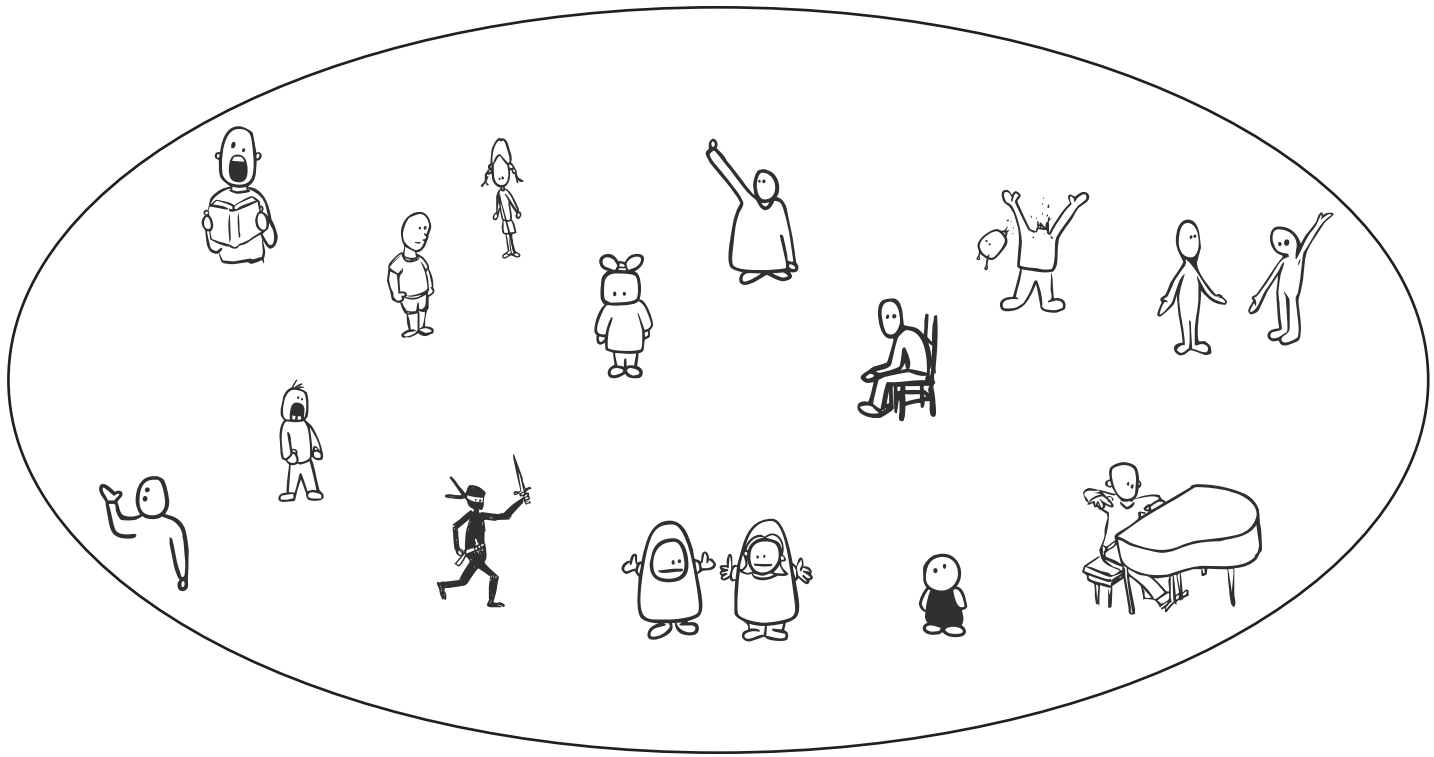
*Heim 1990*
*Elbourne* Situation semantics helps:

$\forall x,s$ [x is a person who bought a sage plant in s $\rightarrow$
($\exists s'$ [$s \leq s'$ & x bought eight others along with
it ~~sage plant in s~~ in $s'$])]

# Account - the “context clause”

“Every degree candidate walked up to the stage."

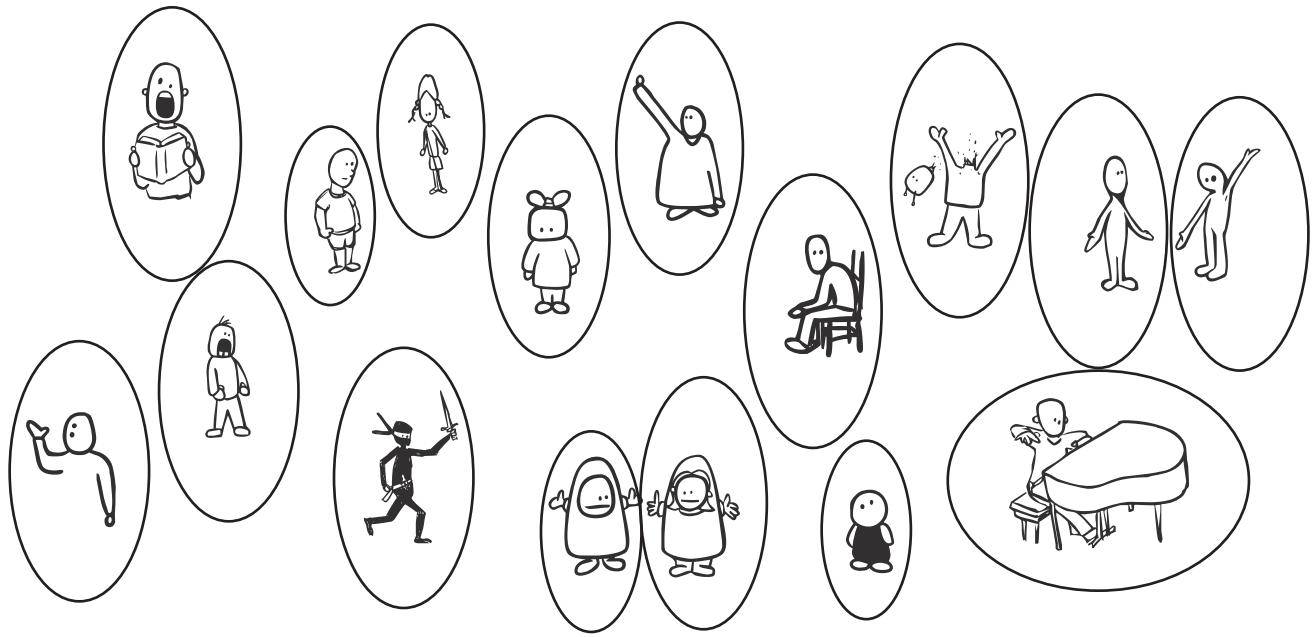
Context clause is asserted with respect to a topic situation.



# Account - the “context clause”

“Every degree candidate walked up to the stage.”

Quantification over individuals carves out a natural set of subsituations

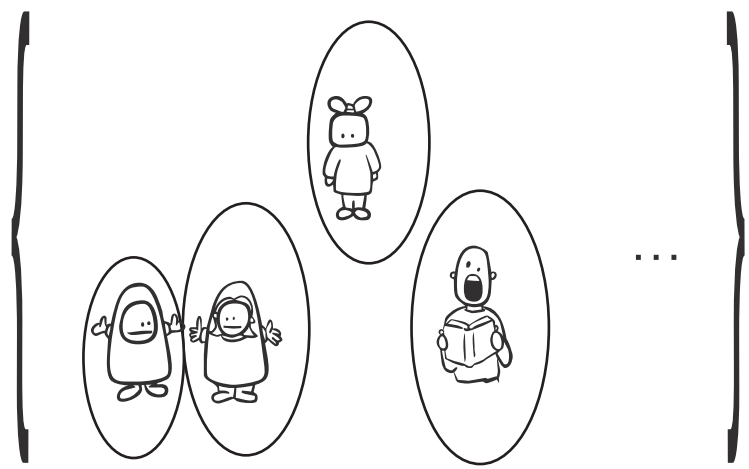


# Account - the “continuation clause”

“He received his diploma from the Dean …”

A covert generic quantifier quantifies over these now contextually supplied sub-situations.

Gen s [ s is a situation in S ]
[ ∃s′. s ≤ s′ & … ]



# Account - the “continuation clause”

“He received his diploma from the Dean …”

A covert generic quantifier quantifies over these now contextually supplied sub-situations.

Gen s [ s is a situation in S ]
[ ∃s′. s ≤ s′ & receive_diploma (he ~~degree candidate in s~~) in s′]

The pronoun in the continuation clause is a D-type pronoun.

Gen: He ~~degree candidate in s~~ receives his ~~degree candidate's in s~~ diploma from the Dean in s′.

# Account

Telescoping involves no binding of the pronoun at all (at least no traditional “index” binding).

The binding is only apparent!

Two ingredients:

positing a covert generic operator:
only possible in non-accidental cases

setting up sub-situations

# Setting up the sub-situations

The plane got hit by a gust of wind shortly before landing. Thanks to the well trained crew though, an accident could be avoided.

The pilot sent a message inviting every stewardess to the company's appreciation ceremony.

#She had acted very calmly and professionally.

The pilot congratulated every stewardess personally.

She had acted very calmly and professionally.

# Setting up the sub-situations

*Evans 2005*

John drove up to the busy tollbooths. The toll taker was rude.

John looked at the busy tollbooths. #The toll taker was rude.

# The ‘no’-cases

No degree-candidate walked up to the stage. #He participated in a protest that day.

*Dekker* No computer leaves this building with a Zonnebloem-chip. It is removed beforehand.

“ The first sentence of the example can be seen to be fully equivalent with the sentence *Every computer does not leave the building with a Zonnebloem-chip."*

# The non-accidentality requirement

For many of the telescoping cases, we need to postulate a covert generic operator.

This seems to be tied to non-accidentality.

All coins in my pocket are silver.
#Coins in my pocket are silver.

All butter melts at 150° F.
Butter melts at 150° F.

How to "help" telescoping:
· making the accidental cases more non-accidental
· adding an overt operator

# The non-accidentality requirement

Each student in the syntax class was accused of cheating on the exam, and he was reprimanded by the Dean.

# Each student in the syntax class was accused of cheating on the exam, and he had a PhD in astrophysics.

Each student in our syntax class was accused of cheating on the exam. ?In every instance, he had a PhD in astrophysics.

Each student in our syntax two class was accused of cheating on the exam. ?He had successfully completed syntax one the year before.

# The non-accidentality requirement

Every dog came in. #It lay down under the table.

I went to the circus last night. They had a number involving dogs that went like this: The circus performers put a table on some supports. Then, every dog came in. It lay down under the table, stood on its back paws, and lifted the table with its front paws. *Poesio & Zucchi*

Supports counterfactuals:

☞ If you were a dog, that's what would you would have done!

# Summary

Dynamic strategy is not needed for telescoping.

The static account presented here has a good chance at capturing the connection between non-accidentality and telescoping.

The mechanism of zooming in and out of situations to salient sub-situations might be used in other (related) parts of the grammar as well.

The end.

**Thank you.**