

Some observations on identity, sameness and comparison*

Line Mikkelsen

Meaning Sciences Club, UC Berkeley, October 16, 2012

1 Introduction

The meaning of the English adjective *same* is in one sense obvious:

- (1) Harvey read *Angle of Repose* and I read the same book.
- (2) Harvey and I read the same book.

Yet, linguists have struggled to provide a compositional semantic analysis of *same*. Three intuitions have been pursued:

1. *same* is anaphoric (Carlson 1987, Brasoveanu 2011)
2. *same* is quantificational (Barker 2007)
3. *same* is a comparative operator (Heim 1985)

This talk: discuss each approach and push on the comparative analysis.¹

2 *Same* is an anaphor

Family of anaphoric devices, i.e. elements that are interpreted by way of an antecedent expression:

- (3) Ellipsis:
 - a. Harvey didn't [invite his mother], but Sally did ____ [VP Ellipsis]
 - b. I haven't heard Harvey's [story about the accident], but I have heard Frank's ____ [NP Ellipsis]
- (4) Proforms:
 - a. It's possible to [act as your own defender]. In fact I **did it/that** last fall. [VP anaphora]
 - b. Everyone is talking about [Margaret Atwood's new book], but I haven't read **it**. [DP anaphora]

same seems to fit into this family:

- (5) Anaphoric *same*
 - a. After you have [cleaned up your room], ask your brother to **do the same**. [Verbal]
 - b. Harvey read [*Angle of Repose*] and I read **the same book**. [Nominal]

Shared antecedent requirement Like ellipsis and proforms, *same* depend on an antecedent for interpretation; neither can be interpreted in isolation.

Allow sloppy and strict readings A pronoun in the antecedent can be interpreted strictly or sloppily by the anaphor:

(3a): Sally invited Harvey's mother OR Sally invited Sally's mother.

(5a): ask your brother to clean up your room OR ask your brother to clean up his room.

*This talk is based on joint work with Dan Hardt and Bjarne Ørsnes, both Copenhagen Business School.

¹Despite its relevance, I will ignore *different* throughout.

Substitution One anaphoric device maybe substituted for another, seemingly with no change in meaning:

- (6) The United States has suspended aid to Lesotho, while
- Britain and Japan have (merely) threatened to ____
 - Britain and Japan have threatened to **do it**.
 - Britain and Japan have threatened to **do the same**.

Despite these similarities, there are two significant differences between *same* and the other anaphoric devices:

- same* requires that the antecedent be realized, ellipsis and proforms do not (Hardt et al 2012)
- same* requires that its antecedent be a distinct event, ellipsis and proforms do not (Hardt et al 2012)

2.1 Realized antecedent

Ellipsis and proforms tolerate unrealized antecedents; *same* does not.

Negated antecedent

- (7) Harvey didn't invite his mother, . . .
- but Sally did ____
 - #but Sally did the same.
 - and Sally did the same.
- (8) Harvey invited his mother and Sally did the same.

Modalized antecedent I

- (9) It's possible to [act as your own defender].
- In fact I did that last fall.
 - #In fact I did the same last fall.
- (10) Harvey is acting as his own defender and I did the same last fall.

Modalized antecedent II

- (11) I feel its important to vote in favor (although I don't have a vote).
- I appeal to my colleagues to do so for the good of European citizens.
 - #I appeal to my colleagues to do the same for the good of European citizens
- (12) I voted in favor and I appeal to my colleagues to do the same.

The realization requirement is relative to the world of evaluation, not to the actual world.

- (13) If Harvey had invited his mother, Sally would have done the same.
- (14) It is possible for Harvey to act as his own defender and it's possible for you to do the same.
- (15) I feel it's important for my colleagues to vote in favor and for you to do the same.

2.2 Distinct antecedent

VP proforms tolerate identity between antecedent and anaphor event; *same* does not.

- (16) Harvey caught a big fish last Tuesday and . . .
- he did it without any fishing equipment.
 - #he did the same without any fishing equipment.
 - he did the same on Thursday without any fishing equipment.

3 *Same* is a quantifier

(17) Harvey read *Angle of Repose* and I read the same book. [EXTERNAL]

(18) Harvey and I read the same book. [INTERNAL]

Anaphoric approach starts from examples like (17) where the antecedent is external to the clause containing the anaphor:

(19) [... antecedent ...]_{clause 1} [... anaphor ...]_{clause 2}

Barker (2007) starts from examples like (18) to build his quantificational analysis.

- (18) has an INTERNAL reading; the clause “provides its own context” (Carlson 1987:532).
- the internal reading is quantificational: (18) is true in case there is a book x such that Harvey read x and I read x .
- *same* is an existential quantifier that must take scope relative to a nominal that can be interpreted distributively

(20) $\llbracket \text{same} \rrbracket = \lambda F \lambda X. \exists f \forall x < X : Ffx$ (Barker 2007:17)

- F is a variable of type $\langle \langle e,t \rangle, \langle e,t \rangle \rangle$, $\langle e,t \rangle$, i.e. a variable over functions from adjective meanings to noun meanings. \rightarrow *same* has to raise and take scope right below the distributive nominal
- X is a variable over non-atomic entities \rightarrow distributivity
- f is a variable over choice functions of type $\langle \langle e,t \rangle, \langle e,t \rangle \rangle$, “a nominal modifier that takes a set of individuals and returns a singleton set whose unique member is chosen from the original set” \rightarrow sameness.

- its high semantic type forces *same* to raise (QR) to right below the distributive NP; *same* takes “parasitic scope”.
- Why is the quantifier denoted by *same* so different from the quantifiers like *everyone* and *someone*? *same* is an adjective, not an NP.

(21) The same waiter served everyone. (Barker 2007: (42))

- everyone**($\lambda X. \exists f \forall x < X : \text{served}(X)(\text{the}(f(\text{waiter})))$)
- everyone collectively has the property of being a group such that there is a unique waiter who served each member of the group.

- Compositional semantic analysis for internal-readings of sentences with *same*.
- Barker’s analysis does not extend to external readings of *same*: (17) is uninterpretable using (20), since there is nominal quantifier to create a scope position for *same* and no X to distribute over.
- Barker’s analysis precludes a unified analysis of external and internal readings of *same*; *same* must be lexically ambiguous.
- Offers no insight as to why, on external readings, *same* requires a realized and distinct antecedent.

4 *Same* is a comparative operator

Heim's intuition: *same* is a comparative operator. Where other comparative operators impose a comparison according to a scale, *same* and *different* impose a condition referring only to identity (Heim 1985:21-24).

- (22) Harvey is taller than Bob.
 (23) Harvey is as tall as Bob.
 (24) Harvey is the tallest (of these three men).
 (25) Harvey read a different book than Bob.
 (26) Harvey read the same book as Bob.

- all comparatives have a tripartite structure: OP ⟨a,b⟩ f
 - OP is the comparative operator (contributed by *-er* (22), *as* (23), *-est* (24), *different* (25) or *same* (26))
 - ⟨a,b⟩ are the entities compared (Harvey and Bob)
 - f is a function constructed from the rest of the clause that specifies a degree (for degree comparisons) or an entity (for identity comparison)
- Interpreting the identity comparative in (26):

- (27) a. same ⟨Harvey, Bob⟩ $\lambda x \nu y [read(x, y) \& book(y)]$
 b. “same ⟨a,b⟩f” is true iff $f(a) = f(b)$. (Heim's (31))
 c. “Harvey read the same book as Bob” is true iff the book Harvey read is identical to the book Bob read.

Internal readings To account for internal readings of sentences like those in (28), Heim proposes that symmetrical comparative operators like *as* and *same*, also allow the schematic logical form in (29), where A is a set of entities.

- (28) a. Harvey and Bob read the same book.
 b. Everyone read the same book.
 (29) OP ⟨A⟩ f
 (30) “same ⟨A⟩ f” is true iff for all x,y in A: $f(x) = f(y)$. (Heim's (40))

External readings Arise when “speech context furnishes a salient [entity] as the implicit item of comparison” (p 22).

- (31) Bob read the same book.
 (32) same ⟨z, Bob⟩ $\lambda x \nu y [read(x, y) \& book(y)]$
- Situational context for (31): I see Harvey reading *Angle of Repose*
 - z = Harvey
 - same ⟨Harvey, Bob⟩ $\lambda x \nu y [read(x, y) \& book(y)]$
 - Linguistic context for (31): “Harvey read *Angle of Repose*”
 - z = Harvey
 - same ⟨Harvey, Bob⟩ $\lambda x \nu y [read(x, y) \& book(y)]$

This is different from the anaphoric approach in that it is not a value for the NP containing *same* that being recovered from context, but an value for the implicit item of comparison. For (31) we are recovering a reader, not a book.

Heim's analysis unites internal, external, and comparative readings, but it is not compositional.

Realized antecedent

- (33) a. Harvey never read *Angle of Repose*.
b. #But Bob read the same book.

The speech situation furnishes Harvey as an item for comparison in interpreting (33b), so we have the LF in (34)

- (34) same ⟨Harvey, Bob⟩ $\lambda x \nu y [\text{read}(x, y) \& \text{book}(y)]$

By (27b), (34) is true iff the book Harvey read is identical to the book Bob read.

Does that explain the deviance of (33)?

Non-identical event

- (35) Harvey read *Angle of Repose*.
a. In fact, he read it in one sitting.
b. #In fact, he read the same book in one sitting.

(35b) is deviant because compared entities must be distinct and no reader distinct from Harvey can be recovered from the speech situation.

A final puzzle

- (36) a. Harvey usually reads the same book.
b. #Harvey necessarily reads the same book.
- (37) a. Harvey SHOULD vote and he WILL ____.
b. #Harvey SHOULD vote and he WILL do the same.

same can compare individuals and times, but not worlds.

References

- Barker, Chris (2007) Parasitic Scope. *Linguistics and Philosophy* 30.4: 407-444
- Brasoveanu, Adrian (2011) Sentence-internal different as quantifier-internal anaphora *Linguistics and Philosophy* 34.2:93-168
- Carlson, Greg. 1987. Same and Different: some consequences for syntax and semantics. *Linguistics and Philosophy* 10.4: 531-565
- Hardt, Dan, Line Mikkelsen and Bjarne Ørsnes (2012) Sameness, Ellipsis and Anaphora. Proceedings of the 2011 Amsterdam Colloquium.
- Heim, Irene (1985) Notes on comparatives and related matters. Ms. University of Texas at Austin. Available at semanticsarchive.net.