Stipulated vs. Asserted Anaphora

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1 General background

The typology of definite NPs (names, pronouns, definite descriptions, demonstratives) has been the focus of much recent work:

- proper names/pronouns vs. definite descriptions (Farkas 2002)
- definite descriptions vs. demonstratives (Wolter 2006)
- anaphoric vs. semantically unique definite descriptions (Umbach 2002, Schwarz 2008)
- close investigation of the similarities and distributional differences amongst these various types of NPs has yielded a more nuanced perspective on definiteness
- compare to complex typology of indefinite NPs: *a man* vs. *a certain man* vs. *some man* vs. *any man* vs. *men*

Today's goal: investigate the behavior of two kinds of anaphoric NPs in English.

- ordinary pronouns are anaphoric devices *par excellence*

(1) John talked to **a woman**. Bill talked to her three hours later.

- noun phrases involving the adjective *same* ("*same*-NPs") can also be used anaphorically

(2) John talked to **a woman**. Bill talked to the same woman three hours later.

- no apparent difference in the interpretation of (1) vs. (2)
- nonetheless, anaphoric *same*-NPs exhibit intriguing differences from pronouns that have not been seriously addressed

Questions:

- how do *same*-NPs come to be used anaphorically?
- what accounts for the differences between ordinary pronouns and anaphoric *same*-NPs?
- what implications do these differences have for our general understanding of anaphora and definiteness?

2 *Same*-NPs vs. pronouns: Basic observations

2.1 Similarities between same-*NPs and pronouns*

In certain fundamental respects, anaphoric noun phrases involving the adjective *same* resemble ordinary pronouns:

A. The range of possible dependences for *same*-NPs parallels that observed for pronouns.

- deictic uses

(3) a. (Pointing at a customer) I can't close the store until she leaves.
b. (Someone holds up a copy of *The Great Gatsby*) I just read the same book!

- discourse anaphora

(4) a. **A woman** walked in. I watched her for a while.
b. I rented **a movie** on my way home from work, only to find that my wife had rented the same movie.

- bound-variable anaphora

(5) a. **Every son** loves his mother.
b. **Every department** hired a linguist who got her degree from that same department.

- donkey anaphora

(6) a. Every farmer who owns **a donkey** beats it.
b. Every customer who bought **a television** from us found the same television for less money on Amazon.com.

B. Like pronouns, *same*-NPs are necessarily anaphoric, and so are excluded from first-mention contexts.

(7) (Spoken by a store clerk to a customer)
a. *He wants you to leave.
b. *The same man wants you to leave.

- compare to ordinary definite descriptions, where first-mention uses are possible

(8) (Spoken by a store clerk to a customer)
The man who owns this store wants you to leave.

2.2 Differences between same-*NPs and pronouns*

Alongside these similarities, however, there also exist a variety of intriguing differences between anaphoric *same*-NPs and pronouns:

C. *Same*-NPs may appear with the modifier *almost*, which serves to qualify the extent to which the anaphoric link holds (Huddleston & Pullum 2002: §13.5.1; see also *nearly*, *just about*, *not quite*). No such modification is possible with pronouns.

(9) **The symptoms caused by insufficient iron in one's diet** are well-known.
a. …Rather surprisingly, an excess of iron causes almost the same symptoms.
b. *…Rather surprisingly, an excess of iron causes almost them too.

D. *Same*-NPs readily occur in existential *there*-sentences (Prince 1992, Ward & Birner 1995), but pronouns cannot.

(10) When I left for work this morning, there were **a lot of people** standing on my neighbor's lawn.
a. …When I returned in the evening, there were still the same people standing there.
b. *…When I returned in the evening, there were still them standing there.

E. Sentences containing *same*-NPs often carry existential implications that are absent from corresponding sentences involving pronouns.

- the implication in (11a) that John used some textbook in this year's class survives under negation (11b) and in questions (11c)

(11) Last year, John used ***Language Files*** in his introductory linguistics class.
a. …and he used the same textbook this year.
b. …but he didn't use the same textbook this year.
c. …did he use the same textbook this year?

- in contrast, only the affirmative (12a) carries the implication that John used some textbook in this year's class; the negated (12b) and questioned (12c) are both neutral towards the existence of any such textbook

(12) Last year, John used ***Language Files*** in his introductory linguistics class.
a. …and he used it this year too.
b. …but he didn't use it this year.
c. …did he use it this year?

Question: what is the common thread that unites these differences between anaphoric *same*-NPs and ordinary pronouns?

3 Two kinds of anaphoric links

3.1 Stipulated vs. asserted anaphora, informally

Proposal: the differences between *same*-NPs and pronouns reflect a more basic difference in the ways that the two become linked to their antecedents.

For pronouns, the anaphoric link is **stipulated**:

- a pronoun is purely anaphoric—its value depends entirely upon the value assigned to some previously introduced discourse referent
- a pronoun does not itself introduce a novel discourse referent, but rather is resolved against the preceding discourse structure
- resolution of pronominal anaphora entails the selection of a previously introduced discourse referent to provide a value for the pronoun
- the anaphoric link between a pronoun and its antecedent thus constitutes an interpretive stipulation, to the effect that the pronoun is being used to pick up a certain previous discourse referent (and not some other one)

In contrast, the anaphoric link for *same*-NPs is **asserted**:

- *same*-NPs are a subspecies of definite descriptions
- in general, definite descriptions are capable of introducing novel discourse referents (contra familiarity theories, e.g., Heim 1982), so long as these discourse referents are uniquely identifiable (in line with uniqueness theories, e.g., Russell 1905, Hawkins 1978,1991, Löbner 1985, Farkas 2002, Umbach 2002, Abbott 2008)
  (cf. first-mention uses like (8))
- an anaphoric *same*-NP introduces a novel discourse referent, along with the condition that this discourse referent be covalued with some prior discourse referent—this condition arises specifically from the presence of the adjective *same*, which expresses the identity relation ('=')
- because the anaphoric link between a *same*-NP and its antecedent is established by the descriptive content of *same*, this link forms an essential part of what is asserted

(NB: the present discussion is closely modeled upon Kamp & Reyle's (1993: §3.5) distinction between "stipulated identity" and "asserted identity".)

Correlated difference in discourse status of pronouns and *same*-NPs:

- pronouns pick up **previously introduced** discourse referents
- *same*-NPs introduce **novel** discourse referents

3.2 Formalizing the distinction

3.2.1 Basic assumptions of Discourse Representation Theory (DRT)

A simplified version of DRT (Kamp 1981, van der Sandt 1992, Kamp & Reyle 1993, see also Heim's (1982) File Change Semantics):

(D.1) A *Discourse Representation Structure* (*DRS*) $K = < U(K) , Con(K) >$ consists of a set of variables (= discourse referents) and a set of conditions on these variables.

- a noun phrase may introduce a variable and place conditions on its value

(13) a. A woman came in.
b. K_0

x
woman(x)
came-in(x)

(D.2) An assignment function *f verifies* a DRS *K* in a model *M* iff for every condition *C* belonging to *Con*(*K*), *C* is true in *M* relative to *f*.

(D.3) A DRS *K* is *true* in a model *M* iff there is an assignment function *f* that verifies *K* in *M*.

- the DRS K_0 in (13b) is true in a model *M* iff there is an assignment function *f* such that $f(x) \in I$(**woman**) and $f(x) \in I$(**came-in**)

3.2.2 Pronouns in DRT

Simplest view of pronouns (Kamp 1981, Heim 1982): a pronoun does not introduce a new variable, but rather is directly replaced by some previously introduced variable.

(14) a. **A woman** came in. <u>She</u> sat down.
b.

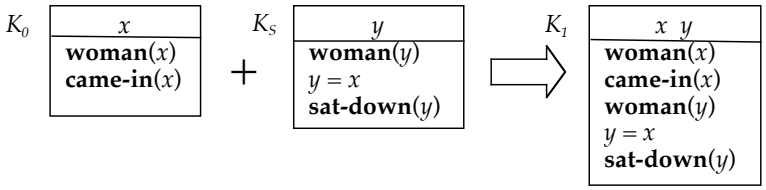
K_0	K_S		K_1
x			x
woman(x)	+	**sat-down**(x)	⇨	**woman**(x)
came-in(x)				**came-in**(x)
				sat-down(x)

- the DRS K_1 in (14b) is true in a model *M* iff there is an assignment function *f'* such that $f'(x) \in I$(**woman**), $f'(x) \in I$(**came-in**), and $f'(x) \in I$(**sat-down**)

3.2.3 Same-*NPs in DRT*

In contrast to pronouns, *same*-NPs introduce both (i) a new variable y, and (ii) a new equative condition $y = x$ into $Con(K_0)$ of the input DRS K_0 (note that the head noun of a *same*-NP will also place a condition on y).[1]

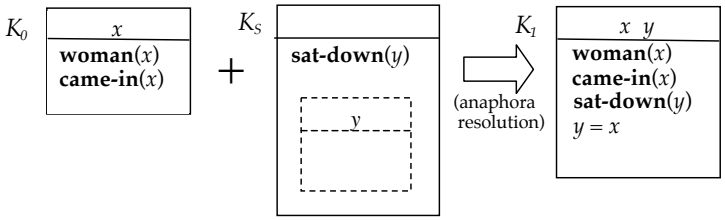
(15) a. **A woman** came in. The same woman sat down.
b.



- the condition $y = x$ in (15b) is contributed by the adjective *same*, which expresses the identity relation ('=') amongst individuals
- because the equative condition represents the descriptive content of *same*, it constitutes part of what is asserted by *The same woman sat down* in (15a), hence its presence in $Con(K_S)$
- the DRS K_1 in (15b) is true in a model M iff there is an assignment function f' such that $f'(x) \in I(\textbf{woman})$, $f'(x) \in I(\textbf{came-in})$, $f'(y) \in I(\textbf{woman})$, $f'(y) \in I(\textbf{sat-down})$, and $f'(y) = f'(x)$

[1] In fact, this treatment of *same*-NPs closely resembles the treatment of pronouns presented in Kamp & Reyle 1993 (see also van der Sandt 1992, Farkas 2002). There, a pronoun is taken to introduce a new variable y, which is covalued with some previously introduced variable x via an equative condition $y = x$.

(i) a. **A woman** came in. She sat down.
b.



However, Kamp & Reyle (1993: §3.5) stress that the equative condition $y = x$ should not be viewed as a proper member of $Con(K_S)$ in (ib), but rather as a byproduct of anaphora resolution. *She sat down* in (ia) does not assert identity between the woman who came in and the woman who sat down; rather, this identity is stipulated in order to resolve the anaphoric pronoun *she*. The distinction between equative conditions triggered by pronominal anaphora and ordinary, asserted conditions is also implicit in van der Sandt's (1992: 358) account of anaphora resolution (though in neither work is this distinction fully reflected by the formal theory). I assume the simpler view of pronouns in (14b), since it illustrates more clearly the difference between anaphora with pronouns vs. *same*-NPs.

The definite article as a marker of "determined reference" (Farkas 2002):

- determined reference is a form of uniqueness relativized to assignment functions that verify the input DRS K_0

(D.4) A variable y introduced by a noun phrase has *determined reference* iff for any assignment function f that verifies the input DRS K_0, every f', f'' that (i) extends f relative to y, and (ii) verifies the output DRS K_1, is such that $f'(y) = f''(y)$.

- informally, y has determined reference if the condition(s) that the noun phrase contributes leave no choice for the value of y
- the definite article marks that the variable contributed by the entire definite description has determined reference

The condition $y = x$ that *same* contributes ensures that y will have determined reference:

- any f', f'' that verify the output DRS K_1 in (15b) must be such that $f'(y) = f''(y) = f(x)$
- informally, the equative condition on y leaves no choice for the value of y
- this accounts for the obligatory definiteness of *same*-NPs: {*the*, **a*} *same book*

The argument of *same* corresponding to x can be expressed overtly with an *as*-clause.

(16) A: I read a book about baseball for my book report. Which book did you read?
B: I read the same book as you did.

- in anaphoric *same*-NPs, this argument is left implicit

(17) A: I read **a book about baseball** for my book report. Which book did you read?
B: I read the same book.

- cf. relational predicates like *local* or *enemy*, which also take implicit arguments

(18) I got really drunk in **Thailand**. The local bars were all selling cheap beer.

Same-NPs resemble pronouns in that the implicit argument of *same* must be resolved against the preceding discourse structure.

- resolution of implicit argument anaphora entails the selection of a previously introduced variable (x in (15b)) to provide a value for the implicit argument
- but this does not guarantee that the variable y introduced by the entire *same*-NP will be covalued with some previously introduced variable x
(cf. (18), where *the local bars* picks out the bars in Thailand, not the country itself)
- rather, it is the resolution of the implicit argument to x in combination with the equative condition $y = x$ contributed by *same* that guarantees this covaluation

The overall picture:

- a *same*-NP introduces a new variable
- it asserts the covaluation of this variable with the implicit argument of *same*
- the latter must be resolved against the preceding discourse structure

4 Accounting for the facts

4.1 Resolution of pronouns vs. implicit arguments

The similarities between *same*-NPs and pronouns reflect the fact that for both, interpretation involves resolution against the preceding discourse structure.

- interpretation of a pronoun requires the selection of a previously introduced variable to provide a value for the pronoun
- interpretation of a *same*-NP requires the selection of a previously introduced variable to provide a value for the implicit argument of *same*

A. The range of possible dependencies for *same*-NPs parallels that observed for pronouns (deictic, discourse-anaphoric, bound-variable, donkey).

(19) a. (Someone holds up a copy of *The Great Gatsby*) I just read the same book!
b. I rented **a movie** on my way home from work, only to find that my wife had rented the same movie.
c. **Every department** hired a linguist who got her degree from that same department.
d. Every customer who bought **a television** from us found the same television for less money on Amazon.com.

(20) a. (Pointing at a customer) I can't close the store until she leaves.
b. **A woman** walked in. I watched her for a while.
c. **Every son** loves his mother.
d. Every farmer who owns **a donkey** beats it.

- for a large class of relational predicates, resolution of implicit argument anaphora exhibits the same range of possibilities as anaphora resolution for pronouns (Partee 1989, Condoravdi & Gawron 1996)

(21) a. A local bar is selling cheap beer. ("local to utterance location")
b. I got really drunk in **Thailand**. The local bars were all selling cheap beer.
c. **Every sports fan** watched the Super Bowl in a local bar.
d. Whenever I visit **a foreign country**, I try to learn about the local customs.

- implicit-argument treatment of *same*, along with equative condition relating this argument to the variable introduced by entire *same*-NP, predict the facts in (19)

B. Like pronouns, *same*-NPs are necessarily anaphoric, and so are excluded from first-mention contexts.

(22) (Spoken by a store clerk to a customer)
a. *The same man wants you to leave.
b. *He wants you to leave.

- since *same* is a relational predicate, an implicit argument is required in the absence of an overt *as*-clause complement
- when no suitable variable is accessible from the preceding discourse structure to provide a value for this implicit argument, interpretation cannot proceed

4.2 Stipulated vs. asserted anaphoric links

The differences between *same*-NPs and pronouns reflect the fact that for pronouns, the anaphoric link is stipulated, while for *same*-NPs, it is asserted.

- a pronoun is directly replaced by a previous variable—choice of variable constitutes an interpretive stipulation, to the effect that a pronoun is being used to pick up a certain discourse referent (and not some other one)[2]
- a *same*-NP introduces a new variable, and asserts the covaluation of this variable with some previous variable (the one that provides a value for the implicit argument of *same*)

C. *Same*-NPs may appear with the modifier *almost*, which serves to qualify the extent to which the anaphoric link holds. No such modification is possible with pronouns.

(23) **The symptoms caused by insufficient iron in one's diet** are well-known.
a. …Rather surprisingly, an excess of iron causes almost the same symptoms.
b. *…Rather surprisingly, an excess of iron causes almost them too.

- the equative condition $y = x$ forms part of the asserted content of (23a), since it represents the descriptive content of *same*
- the equative condition may thus interact with modifiers like *almost*
- in contrast, the pronoun *them* does not contribute any such equative condition to the asserted content of (23b)[3]
- there is thus nothing for *almost* to modify in (23b)!

[2] Under the alternative view described in fn. 1, a pronoun introduces a new variable which is stipulated to be covalued with some previous variable during anaphora resolution.
[3] If present at all, the equative condition arises as a byproduct of anaphora resolution (see fn. 1).

Almost-modification is possible with *same* because individual identity can be understood in terms of ∀-quantification over atomic individuals.

(24) For (possibly plural) individuals X and Y, $X = Y$ iff $\forall x[x \leq X \leftrightarrow x \leq Y]$

- modifiers like *almost* are generally compatible with universal quantifiers

(25) a. Almost everyone has heard of Barack Obama.
b. Almost all of the governor's colleagues have denounced him.

D. *Same*-NPs readily occur in existential *there*-sentences, but pronouns cannot.

(26) When I left for work this morning, there were **a lot of people** standing on my neighbor's lawn.
a. …When I returned in the evening, there were still <u>the same people</u> standing there.
b. *…When I returned in the evening, there were still <u>them</u> standing there.

- McNally (1992), Ward & Birner (1995): the postverbal NP in an existential *there*-sentence must introduce a new variable
- a *same*-NP introduces a new variable, hence the acceptability of (26a)
- if a pronoun is directly replaced by a previous variable, then the unacceptability of (26b) follows straightaways[4]

E. Sentences containing anaphoric *same*-NPs often carry existential implications that are absent from corresponding sentences with pronouns.

- whereas (27a-c) with *same*-NPs all convey that John used some textbook in this year's class, only (28a) with a pronoun carries this implication

(27) Last year, John used ***Language Files*** in his introductory linguistics class.
a. …and he used <u>the same textbook</u> this year.
b. …but he didn't use <u>the same textbook</u> this year.
c. …did he use <u>the same textbook</u> this year?

(28) Last year, John used ***Language Files*** in his introductory linguistics class.
a. …and he used <u>it</u> this year too.
b. …but he didn't use <u>it</u> this year.
c. …did he use <u>it</u> this year?

[4] If a pronoun also introduces a new variable (see fn. 1), then more must be said: the felicity condition governing existential *there*-sentences must become sensitive to the manner in which the anaphoric link is established.

Claim: the existential implications accompanying *same*-NPs are pragmatic presuppositions that reflect the presence of *different* ('≠') as a lexical alternative to *same*.

- Abusch (2002) (see also Abbott 2000,2006 for relevant discussion): a "soft" presupposition trigger (i.e., one where the presuppositional component is weak and easily suspendable) contributes a set of alternative propositions to the discourse representation
- the alternative set is determined by the lexical alternatives of the trigger, e.g., the lexical alternative of *stop* is *continue*, the lexical alternative of *know* is *be unaware*, etc.
- typically, the alternative set will be construed as topical, and so it will be pragmatically presupposed that some alternative is true

(29) John stopped smoking (at *t*).
AS: {*John stopped smoking* (*at* t) , *John continued smoking* (*at* t)}

Pragmatic presupposition:
John stopped smoking at t ∨ *John continued smoking at* t
≡ *John smoked right before* t

The obvious lexical alternative for *same* is *different*, which expresses the non-identity relation ('=') amongst individuals. (*same*/*different* contrast like *stop*/*continue* do)

- in (30), the pragmatic presupposition that some alternative is true boils down to the pragmatic presupposition that John used some textbook in this year's class

(30) Last year, John used ***Language Files*** for his class, but he didn't use <u>the same textbook</u> this year.
AS: {*John used the same textbook this year* , *John used a different textbook this year*}

Pragmatic presupposition:
John used the same textbook this year ∨ *John used a different textbook this year*
≡ *John used some textbook this year*

In contrast, there is no obvious lexical alternative for a pronoun—pronouns do not induce any alternative sets, hence there is no analogous pragmatic presupposition.

(31) Last year, John used ***Language Files*** for his class, but he didn't use <u>it</u> this year.

Like the one triggered by *stop*, the presupposition of *same* is easily suspendable.

(32) (In a mass mailing addressed to "Resident") If you stopped smoking in 2001, you are eligible for a payment from the Tobacco Indemnity Fund.

(33) (Spoken by an actor in an infomercial) I was always waking up in the middle of the night with **terrible leg cramps**. If you suffer from <u>the same problem</u>, Cramp-Be-Gone is just the product for you!

5 Conclusion

A close inspection of anaphora with *same*-NPs lends further support to the view that definiteness ≠ familiarity.

- already well-known that definites can be used non-anaphorically to introduce novel discourse referents (cf. first-mention uses such as (8))
- even under their anaphoric uses, definite NPs need not be familiar!

What is the relation between anaphoric *same*-NPs and "ordinary" anaphoric definites?

(34) A man and **a woman** walked in. The woman sat down.

- ordinary definites pattern with pronouns, rather than *same*-NPs, suggesting that their anaphoric link does not constitute asserted content

(35) **The symptoms caused by insufficient iron in one's diet** are well-known.
*…Rather surprisingly, almost the symptoms are caused by an excess of iron too.

(36) When I left for work this morning, there were **a lot of people** standing on my neighbor's lawn.
*…When I returned in the evening, there were still the people standing there.

(37) Last year, John used **a textbook** and several supplemental readings in his introductory linguistics class.
a. …and he used the textbook this year too.
b. …but he didn't use the textbook this year.
c. …did he use the textbook this year?

- perhaps the anaphoric link is presupposed?

What about "*same*-NPs" in other languages? How do these compare to pronouns?

- e.g., French *le même livre* 'the same book' and *lui-même* 'himself' (see Safir 1996)

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