One and *(the) same

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1 Introduction

Anaphoric same can appear in argumental (1) or predicative (2) positions, with a corresponding difference in interpretation (Matushansky & Ruys 2007, Leung & van der Wurff 2018):

(1) I saw Sally put a rose on the table. Later, I saw the same flower on the floor.
(2) The rose was red and beautiful. The carnation was the same.

• in (1), same expresses simple identity between individuals—the flower that I saw on the floor = the rose that I saw Sally put on the table
• in (2), same instead expresses similarity in terms of shared properties—like the rose, the carnation is also red and beautiful


• anaphoric reference is not achieved by same, but rather by the definite article, as in the case of ordinary anaphoric definites
• evidence for same’s Parallelism requirement comes from the fact that the antecedent (clause) cannot be negated (Negated Antecedent)

(3) I didn’t see Sally put the rose on the table, a. …but later, I saw it on the floor. b. …but later, I saw the same flower on the floor.
• and must also pick out a distinct eventuality (Distinct Antecedent)

(4) John caught a big fish,
  a. …and he did it without any equipment. (same event.)
  b. …and he did the same thing without any equipment. (distinct event.)

(B) Alrenga (2006, 2007, 2010) and Sun (2018) on predicative uses (see also Matushansky 2010): same universally quantifies over contextually-relevant properties, and expresses that two individuals are similar in all relevant respects (a contextually-restricted version of Liebniz’s Indiscernibility of Identicals).

(5) (For our purposes,) frozen fish is the same as fresh fish.

• modification by almost (and its kin) supports such a maximal-similarity view in terms of universal quantification

(6) A gorilla’s heart is almost the same as a human heart—only bigger.

In both lines of work, the interpretive difference between same’s attributive and predicative uses was either set aside entirely (Hardt & Mikkelsen 2015), or else was captured via an implicit (Alrenga 2006, 2007 vs. Alrenga 2009) or explicit (Sun 2018) appeal to lexical ambiguity:

(7) \[ \text{same}\_\text{arg} = \lambda x. P(x) \] (plus Parallelism requirement on eventualities) (adapted from Hardt & Mikkelsen 2015: (36))
(8) a. \[ \text{same}\_\text{arg} = \lambda y. \lambda x. = y \] (Alrenga 2009, Sun 2018)
   b. \[ \text{same}\_\text{pred} = \lambda y. \lambda x. \forall P \in \text{C}[P(x) \leftrightarrow P(y)] \] (Alrenga 2006, 2007, Sun 2018)

But there are several reasons to think that a unified analysis is warranted:

• predicative same also appears to be subject to the Negated Antecedent and Distinct Antecedent conditions that H&M identified for argumental same

(9) The rose is not red and beautiful,
  a. …but the carnation is.
  b. …but the carnation is the same.

(10) Susan was friendly with her subordinates last May, a. …and she was so/that way in the midst of a company crisis. (same event.)
   b. …and she was the same in the midst of a company crisis. (distinct event.)
• modification by almost, which for Alrenga and Sun diagnoses the universal character of predicative same, is also possible with argumental same

(11) The symptoms caused by insufficient iron are well-known. Surprisingly, a. …almost the same symptoms occur due to an excess of iron.
   b. …almost them/the symptoms also occur due to an excess of iron.
• the treatment of predicative same as a simple 2-place predicate in (8b) sheds no light on its co-occurrence with the definite article, which is in fact just as obligatory as it is with argumental same

(12) I saw Sally put a rose on the table. Later, I saw \[*\text{the, a, }\emptyset*\] same flower on the floor.

(13) The rose was red and beautiful. The carnation was \[*\text{the, a, }\emptyset*\] same.

Our central hypotheses: (i) in both its argumental and predicative guises, same always expresses simple identity between individuals (contra H&M’s vacuity, Alrenga’s and Sun’s ambiguity approaches), and (ii) same always occurs attributively within a larger (definite) DP, whose denotation is computed in a standard fashion.

• the interpretive difference in (1) vs. (2) reflects a sortal distinction in the resulting DP’s denotations: argumental same-DPs denote ordinary individuals, whereas predicative same-DPs denote nominalized (type e) properties
• the appearance of the reflects the fact that same always occurs within an extended nominal projection, even in predicative uses like (2) which lack any overt noun
2 Same in argumental positions

Proposal: across all of its uses, same always expresses simple identity between individuals.

\( \langle \text{same} \rangle = \lambda y. \lambda x. x = y \)

As with degree equatives, the standard of comparison can be specified with an as-phrase complement to same, which is obligatorily extraposed in (15):

\begin{align*}
\text{(15) } & \text{a. I ran into the same man as the one who insulted you earlier today.} \\
& \text{b. I ran into the } \langle \text{same as the one who insulted you} \rangle \text{ man earlier today.} \\
& \text{c. } \langle \text{same as the one who insulted ...} \rangle \text{ man } = \lambda x. x = o & \langle \text{man} \rangle (x) \\
& \text{d. the } \langle \text{same} \rangle = \lambda P: \text{there is exactly one } x \text{ s.t. } P(x) = 1. \text{exP}(x) \\
\end{align*}

There is exactly one \( x \) such that \( x = o \), namely \( o \). So long as \( \langle \text{man} \rangle (o) = 1 \), the presupposition will be satisfied:

\begin{align*}
\text{(16) } & \langle \text{same} \rangle, \langle \text{the} \rangle = \lambda x. x = \text{g}(i) \\
\end{align*}

Observe that the range of possible dependencies for same-DPs parallels that displayed by ordinary anaphoric pronouns:

\begin{align*}
\text{Deictic} \\
\text{(a) (Pointing at a customer) I can’t close the store until she leaves.} \\
\text{(b) (Someone holds up a copy of The Great Gatsby) I just read the same book!} \\
\text{Discourse-internal} \\
\text{(a) A woman walked in. She lingered for a while, and then left.} \\
\text{(b) I rented a movie on my way home from work, only to find that my wife had rented the same movie.} \\
\text{Bound variable} \\
\text{(a) Every son loves his mother.} \\
\text{(b) Every department hired a linguist who got her degree from that same department.} \\
\text{Donkey} \\
\text{(a) Every farmer who owns a donkey beats it.} \\
\text{(b) Every customer who bought a television from us found the same television for less money on Amazon.} \\
\end{align*}

Observe also that same ( unlike different and identical) never truly occurs as a predicate (i.e., without the) or as a postnominal modifier:

\begin{align*}
\text{(21) } & \text{The rose was red and beautiful. The carnation was *(the) same.} \\
\text{(22) } & \text{a. There was a man sitting in the driver’s seat, but I don’t know for sure that it was the same man as the one at the bar.} \\
& \text{b. } \ldots\text{the man same as the one at the bar.} \\
\text{(23) } & \text{a. Congress has the power to make a President, and in their wisdom, they have selected a different candidate from the one selected by the People.} \\
& \text{b. } \ldots\text{a candidate different from the one selected by the People.} \\
\text{(24) } & \text{a. No doubt many of them had sat right here less than two years before, and watched an identical man to the one they saw now.} \\
& \text{b. } \ldots\text{a man identical to the one they saw now.} \\
\end{align*}

To restrict same’s appearance to attributive positions, we further state same’s denotation as a function on noun-phrase meanings:

\begin{align*}
\text{(25) } & \langle \text{same} \rangle, \langle \text{the} \rangle = \lambda P: \lambda x. x = \text{g}(i) & \text{P}(x) \\
\end{align*}

Compositional semantics of the same flower:

\begin{align*}
\text{(26) } & \text{I saw Sally put a rose on the table. Later I saw the same, flower on the floor.} \\
& \text{a. } \langle \text{same} \rangle, \langle \text{flower} \rangle = \lambda P: \lambda x. x = \text{g}(i) & \text{P}(x) \\
& \text{b. } \langle \text{same, flower} \rangle = \lambda x. x = \text{g}(i) & \langle \text{flower} \rangle (x) \\
& \text{c. the } \langle \text{the} \rangle = \lambda P: \text{there is exactly one } x \text{ s.t. } P(x) = 1. \text{exP}(x) \\
\end{align*}

There is exactly one \( x \) such that \( x = \text{g}(i) \), namely \( \text{g}(i) \). So long as \( \langle \text{flower} \rangle (\text{g}(i)) = 1 \), the presupposition will be satisfied:

\begin{align*}
\text{(a) } & \text{the } \langle \text{the} \rangle (\langle \text{same, flower} \rangle) = \lambda x. x = \text{g}(i) & \langle \text{flower} \rangle (\langle \text{the} \rangle (\langle \text{same, flower} \rangle)) \\
\text{(b) } & \text{g}(i) \text{ if } \langle \text{flower} \rangle (\langle \text{the} \rangle (\langle \text{same, flower} \rangle)) = 1 \text{, else undefined} \\
\end{align*}

- the meaning of same semantically guarantees that the nominal same, flower will pick out at most one individual
- assuming that the definite article (in English) conventionally encodes uniqueness, or more generally, determined reference (Farkas 2002), we straightforwardly predict the obligatory appearance of the with same: *a same flower is ruled out via Heim’s (1991) Maximize Presupposition, while *same flower is ruled out by type considerations
- the head noun flower serves to impose a definedness condition on the entire anaphoric same-DP; compare to the definedness conditions on ordinary anaphoric pronouns
Compare to the definedness conditions on ordinary anaphoric pronouns:

(27) \[ \| he \| \mathcal{B} = g(i) \text{ if } g(i) \text{ is male, else undefined} \]

(28) a. I saw Sam put a rose on the table. Later, I saw the same book on the floor.
    b. Sally walked in and put a rose on the table. Then he left.

Despite the analogous results in (26d) for \textit{same}-DPs and (27) for ordinary pronouns, there is an important difference in how their referents are established, as well as for ordinary anaphoric definites (without \textit{same}):

- a pronoun directly receives its denotation via assignment—the choice of index constitutes an interpretive stipulation, to the effect that the pronoun is being used to pick up a certain antecedent (vs. some other possibility)
- a \textit{same}-DP receives its denotation compositionally, via the equative condition \[ s = g(i) \] that explicitly figures into its literal meaning, and which constitutes the at-issue truth-conditional contribution of \textit{same}
- for ordinary anaphoric definite DPs (without \textit{same}), such equative conditions typically must be accommodated into their descriptive contents, to ensure satisfaction of the definite article’s uniqueness requirement

(29) I saw Sally put a rose on the table. Later I saw the flower on the floor.

(30) \[ \| \text{the flower} \| = \| \text{the} \| (\| \text{flower} \|) \]
    \[
    = \tau_l(\| \text{flower} \| (\pi_x)) \text{ if there is exactly one } x \text{ s.t. } \| \text{flower} \| (\pi_x) = 1,
    \text{ else undefined}
    \]

Since the above presupposition will generally not be satisfied, an equative condition of the form \[ x = g(i) \] may be accommodated to ensure uniqueness:

\[
\Rightarrow \tau_l(x = g(i) \& \| \text{flower} \| (\pi_x)) \text{ if } g(i) \text{ is a flower, else undefined}
\]

We think that this difference between the stipulated/accommodated equative conditions of pronouns/ordinary anaphoric definites vs. the at-issue condition that \textit{same} contributes has an observable effect with modification by \textit{almost}:

(31) The symptoms caused by insufficient iron are well-known. Surprisingly,
    a. ...almost the same symptoms occur due to an excess of iron.
    b. *...almost them/the symptoms also occur due to an excess of iron.

- \textit{same} contributes the equative condition \[ x = g(i) \] to the at-issue truth-
  conditional meaning of (31a), thus making it “visible” for interaction with
  modifiers like \textit{almost}
- the equative conditions needed to interpret (31b) are not similarly at-issue,
  but rather are byproducts of anaphora resolution and presupposition
  satisfaction—this renders them “invisible” to \textit{almost}
- \textit{almost}-modification is possible with \textit{same} because individual identity can be
  understood in terms of \( \forall \)-quantification over atomic individuals

(32) For (possibly plural) individuals \( X \) and \( Y \), \( X = Y \equiv \forall x(x \in X \equiv x \in Y) \)

- modifiers like \textit{almost} are generally compatible with universal quantifiers and
  other expressions picking out scalar endpoints

(33) a. Almost everyone has heard of Donald Trump.
    b. Almost all of the President’s previous colleagues have denounced him.

Another manifestation of this difference—\textit{same}-DPs trigger existential implications that are absent from corresponding sentences involving pronouns and ordinary anaphoric definites:

(34) Last year, John used \textit{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?

- the implication in (34a) that John used some textbook in this year’s class
  survives under negation (34b) and in questions (34c)

(35) Last year, John used \textit{Language Files} in his introductory linguistics class.
    a. ...and he used it/the book this year too.
    b. ...but he didn’t use it/the book this year.
    c. ...did he use it/the book this year?

- in contrast, only the affirmative (35a) carries the implication that John used some
  textbook in this year’s class; the negated (35b) and questioned (35c) are both
  neutral towards the existence of any such textbook.

**Claim:** the existential implications accompanying \textit{same}-DPs are pragmatic
presuppositions that reflect the presence of different as a lexical alternative to \textit{same}.

  presupposition trigger (i.e., one where the presuppositional component is weak
  and easily suspendable) introduces 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 \textit{stop} is \textit{continue}, the lexical alternative of \textit{knew} is \textit{be unsure}
- typically, the alternative set will be construed as topical (i.e., as one of the
  questions under discussion), and so it will be pragmatically presupposed that
  some alternative is true

- if \textit{different} (\( x \neq y \)) and \textit{same} (\( x = y \)) are each other’s lexical alternatives, then to
  pragmatically presuppose that some alternative is true in (34a-c) amounts to
  presupposing that John used some textbook in this year’s class

(36) Last year, John used \textit{Language Files} for his class, but he didn’t use the same
    book this year.
    \( ALT = \{ \text{John used the same book this year} , \text{John used a different book this year} \} \)
    Pragmatic presupposition:
    \textit{John used the same textbook this year} \( \lor \text{ John used a different textbook this year} \)

- in (35), there is no alternative-inducing lexical item, since neither pronouns nor
  ordinary anaphoric definite DPs introduce equative conditions into their
  sentence’s at-issue truth-conditional meanings, and hence no existential
  pragmatic presupposition
3 Same in predicative positions

Our assumption that same always occurs attributively, in combination with the semantic uniqueness that it guarantees, potentially sheds light on the definite article’s appearance in (37). But it raises a new question—where is same’s noun?

(37) The rose was red and beautiful. The carnation was the “same” red.

Sometimes, an overt head noun does accompany same in predicative positions:

(38) The rose was red. The carnation was the same (color).

Partee (1987) on second-order attribute nouns like color, size, shape, length, age, etc.—such nouns are of type $<e,t>$, and express properties of (nominalized) properties.

- property terms like red find their denotations in both $D_{e,t}$ and $D_e$, with the former type instantiating their predicative uses, and the latter type nominal/argumental uses (we take the $<e,t>$-type to be basic)

(39) $\| \text{red} \| = \lambda x. x \text{ is red}$

- the nominalize operator $(<e,t> \mapsto e)$ shifts a property into a 1-place predicate to its entity correlate (cf. Chierchia’s (1984, 1998) down ’ operator)

(40) $\| \text{color} \| = \{ \text{nom}([], \text{blue}), \text{nom}([], \text{yellow}), \text{nom}([], \text{red}), \ldots \}$

- the predicate operator $(\epsilon \mapsto <e,t>)$ shifts a nominalized property to the corresponding 1-place predicate (cf. Chierchia’s (1984, 1998) up ’ operator)

(41) $\text{pred}(\text{nom}([\text{red}])) = [\text{red}]$

(42) a. Your shirt is red.
   \[(42a) \| = 1 \text{ if } [\text{red}](\text{my shirt}) \] (predicative red is of type $<e,t>$)

b. Red is a (nice) color.
   \[(42b) \| = 1 \text{ if } ([\text{nice} \text{color}])([\text{red}]) \] (argumental red is of type $e$)

What about (42c)? A nice color cannot be predicated directly of your shirt, or else a sortal mismatch will result—color denotes a 1-place predicate over nominalized properties, but your shirt denotes an ordinary individual:

c. Your shirt is a (nice) color.
   \[(42c) \| = 1 \text{ if } ([\text{nice} \text{color}])([\text{your shirt}]) \] (sortal mismatch!!!)

Partee’s solution: a nice color in (42c) is of type $<e,t,t>$, and denotes a generalized quantifier over nominalized properties.

c. Your shirt is a (nice) color.
   \[(42c) \| = 1 \text{ if } \exists x ([\text{nice} \text{color}](x) & \text{pred}(x)(\text{your shirt})] \]

- $x$ picks out a nominalized property, which is then pred-shifted to the corresponding 1-place predicate over ordinary individuals, suitable for combining with [your shirt]

Just as quantification over (nominalized) properties is possible, so too may they be anaphorically referred to (Ross 1969):

(43) I want my shirt to be blue, and I want my shoes to be that color too.

(44) They said that he was creative, and he certainly was that!

Proposal: same in (45) is anaphoric to, and expresses simple identity with, a nominalized property.

(45) The rose was red. The carnation was the same, color.

a. $[\text{same}, P] = \lambda x. [\text{red}] P x = g(i) & P(x)$

b. $[\text{same}, \text{color}] P = [\text{same}, P](\text{color}(P))$

\[= \lambda x. x = g(i) & \text{color}(x)\]

c. $[\text{the}] P : \text{there is exactly one } x \text{ s.t. } P(x) = 1. \text{xxP}(x)$

There is exactly one $x$ such that $x = g(i)$, namely $g(i)$. So long as $[\text{color}](g(i)) = 1$, the presupposition will be satisfied:

d. $[\text{the same, color}] P = \text{the}\{\text{same, color}\} P$

\[= \lambda x. x = g(i) & \text{color}(x)\]

\[= x \text{ if } \text{color}(g(i)) = 1, \text{ else undefined}\]

- the meaning of same semantically guarantees that the nominal same, color will pick out at most one entity—we again straightforwardly predict the obligatory appearance of the definite article

- just as with the argumental cases, the head noun color serves to impose a definedness condition on the entire same-DP

- given that the entities in the extension of color are nominalized properties, the requirement that $[\text{color}](g(i)) = 1$ ensures that the same, color will also refer to a nominalized property, e.g. $\text{nom}([\text{red}])$

- pred-shifting to the corresponding 1-place predicate over ordinary individuals, which we take to be driven by the semantic type of be $<><e,t,t>$, then gives the desired result

e. $[\text{be}] P = \lambda x. P x$

f. $[\text{be the same, color}] P = \{[\text{be}] P([\text{the same, color}] P))$

\[= \lambda x. \text{pred}([\text{the same, color}] P)(x)\]

\[= \lambda x. \text{pred}(g(i))(x)\]

g. $[\text{the carnation be the same, color}] P$

\[= \{\text{be the same, color}\}([\text{the carnation}] P)\]

\[= 1 \text{ iff pred}(g(i))(\text{the carnation}) = 1\]
What about cases with no head noun?

(46) a. The rose was red. The carnation was the same color.
   b. The rose was red. The carnation was the same.
   \((46a)\) and \((46b)\) are equivalent

(47) a. The rose was red and beautiful. The carnation was the same color.
   b. The rose was red and beautiful. The carnation was the same.
   \((47a)\) and \((47b)\) are equivalent

Proposal: in \((46b)\) and \((47b)\), there is a null second-order attribute noun, which we represent as \textit{way} (see also Chierchia 1998 on the good, the bad, the ugly and Matušanský 2008 on attributive superlatives like \textit{This book is the longest})

\begin{itemize}
  \item \textit{WAY} denotes the full, unrestricted set of nominalized properties (i.e., the domain of \textit{PRED}), unlike \textit{color}, which places a contentful restriction on the nominalized properties appearing in its extension (compare to \textit{flower} vs. \textit{thing} with respect to ordinary individuals)
\end{itemize}

For some, the overt noun \textit{way} appears to have such an unrestricted meaning:

(48) a. The rose was red and beautiful. The carnation was the same way.
   b. The rose was red and beautiful. The carnation was the same.
   (for some speakers, \((48a)\) and \((48b)\) are equivalent)

(49) a. Help!!! My daughter’s hair is curly and dry! --My son’s hair is the same \textit{way}.
   b. It’s almost like he was afraid to look uncool. Rod Laver was the same \textit{way}.
   c. Patricius had a violent temper and appears to have been of dissolute habits; apparently his mother was the same \textit{way}.
   d. Jim said it was a sign it was going to rain. He said it was a sign when young chickens flew that way, and so he reckoned it was the same \textit{way} when young birds done it

(50) The rose was red and beautiful. The carnation was the same \textit{way}/\textit{way}.

\begin{itemize}
  \item a. \([\textit{same}][\textit{ WAY}] = \lambda P. \exists x. P(x)
  \item b. \([\textit{same}][\textit{ WAY}] = \exists x. P(x)
  \item c. \([\textit{ WAY}] = \lambda P. \exists x. P(x)
\end{itemize}

There is exactly one \(x\) such that \(x = g(i)\), namely \(g(i)\). So long as \([\textit{ WAY}][g(i)] = 1\), the presupposition will be satisfied:

\begin{itemize}
  \item a. \([\textit{the}][\textit{ WAY}] = \lambda P. \exists x. P(x)
  \item b. \([\textit{the}][\textit{ WAY}] = \lambda P. \exists x. P(x)
  \item c. \([\textit{ WAY}] = \lambda P. \exists x. P(x)
\end{itemize}

\begin{itemize}
  \item \([\textit{ WAY}] = \lambda P. \exists x. P(x)
  \item given that the entities in the extension of \textit{way} are (nominalized) properties of any sort (not just, e.g., colors), the requirement that \([\textit{ WAY}][g(i)] = 1\) ensures that the entire same-DP will also denote a (nominalized) property, e.g., \textit{NOM}([red and beautiful])
\end{itemize}

4 Conclusion

Summary: we have sketched out a unified approach to anaphoric \textit{same} in both argumental and predicative positions, under which \textit{same} always expresses simple identity between individuals. The analysis makes crucial appeal to nominalized properties, the type-shifters \textit{NOM} and \textit{PRED}, and the existence of (sometimes null) second-order attribute nouns in English.

Just a few of our many next steps:

\begin{itemize}
  \item examine other noun-less uses of \textit{same}—do all of them involve reference to abstract individuals, such as nominalized properties, event-descriptions, propositions, and the like?
  \item extend the present analysis to incorporate the Parallelism effects (Negated Antecedent, Distinct Antecedent) induced by \textit{same} (cf. \S1)—\textit{same} expresses simple identity between individuals, and imposes a Parallelism requirement on their containing eventualities?
  \item compare our analysis to Hanink’s (2018) work on \textit{same} in argumental positions and the syntactic status of indices, as well as Schwarz’s work on anaphoric definites
\end{itemize}
References