Squibs and Discussion

"Sloppy Identity": An Unnecessary and Insufficient Criterion for Deletion Rules

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A. "Sloppy identity" is a term introduced by Ross (1967, 1969) to account for facts like the following:

(1) a. George$_i$ thinks that he$_i$'s right, but Bill doesn't think that he$_i$'s right. →
 b. George$_i$ thinks that he$_i$'s right, but Bill doesn't.

(2) a. George$_i$ thinks that he$_i$'s right, but Bill$_j$ doesn't think that he$_j$'s right.
 b. George$_i$ thinks that he$_i$'s right, but Bill doesn't.

In (1b) an ellipsis rule has deleted the second occurrence of *think that he$_i$'s right*, which is syntactically, semantically, and referentially identical to the first occurrence. Many speakers also allow (2b), where the deleted VP is not referentially identical to the first in the sense that the pronoun *he* is a stipulated coreferent for a different antecedent. Ross hypothesized that the identity condition on rules of ellipsis may—under certain conditions—ignore differences of pronominal reference: it is thus not a strict, but a "sloppy" identity condition.

The content of the sentence sometimes strongly favors sloppy identity:

(3) George is losing his hair, but Bill isn't.

The favored and natural interpretation of (3) is that of (4):

(4) George$_i$ is losing his$_i$ hair, but Bill$_j$ isn't losing his$_j$ hair.

If the ellipsis had occurred under strict identity, (3) would have the interpretation of (5):

(5) George$_i$ is losing his$_i$ hair, but Bill isn't losing his$_i$ hair.

B. It is natural to ask what kinds of rules permit deletion under sloppy identity. VP Deletion (the rule illustrated in

section A) is an example of a rule involving identity of sense rather than coreferentiality. Thus, (6) does not require that the act of buying a car in the two cases be the same, and (7) cannot refer to the same state of knowing (whatever that would mean):

(6) Bill bought a car when Sally did.
(7) Sally knows a lot of physics, but Bill doesn't.

A reasonable conjecture is that all and only identity-of-sense deletions allow sloppy identity.

Ross (1969) suggests that S Deletion can also occur under conditions of sloppy identity. S Deletion is the rule that would derive (9) from (8) (Ross's examples):

(8) Jack believes that maple syrup is fattening, but I don't believe that maple syrup is fattening.
(9) Jack believes that maple syrup is fattening, but I don't believe it.

If S Deletion permits sloppy identity then it is possible for Ross to derive certain problematic sentences such as (10) from the type of source shown in (11) (sentences like (10) were discussed first in Akmajian 1973):

(10) Jack put Mabel on the bed and poured honey on her, and I want to do it to Bill using the couch and apple butter.
(11) Jack did it [put Mabel$_i$ on the bed and pour honey on her$_i$] and I want to do it S to Bill$_j$ using the couch$_k$ and apple butter$_m$. S = [put him$_j$ on it$_k$ and pour it$_m$ on him$_j$]

Ross assumes both that the *it* in *do it* results from S Deletion and that S Deletion allows sloppy identity.

Curiously enough, S Deletion in cases like (9) does not permit sloppy identity:

(12) Jack believes that he is allergic to maple syrup, but I don't believe it.

It is possible to construe *it* in (12) as *that he is allergic to maple syrup* but not as *that I am allergic to maple syrup*. This resistance to sloppy identity appears even when contexts strongly favorable to it are constructed:

(13) Jack believes that he is losing his hair and George believes it, too.

It is extremely difficult to interpret *it* in (13) as *that George$_j$ is losing his$_j$ hair*. VP Deletion, by contrast, does permit such interpretation:

(14) Jack believes that he is losing his hair and George does, too.

How could this difference be explained? In Bresnan (1971) it was shown that S Deletion does not behave like VP Deletion with respect to the missing antecedents phenomenon discovered by Grinder and Postal (1971). It was argued that an identity-of-sense deletion rule is distinguished from an identity-of-sense anaphora (pronominalization) rule. If sentential pronouns are generated in the base like other pronouns, this differential behavior is predictable.[1] Perhaps, then, S Deletion in (12)–(13) does not permit a sloppy identity condition on deletion because it is not a deletion rule at all.[2]

It would be satisfying to conclude that all and only identity-of-sense deletion rules permit sloppy identity, but this conclusion is wrong in two ways. First, some identity-of-sense pronouns appear to allow "sloppy" interpretations, and second, some identity-of-sense deletions require strict identity. In section C we consider cases of the first sort, in section D a case of the second sort.

C. Consider (15):

> (15) My father has never shot himself with a crossbow, but my grandfather did it in 1984, during the suicide craze.

In (15) *it* can mean 'shoot himself with a crossbow', where *himself* refers to *my grandfather* and not *my father*. Yet if *it* were the result of a rule of S Deletion, we would expect (16) to be grammatical like its putative source (17):

> (16) *My father has never shot himself with a crossbow, but my grandfather did it, and it was buried with him [it = crossbow].
>
> (17) My father has never shot himself with a crossbow, but my grandfather did shoot himself with a crossbow and it was buried with him [it = crossbow].

Contrast (18), where VP Deletion has removed the antecedent:

> (18) My father has never shot himself with a crossbow, but my grandfather did, and it was buried with him [it = crossbow].

(See Bresnan 1971 for a fuller discussion of this type of example as well as apparent counterexamples.)

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[1] Bresnan (1971). Postal (1972) makes several criticisms of Bresnan (1971), but these were already answered there.

[2] The fact that examples like (12) and (13) do not allow a "sloppy" interpretation was pointed out by James Paul Gee, of Stanford University (personal communication to Bresnan).

A number of other identity-of-sense anaphors allow sloppy interpretations:

(19) Harry found a place to park his car before Harriet could find one [= a place to park her car].

(20) Harry had his hair cut before Harriet could do so [= have her hair cut].

And in fact ordinary definite pronouns allow sloppy identity in examples like (21) (due to L. Karttunen; see Partee 1972 and the references cited there):

(21) The man$_i$ who gave his$_i$ paycheck to his wife was wiser than the man$_j$ who gave it to his$_j$ mistress [it = his$_j$ paycheck].

Conclusion: sloppy identity is not a sufficient condition for determining whether a rule is a deletion rule.

D. The rule of Comparative Deletion (CD) must be distinguished from the rule(s) of Comparative Ellipsis (CE), as has often been pointed out. CD is an obligatory rule which deletes under identity to the head of the comparative clause (Bresnan 1973, to appear). CE, an optional rule, deletes under identity to the *matrix* in which the head is embedded.

CD has occurred in (22); CE in (23):

(22) Mary wrote as many books as John wrote ϕ.
[$\phi = x$ many books]

(23) Mary wrote as many books as John (did) ϕ.
[ϕ = write]

It is clear that CD is an "identity-of-sense" deletion: the constituent deleted from (22)—*x many books*—is not co-referential with the head; Mary and John need not have written the same set of books, but only the same number of books.

That CE allows sloppy identity can be seen in (24):

(24) a. More men$_i$ worry about their$_i$ health than ____women$_j$ worry about their$_j$ health. →

b. More men worry about their health than women (do).

(In (24a), CD has already removed a measure-phrase x *many* from the NP *women*; see Bresnan 1973, to appear.)

Now let us ask whether CD also allows sloppy identity. To test this, we must find a case where the compared constituent (the clausal constituent which matches the head of the comparative clause) may contain a pronoun. Consider (25):

> (25) a. John lost more of his hair than George lost.
>   (CD)
>   b. John lost more of his hair than George (did).
>   (CE)

In (25a), only CD has applied, operating on the source (26):

> (26) John lost more of his hair than George lost [x much of his hair].

If CD allowed sloppy identity, then (25a) should have the natural interpretation of (27):

> (27) John$_i$ lost more of his$_i$ hair than George$_j$ lost____ of his$_j$ (hair).

(In (27) CD has deleted only a subpart of the compared constituent, namely the measure-phrase x much; cf. (24) above.) If CD does not allow sloppy identity, then (25a) should have the odd interpretation under which George is losing John's hair. And in fact, this seems to be precisely what (25a) suggests.

(25b), by contrast, permits the "sloppy" interpretation. But (25b) is derived by CE (from the structure underlying (27))—and we have already seen that CE allows sloppy identity.

Judgments of sloppy identity are labile, varying from speaker to speaker and context to context. Nevertheless, it appears that VP Deletion and Comparative Ellipsis allow it, while Comparative Deletion does not:

> (28) Jack likes his children, but Bill doesn't. (VP Deletion)
> (29) Jack likes more of his children than Bill does. (CE)
> (30) Jack likes more of his children than Bill likes. (CD)

Conclusion: sloppy identity is neither a necessary nor a sufficient condition for determining whether a rule is a deletion rule.

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THE POSITION OF CERTAIN
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What constituent structure should be assigned to the italicized clauses in (1)–(3)?

(1)   Machines *that could add* were soon invented.
(2)   Much more *than I've just told you* has come to light.
(3)   Not as many women *as one would like* have been elected.

A simple observation suggests that they are all Ss:

(4)   Machines were soon invented *that could add*.
(5)   Much more has come to light *than I've just told you*.
(6)   Not as many women have been elected *as one would like*.

In (4)–(6) the *that*, *than*, and *as* clauses have each been extraposed to the end of the main clause in a process like that in (7)–(8):

(7)   A false claim *that men were superior* was propounded.
(8)   A false claim was propounded *that men were superior*.

The rule which accomplishes this, *Extraposition from NP*, has been formulated as follows (cf. Ross 1967):

(9)   X - [$_{NP}$ NP - S $_{NP}$] - Y
       1   2   3   4 →
       1   2 ϕ 4 3