

## Geis-ambiguity and tense harmony

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Geis (1970) notes that English sentences like (1) are ambiguous between the high reading and the low reading. According to the high reading, the connective *before* in (1a), for instance, orders the matrix event time with respect to the time of the higher predicate in the *before*-clause; namely the saying time. The low reading compares the matrix event time relative to the most embedded predicate, and it says that Liz left before Liz's leaving time according to what you said.

- (1) a. Liz left before you said she had.  
b. John will leave after Mary says that he will.

Geis also observes that the ambiguity disappears when what he calls the Tense Harmony Rule is not obeyed. Compare (1b) with (2).

- (2) John will leave after Mary said that he would.

(2) lacks a high reading and only has a low reading. Geis argues that the higher predicate in the *after*-clause is marked [+ PAST] whereas the lower predicate is marked [- PAST], and therefore only the feature on the latter matches that in the matrix predicate.

For concreteness, let us assume Larson's (1990) analysis of Geis-ambiguity. He proposes that temporal adjunct clauses contain a null operator, and depending on where it originates, the ambiguity arises, as shown below:

- (3) a. John will leave after [<sub>CP1</sub> OP1 Mary said t<sub>1</sub> [<sub>CP2</sub> he would ]].  
b. John will leave after [<sub>CP1</sub> OP1 Mary said [<sub>CP2</sub> he would t<sub>1</sub> ]].

Semantically, a null operator is like a relative pronoun in the sense of Heim & Kratzer (1998) and is an abstractor over a variable ranging over times. The CP1 in (3a) denotes the set of times in the past at which Mary speech is made. The CP1 in (3b), on the other hand, denotes the set of times of John's leaving, which is in the future with respect to Mary's speech time in the past. This set includes both past and future times with respect to the speech time.

The following fact supports this conclusion. When the future auxiliary *would* is embedded under past, the embedded predicate can be modified by past or future adverbials:

- (4) a. A week ago, Mary said he would leave yesterday.  
 b. A week ago, Mary said he would leave tomorrow.

A morphological fact also casts doubt on Geis's claim. The auxiliary *would* is often analyzed as the past tense form of *will*. Thus, it is not clear whether the temporal adjunct clause in (3b) is in fact marked [– PAST].

The Tense Harmony Rule is originally proposed to restrict the distribution of different tense forms in English temporal adjunct clauses.

- (5) a. \*John left before/after Bill leaves.  
 b. \*John will leave before/after Bill left.

A different account based on semantics/pragmatics can be offered, however. English tenses in temporal adjunct clauses are argued to be absolute tenses, interpreted relative to the speech time (Stump 1985, von Stechow & Grønn 2013, among others). Thus the following sentences are ruled out as contradiction:

- (6) a. \*John left after Bill leaves.  
 b. \*John will leave before Bill left.

The unacceptability of the following sentences is reduced to pragmatic considerations (Stump 1985).

- (7) a. \*John left before Bill leaves.  
 b. \*John will leave after Bill left.

If John left in the past, and Bill leaves now (or in the scheduled future), we already know that the former event takes place before the latter. The information conveyed by the temporal connective *before* is redundant.

The analysis along this line explains that (2) lacks a high reading. It also explains what is left unaccounted for by the tense harmony analysis. Suppose that (4a) is what I hear about John's leaving, and later I report (2). What I mean is that John will leave after tomorrow. Knowing (4b), however, it is inappropriate to use (2).

## References

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