

Negation, focus alternatives, and perfect tense

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Background: Ogihara (2002) presents an account of subjunctive conditionals like (1), where a focused future adverb in the antecedent contrasts with the past perfect tense of the verb. Seemingly identical scenarios can be constructed with deontic modals in root clauses like (2):

- (1) If you had arrived TOMORROW, we would have had time to arrange a party.
- (2) You should have arrived TOMORROW.

Adapting Ogihara’s (2002) analysis of (1), I will argue that (2) expresses two presuppositions. First, that the complement of *have* is false in the actual world w^* (i.e. arriving tomorrow is no longer an option for the addressee). I will call this the *falsity of the complement*. And second, that there is a focus alternative of (2) that is true in w^* (the *better alternative* presupposition). Ippolito (2013: 29) shows this second presupposition not to necessarily hold for conditionals like (1). Nonetheless, it does seem obligatory for the main clause examples like (2) to be felicitous.

The triggering of these presuppositions is intuitively connected to the presence of *have* in the examples above. According to Ogihara (2002), the role of the perfect in conditionals like (1) is to ensure that the focus alternatives contrasted with the antecedent are anchored in the past. This claim appears to be falsified by (4) below however, where the presence of negation allows for the contrasted proposition to be anchored at any past *or future* time. Negation also leads to the unexpected asymmetry shown below where (5) is unacceptable but (4) is fine:

- (3) You should have arrived YESTERDAY.
- (4) You shouldn’t have arrived YESTERDAY.
- (5) # You shouldn’t have arrived TOMORROW.

Questions: Given the data above, the questions the need answering are the following. First, does the perfect contribute any notion of pastness (as suggested by Ogihara (2002)) or merely counterfactuality? (Quick Answer: *have* expresses just counterfactuality). Second, why does the combination of negation and a focused future adverbial lead to the unacceptability of (5)? (Hypothesized Answer: it’s infelicitous to presuppose that something will happen in the future).

Proposal: Contrary to Ogihara’s (2002) and Ippolito’s (2015) proposals for counterfactual conditionals, I suggest that the contribution of the past in (1-5) is entirely counterfactual and that there is no temporal pastness associated with it (I assume that *have* in (2-5) is the realization of past tense in a non-finite context). Following Rubio Vallejo (2016), who proposes a formalization of Iatridou (2000), I assume the following modal denotation for the past, where the underlined section refers to the presupposition that p is false in the actual world.

- (6) $\llbracket \text{Past}_{\text{modal}} \rrbracket = \lambda p_{st} \cdot \lambda w. \underline{|w^* \notin p|} p(w)$.

Assuming that *should* is a standard Kratzerian necessity modal, the simplified syntactic structure and denotation of (4) would be the following:

- (7) a. [You [should [PAST_{Modal} [not arrive yesterday]]]]
b. $\llbracket (4) \rrbracket^c = 1$ iff $\forall w' \in \text{Best}(f, g, w^*)$: $\underline{|w^* \notin \{w' : \neg \exists e. [\tau(e) \subseteq \text{yesterday}_c \ \& \ \text{arrive}(\text{you})(e)(w')]\}}|}$
 $\neg \exists e. [\tau(e) \subseteq \text{yesterday}_c \ \& \ \text{arrive}(\text{you})(e)(w')]$

(7b) expresses that all of the best possible worlds w' according to the modal base f and ordering source g are such that there is no event of the addressee arriving yesterday in w' , but w^* is not part of that set of best worlds. In other words, (4) presupposes that the addressee

did arrive yesterday in w^* (this is the *falsity of the complement*). In order to derive the *better alternative* presupposition, I appeal to Rooth's (1992) theory of focus and exhaustiveness effects, along the lines of Ogihara (2002). Given that it is the temporal adverb in (4) that bears focus, I suggest that the focus value and alternatives of this sentence are the following:

- (8) Focus value of $\llbracket(4)\rrbracket =$ You shouldn't have arrived X . (where X is a temporal interval)
- (9) Focus alternatives of $\llbracket(4)\rrbracket =$ You shouldn't have arrived (LAST-WEEK \vee 2-DAYS-AGO \vee THE-DAY-AFTER-TOMORROW $\vee \dots$)

Following the Gricean Quantity-maxim, the assertion of (4) triggers the negation of its focus alternatives:

- (10) You should have arrived (LAST-WEEK \vee 2-DAYS-AGO \vee DAY-AFTER-TOMORROW $\vee \dots$)

As can be seen in (10), the potential focus alternative that the speaker of (4) has in mind can be modified by any kind of past or future temporal interval. This shows that the *better alternative* presupposition doesn't need to be anchored in the past – contrary to what Ogihara (2002) posited for subjunctive conditionals.

The same reasoning applies to non-negative sentences like (3), with the difference that the only acceptable negated focus alternatives will be those where the adverb refers to the past, given that future-oriented ones will trigger the same infelicity exemplified by (5). Because of this, the combined *falsity of the complement* presupposition of all of the negated focus alternatives of (3) will say that w^* is not a member of the set of worlds where the addressee does not arrive sometime in the past. Or, simplifying double negation, that the addressee did actually arrive in w^* at some past time. Thus, it can be motivated that the *better alternative* presupposition of (3) must be in the past without positing that *have* has a direct past contribution. This also makes the right predictions for structures where the focused constituent is not a *temporal* adverb, as discussed by Ippolito (2013: 30) with respect to conditionals.

With regards to the second question I wanted to address, why are sentences like (5) infelicitous? Intuitively, the problem appears to be that these examples presuppose that something already happened *tomorrow* – an obvious temporal clash. This suggests that the problem might be related to the *falsity of the complement* presupposition, and not to the *better alternative* one. This appears correct, given that the negated focus alternatives of (5) are all perfectly acceptable both with past and future adverbs:

- (11) Focus alternatives of $\llbracket(5)\rrbracket =$ You should have arrived (YESTERDAY \vee THE-DAY-AFTER-TOMORROW $\vee \dots$)

Indeed, I want to argue that sentences like (5) are unacceptable because they presuppose that w^* is already a member of the proposition that you arrive tomorrow, an assumption that is at odds with the fact that the future is non-deterministic. While it seems possible to make presuppositions about the future in embedded clauses (cf. (12-13) below), examples like (5) suggest that this might be harder to obtain in root clauses.

- (12) Since you will arrive tomorrow, we might as well wait until then.
- (13) When you arrive tomorrow, we'll explain you everything.

References: Iatridou (2000) The grammatical ingredients of counterfactuality. Ippolito (2013) Subjunctive conditionals. Ogihara (2002) Counterfactuals, temporal adverbs, and association with focus. Rooth (1992) A theory of focus interpretation. Rubio Vallejo (2016) Modal non-assertions.