CSC-Violating Head Movement in English Conditional Inversion

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1 Introduction

This squib discusses a previously unobserved English construction¹ exemplified by the italicized portions of these sentences:

- (1) Ann would not have proposed, had Rita ignored her calls and had forgotten her birthday.
- (2) Should we support Ann and she were to win, she would let us drive her Ferrari.

What these examples have in common is the presence of what we shall call "asymmetric Conditional Inversion" (henceforth, "ACI"), namely a conjunction of two conditional antecedents, neither of which has an overt complementizer (such as *if*), and with Conditional Inversion only in the first conjunct. In what follows we will demonstrate that the correct analysis of (1) and (2) involes T-to-C extraction as in (3) and (4):

- (3) Ann would not have proposed, [$_{CP}$ had_i [$_{TP}$ Rita t_i ignored her calls and had forgotten her birthday]].
- (4) $[_{CP}$ Should_i $[_{TP}$ we t_i support Ann and she were to win]], she would let us drive her Ferrari.

Thus, if the analysis proposed here is correct, ACI sentences are noteworthy insofar as the T-to-C movement they instantiate violates a long-known restriction on syntactic transformations, i.e., the Coordinate Structure Constraint as it is normally stated:

(5) The Coordinate Structure Constraint (Ross 1967:161): In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

In both (3) and (4), the CSC violation arises from the fact that the Auxiliary of the first conjunct leaves the coordinate structure moving to C^0 , while the Auxiliary of the second conjunct is not moved. Given common assumptions about the syntax of CI in English, which are briefly reviewed in section 2, (3) and (4) are arguably the simplest descriptions one can give to ACI

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^{1.} The only instance of this construction that we have been able to find in the linguistics literature is the British National Corpus example in (i), cited in Leuschner and Van den Nest (2015:56). These authors, however, do not comment in any depth on the asymmetry in subject-auxiliary inversion which constitutes our theoretical focus here.

⁽i) *Should the problem persist, or you cannot contact the Area Manager*, the Regional Management Centre is the next point of contact for your complaint.

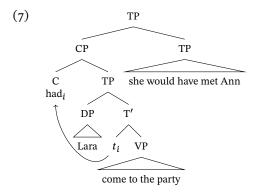
sentences. While it is tempting to nevertheless seek alternative analyses that would spare us the conclusion that the CSC is systematically violated in its weakest form by the ACI construction, the interpretive arguments offered in section 3 make the syntactically simplest, CSC-violating analysis the only viable one.

2 Conditional Inversion in English

Canonically, English antecedents of conditionals are introduced by the complementizer *if*. Certain conditionals (subjunctive conditionals² with auxiliaries *had*, *should* or *were*), however, may display so-called Conditional Inversion (hence, CI): instead of an overt complementizer, the auxiliary appears in clause-initial position in the antecedent. The former option is exemplified by (6a), the latter by (6b):

(6)	a.	If Lara had come to the party, she would have met Ann.	<i>if</i> -conditional
	b.	Had Lara come to the party, she would have met Ann.	CI-conditional

CI in English has been analyzed as an instance of T-to-C movement (Pesetsky 1989, Iatridou and Embick 1994, a.o.): absent the complementizer *if*, the auxiliary moves to C^0 , so that (7) is a partial specification of the syntax of (6b).

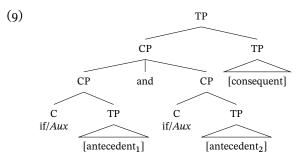


When it comes to conjoining two antecedents, English permits all four of the possible combinations of CI and overt-*if* clauses, as illustrated in (8).

- (8) a. If Shanti had been single, and if Sammy had come to the party, they would have met.
 - b. Had Shanti been single, and if Sammy had come to the party, they would have met.
 - c. If Shanti had been single, and had Sammy come to the party, they would have met.
 - d. Had Shanti been single, and had Sammy come to the party, they would have met.

In line with the T-to-C assumption in (7), we shall analyze sentences like those in (8) along the lines of (9):

^{2.} It is convincingly argued in von Fintel and Iatridou (2020) that the label "subjunctive conditional" is inadequate from a cross-linguistic point of view and misleading in general. We nevertheless stick to this more standard terminology because the indicative vs. subjunctive (O- vs. X-marking in von Fintel and Iatridou's terminology) distinction is only tangential to the the point of this squib.



3 The syntax of Asymmetric CI

As it turns out, English also allows for one other way of conjoining inverted and non-inverted antecedents. That is what we introduced in section 1 as "Asymmetric Conditional Inversion" ("ACI"): CI in the first antecedent, but neither CI nor an overt *if* in the second antecedent. Importantly, reversing the asymmetry—i.e. switching around the two antecedent conjuncts—yields an unacceptable result: this is shown by the contrast between (10a)-(10b) and (10c)-(10d).

- (10) Ann would have been mad,
 - a. ...had Rita ignored her calls and Sarah had forgotten her birthday.
 - b. ...had Sarah forgotten her birthday and Rita had ignored her calls.
 - c. *...Sarah had forgotten her birthday and had Rita ignored her calls.
 - d. *...Rita had ignored her calls and had Sarah forgotten her birthday.

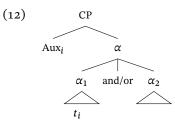
It should be noted that there is no scenario under which one of (10a) and (10b) is true and the other one is false: this indicates that linear precedence in ACI constructions does not have to correspond to any particular relation—be it of temporal or causal nature—holding between the contents expressed by the conjoined antecedents. This feature of ACI will be particularly relevant for the discussion below, because it distinguishes ACI from other English constructions that have been observed and argued to be counterexamples to the standard formulation of the CSC (Postal 1998:51–95 and references therein), where the temporal or causal relation between conjuncts is necessary for the acceptability of the string.

It is also worth noting that while ACI does not seem to be a very common construction, it is fully productive,³ and the only restrictions on its distribution are those that hold of plain Conditional Inversion as well—the only invertible auxiliaries in contemporary English (A)CI being *should*, *had* and *were*, with no contracted negation. As long as these restrictions are obeyed, ACIs may have more than two conjuncts, may be conjunctive or disjunctive, and may precede or follow the consequents they are adjoined to, as the corpus examples in (11) demonstrate. The examples also show that the auxiliaries in an ACI need not be the same for all coordinates—in fact, the non-inverted auxiliary may even be outside the restricted class of invertible auxiliaries just mentioned (11d).

^{3.} We should note, though, that some speakers do not accept examples such as (1), which we shall analyze in section 3.1 as involving CSC-violating movement out of a T'-conjunction. Under the account to be developed here, the grammar of these more restrictive speakers (accepting TP-ACI but not T'-ACI) must somehow be constrained to minimize the CSC-violating portion of the relevant movement path. We leave the exact formalization of this constraint for future research.

- (11) a. Had we been successful and things had gone as planned and Joycelyn Elders had been able to be our keynote speaker as he had agreed, we would have lost some of this positive press.4
 - b. And should they have survived and you were to meet them, what would you say?⁵
 - The score [...] is less than the score they would have obtained had they been totally c. ignorant and had ventured a guess or had chosen not to answer the question.⁶
 - d. I'm not sure they're going to get anything they wouldn't have gotten had they continued to bargain and hadn't gone on strike.7

The rest of this squib focuses on simpler examples with two conjuncts, and argues that in such cases the syntactic structure of the whole antecedent is like the one represented in (12).



As already hinted at, the auxiliary movement in this analysis calls for a relaxation of the classical CSC. Before defending this conclusion at length, though, we should notice that the only auxiliary whose movement can defy the classical CSC in the way we suggest is the one heading the first conjunct, i.e. α_1 in (12). Attempting ACI out of the second conjunct leads to unacceptable results.

(13) *Ann would have been mad, had, Rita had ignored her calls and Sarah t_i forgotten her birthday.

This restriction is presumably the result of a minimality constraint—to be stated either in linear terms or, if one adopts a structure like [XP [& YP]] for coordination (Munn 1987; Johannessen 1993, a.o.), in terms of the number of nodes c-commanding only one end of the chain. The choice between these analytical options does not affect the general argument and the analysis proposed here: we adopt a non-binary branching analysis of coordination just for expository simplicity.

3.1 T' Asymmetric CI

Let's start by considering cases like (1).

(1) Ann would not have proposed, had Rita ignored her calls and had forgotten her birthday.

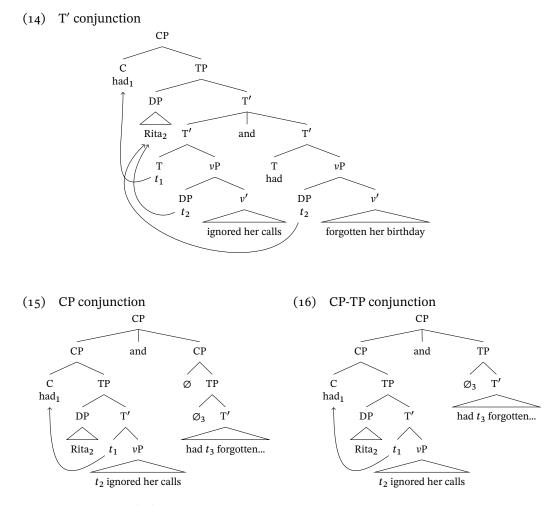
This is a counterfactual conditional which, on an unmarked reading where both pronouns are coreferent with Ann, states roughly the following: the (unmet) condition on Ann's decision not to propose was that Rita do two things, namely ignoring Ann's calls and forgetting Ann's birthday. When it comes to the structural description of the antecedent in (1), the three main options are those represented in (14)–(16). We will see that the only tenable option is (14).

^{4.} Example taken from https://doi.org/10.1177/152450049500200303.

^{5.} Example taken from William Herrick's Kill Memory.

^{6.} Example taken from https://doi.org/10.1111/j.1365-2923.1979.tb01201.x.

^{7.} Example taken from https://www.cleveland.com/business/2019/10/striking-parma-uaw-workers-hope-forthe-best-wait-for-vote-on-gm-contract.html



The structure in (14) straightforwardly explains why the second conjunct contains neither an overtly filled C^0 nor an overt subject: that is because the conjunction applies between the two T' constituents, lower than either C^0 or Spec,TP. This solution, however, comes at a cost, as it forces us to posit T-to-C movement out of the first T' conjunct but not out of the second, in violation of the Coordinate Structure Constraint.⁸ The alternatives in (15) and (16), on the other hand, are attempts to resist this conclusion and to maintain the CSC in the face of ACI. Both (15) and (16), however, run into insurmountable problems of their own.

First of all, (15) and (16) share the problem of having to explain why the second antecedent's subject can be null. One possibility would be to posit a *pro* in that position. Such a *pro*, however, is not only unattested in the rest of the English language,⁹ but would also have to be quite unlike the *pro* from familiar null-subject languages. In particular, this exceptionally licensed *pro* could never be interpreted as a free pronoun; rather, it would always have to be coreferent with or

^{8.} The other movements in (14)—those of the subject *Rita* from Spec,vP to Spec,TP—are compliant with the CSC, because they take place across the board, out of both conjuncts at once.

^{9.} The only possible exceptions are so-called Subject Gaps in Finite clauses, or SGFs (Höhle 1983; Wunderlich 1988; Kathol and Levine 1993), and they too involve coordination. More specifically, these constructions exhibit locative or quotative inversion in the first conjunct, followed by a *prima facie* subjectless, non-inverted clause as a second conjunct. We return to these in fn. 10.

bound by the non-c-commanding subject of the first antecedent—even when this were to lead to deviance on binding-theoretic grounds, as illustrated by the Principle B violation in (17a).

(17) a. *Had I asked you out and had answered me "no," I would've felt bad.

- b. Had I asked you out and you had answered me "no," I would've felt bad.
- c. Had I asked you out and had you answered me "no," I would've felt bad.

Contrast (17) with its Italian counterpart in (18), where the *pro* in the second antecedent conjunct does get interpreted as a free pronoun disjoint from the previous subject.

(18) Italian

Se	io	ti	avessi	invitato	а	cena	e	pro	mi	avessi
if	1SG.NOM	2SG.ACC	had	invited	to	dinner	and	2SG.NOM	1SG.DAT	had
								rimast		
ä	answered s	spades (idi	om.), 1	SG.NOM	the	re woul	d.be.1	SG resulte	ed badly	
'If I'd asked you out for dinner and you'd answered me "no," I would've felt bad.'										

A *pro*-based analysis would thus commit us to at least two very suspicious stipulations: First, that English is after all a *pro*-drop language (at least in this very restricted corner of the language), and second that the English *pro* would be unlike any other pronoun in being obligatorily coreferent with or bound by a non-c-commanding antecedent.

In view of these problems, one might try to abandon the *pro*-based account and posit some argument-ellipsis process instead. However, such ellipsis, too, would lack any independent justification on English-internal grounds, and would again have to obey far tighter interpretive restrictions than ellipsis is known to be generally subject to. If the absence of an overt subject in the second conjunct is to be understood as a gap (resulting from whatever type of syntactic transformation), then this gap lacks what Mayr and Schmitt (2017) call "independent construal" in connection to the similar German construction they dub "Asymmetric Coordination". To appreciate the problem, we should consider cases in which the subject in the conditional antecedent denotes an expression that takes scope, as for instance a quantificational DP. Consider the ACI conditional in (19) and suppose that Ayanna, Bayo, Cai and Dunja (A, B, C and D) are students in Felicia's class.

(19) Felicia would have gotten a raise, had [at least two students]_i come to class on time and had done their_i homework.

Scenario	1	2	3	4
Students on time Students who did hw	A, B A	A, B C, D	A, B, C A, B	A, B, C A, B, C
Felicia gets a raise?	NO	NO	YES	YES

Without going into the details of the truth conditions of counterfactual statements, the intuition about the meaning of (19) is the one represented by the table with the four scenarios. That is, under truthful assertion of the ACI conditional, only the state of affairs in 3 and 4 would have guaranteed Felicia's getting the raise. The actually unmet condition for the raise was that some

⁽i) (a) Down came the rain, and washed the spider out.

⁽b) "Well, I know when I'm beat," said the challenger, and made as if to turn away.

students (but at least two) both come to class on time and do their homework—Felicia would have gotten no raise if one or no student had done both (as in scenarios 1 and 2 respectively). Now consider two modifications of (19) and their interpretation against the same four contexts. In (20) the quantificational DP *at least two students* appears twice, in the subject position of both conjunct; in (21), the subject position of the second conjunct, which is surface empty in (19), is filled by the plural pronoun *they*.

(20) Felicia would have gotten a raise, had [at least two students] come to class on time and [at least two students]_i had done their_i homework.

Scenario	1	2	3	4
Students on time Students who did hw	A, B A	A, B C, D	A, B, C A, B	A, B, C A, B, C
Felicia gets a raise?	NO	YES	YES	YES

(21) Felicia would have gotten a raise, had [at least two students] come to class on time and they_i had done their_i homework.

Scenario	1	2	3	4
Students on time Students who did hw	A, B A	A, B C, D	A, B, C A, B	A, B, C A, B, C
Felicia gets a raise?	NO	NO	NO	YES

The conditions for Felicia to get the raise are weaker in (20) than in the ACI sentence (19): now there does not have to be even a single student who both did their homework and came on time—Felicia would have gotten a raise in scenario 2 under truthful assertion of (20). On the other hand, the condition for the raise are stronger than ever if (21) is truthfully asserted: now Felicia would have gotten a raise only in scenario 4.

The interpretive possibilities of the anaphoric pronoun *they* are responsible for the stronger condition expressed by (21). The discourse referent that *they* is understood to be anaphoric to in (21) is what is sometimes called the reference set (refset) in the dynamic literature, that is, the set of individuals obtained by intersecting the sets denoted by the restrictor and the nuclear scope of *at least two students*. The anaphoric relation to the refset in (21) is obligatorily maximal: the interpretation is the same as if we were to replace *they* with a definite description like *the students who came to class on time*. Thus, the condition for getting the raise is not met in scenario 3 in (21), because there is a student, namely Cai, who is in the refset (she came on time) but did not do her homework, thereby making the second conjunct of the antecedent false.

The difference in meaning between (19), (20) and (21) constitute a serious challenge for explanations of the surface gap in the second subject position in (19) that rely on ellipsis or on the presence of an empty pronominal element. If a quantifier there is deleted, it certainly cannot be interpreted in situ—otherwise we would derive a weak meaning like the one for (20). But a specially licensed silent pronoun would also not do. One more stipulation about this English *pro* would have to be added to those entertained above: this *pro*, unlike overt pronouns in the same environment, can be interpreted as non-maximally anaphoric to a discourse referent. It should be noted once again that this is not how *pro* behaves in at least some of the familiar null-subject languages. In (22), the subject of the second sentence is obligatorily interpreted as the plurality consisting of all students who have done no homework (that is, the assertion is false if there is a student who has not done their homework but did not stay home):

(22) Italian

Almeno due studenti non hanno fatto i compiti. *pro* Sono rimasti a at least two students not have done the homeworks. are.3PL stayed at casa. home.

'At least two student have not done their homework. They stayed home.'

On the other hand, the fact that (19) has the truth conditions it has follows quite trivially from the CSC-violating T'-conjunction analysis in (14), where the conjunction is in the scope of the quantificational subject in Spec,TP. Another kind of evidence in favor of (14) comes from the interpretation of disjunctive T'-ACI with a plural subject.

(23) The party would have been a failure, had Ayanna, Bayo and Cai been too loud or had brought loud friends with them.

Under the salient reading of (23), it does not have to be that either all three (Ayanna, Bayo and Cai) were loud or all three brought loud friends, in order for the party to fail. Rather, the condition is weaker: a context in which, say, Ayanna and Bayo are being very loud, and Cai brought loud friends with her is a context that would have resulted in a failed party (under truthful assertion of the counterfactual conditional). The relevant point for us is that in order to derive the truth conditions that (23) saliently has, the disjunctive predicate must be in the scope of a distributive operator (Winter 2001), in order to derive a predicate that is true of a plurality if and only if every part of that plurality either was loud or brought loud friends at the party. Thus, the subject in these ACI sentences takes scope over the coordination, as the CSC-violating derivation straightforwardly derives.

What we have seen so far is that both an empty-category and a deletion approach to explain the superficial gap in the second conjunct of the ACI face serious problems: interpreting the subject in a position that is any lower than the coordination would not work form a semantic perspective. Furthermore, besides this problem, those two approaches each add one more. On the one hand, (16) has to coordinate a CP with a TP—a particular instance of coordination of unlikes (Chomsky 1957; Progovac 1998; Williams 1978) which we do not need to postulate anywhere else in English, and which would presumably require additional stipulations concerning semantic composition. On the other hand, (15) has to stipulate not only an exceptionally null subject but also an exceptionally null complementizer in the second antecedent conjunct. This, too, is something that is otherwise never found in English conditional antecedents: the second CP of (2)/(25) on its own, for example, is not a well-formed antecedent for an English conditional.

(24) *She were to win, she would let us drive her Ferrari.

In other words, on a CSC-compliant analysis, even if we were to stipulate some mysterious gap as the second conjunct's subject we would still be at a loss to explain what goes on in the structure *above* that subject.¹⁰ This point will be corroborated further by the TP-conjunction cases to which we turn in the next section.

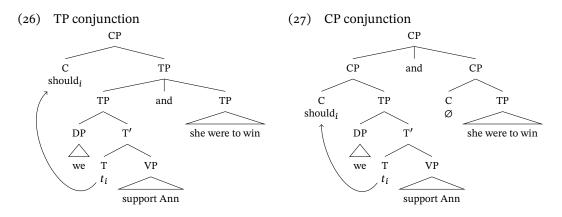
^{10.} This is what makes our ACI examples crucially different from the SGF constructions mentioned in fn. 9, which *could* indeed be accounted for just by a stipulation about the gap in the second conjunct's subject position. Furthermore, SGF examples turn out to be acceptable even for more restrictive speakers who generally dislike what we have analyzed as T' ACI (cf. fn. 3), thus suggesting that the apparent subject gaps in SGF and ACI should not be given a unified treatment.

3.2 TP Asymmetric CI

An account like the CSC-violating one which we have defended so far points to a testable prediction: given that English *and*-conjunction is cross-categorial, the relevant CSC-violating T-to-C movement should be observable not only with antecedents formed by T'-conjunction but also with TP-conjunction. This is because, in a minimal version of the English clausal spine, T' and TP are the two conjoinable syntactic projections in between T^0 and C^0 . This prediction is borne out: (2), repeated here as (25), is precisely a case like this.

(25) Should we support Ann and she were to win, she would let us drive her Ferrari.

The relevant difference between (1) and (2) is that in this latter case, each conjunct in the antecedent has its own subject. On account of this, (2) could—unlike (1)—be given a CSC-compliant analysis like (27), with no need to stipulate exceptional empty categories in subject position. The only problem that (27) inherits from (15) is its use of an exceptional null complementizer in the second conjunct.



The superiority of the CSC-violating analysis in (26) over the CSC-compliant (27) is therefore less immediately apparent. Nevertheless, an argument in its favor can still be developed, on the basis of the interpretive possibilities of a conditional with conjoined antecedents. Before looking at ACI, it is useful to consider what happens with proper *if* -clauses. Consider the contrast in acceptability between (28a) and (28b), in the given context. The only difference between the two sentences is that in the former each conjunct comes with its own *if*, while in the latter there is only one *if*.

- (28) CONTEXT: I am explaining to you the rules of Rock-Paper-Scissors.¹¹ Each player can throw only one thing, and if both players throw the same, there is no winner. So I tell you: "Assume you chose Rock. Now, there are two cases in which there is a winner:...
 - a. Someone would win if I were to throw Scissors, and if I were to throw Paper. Otherwise, it's a draw.
 - b.?? Someone would win if I were to throw Scissors, and I were to throw Paper. Otherwise, it's a draw.

^{11.} The rules are explained in detail here: www.en.wikipedia.org/wiki/Rock_paper_scissors.

While (28a) is judged to be a truthful description of the game, (28b) is rejected because it conveys that if the speaker throws both Scissors and Paper, then someone would win, and this circumstance cannot ever occur given the rules of the game (each player can throw only one thing). The natural statement of the syntactic difference between (28a) and (28b) is the following: the former is an instance of CP coordination, the latter of TP coordination:



What the contrast in (28) shows is that given a structure like (30), the conjunction can only be interpreted in the scope of the conditional. If this were not the case, (28b) would not be interpreted as contradictory given the rules of the game. Importantly, if both conjoined antecedents have an *if* as in (28a) and (29), the contradictory reading can be avoided by interpreting the coordination as scoping above the conditional.¹² The very same pattern of scopal possibilities is found when contrasting symmetric and asymmetric CI:

- (31) CONTEXT: I am explaining to you the rules of Rock-Paper-Scissors. Each player can throw only one thing, and if both players throw the same, there is no winner. So I tell you: "Assume you chose Rock. Now, there are two cases in which there is a winner:...
 - a. Someone would win were I to throw Scissors, and were I to throw Paper. Otherwise, it's a draw.
 - b.??Someone would win were I to throw Scissors, and I were to throw Paper. Otherwise, it's a draw.

Now, it is natural to assume that the antecedent (31a) has a CP-conjunction structure along the lines of (29): that (28a) and (31a) are parallel in structure is the minimal assumption given a T-to-C analysis of CI. Crucially, the fact that the ACI conditional in (31b) is judged as deviant in the given context (the rules of the game) completely parallels the case of (28b): the conjunction in an ACI can be interpreted only in the scope of the conditional. This indicates that the correct structural description of an ACI antecedent is one where the conjunction is at the TP level, as in the analysis in (26). By contrast, under the CP-conjunction analysis in (27), the complementizer of the second conjunct would have to be stipulated to be not only exceptionally silent, but also devoid of any consequences for the conditional's interpretation, which renders the case for its existence in the syntax more challenging to make.

^{12.} Bjorkman (2013) notes a difference between TP and CP conjunction in clausal complements introduced by *that* which is reminiscent of what we just saw with (28). Consider this pair of sentences from Bjorkman (2013:397):

⁽i) (a) The newspaper reported that a new government was elected and there was a riot.

⁽b) The newspaper reported that a new government was elected and that there was a riot.

Syntactically, (a) and (b) differ in that the clausal conjunction is at the TP level in the former and at the CP level in the latter—just like the sentences in (28). Semantically, their difference is the following: (a) is not true in a scenario in which the newspaper reported the two events as being unrelated (say, the riot occurred because of a hockey game). On the other hand, (b) is true in such a scenario (and it is also true in case the riot was reported as being a consequence of the election of the new government). The contrast in (28) might therefore reflect more general interpretive properties of English clausal conjunction, instead of being a phenomenon particular to conditional constructions.

4 Conclusion

The Coordinate Structure Constraint is normally understood as a general ban on non-ATB extraction out of a coordination. This is, however, too strong a constraint for English, if Conditional Inversion is given the most intuitive and straightforward structural description as T-to-C Head Movement. Novel data from English, representative of a construction we dubbed "Asymmetric Conditional Inversion" (ACI), show that an auxiliary can move out of the first conjunct in a coordination if this coordination is a conditional antecedent adjunct.

ACI is, to the best of our knowledge, the only counterexample to the CSC involving head movement in English. On the one hand, other apparent counterexamples to the CSC in English have been reported, but they all turn out to involve phrasal movement. In particular, the best-studied group of such counterexamples from \bar{A} -movement, due to Ross (1967) and Goldsmith (1985), have been shown by Lakoff (1986) and Postal (1998:51–95) to systematically require that certain asymmetric semantic relations (temporal, causal or of "unexpected consequence") hold between the conjuncts of the relevant coordinate structure—none of which need be the case for the conjuncts in an ACI.¹³

On the other hand, it is important to note that other instances of head movement in English even other T-to-C movements, such as in matrix polar questions—differ from Conditional Inversion in that they generally do have to obey the CSC, as exemplified in (32).¹⁴

(32) *Is Alex home and Kim is outside?

The next theoretical question on the agenda is, of course, what is the reason for this contrast between T-to-C in Conditional Inversion and T-to-C in questions—and more generally, what is the right theory to determine which kinds of head movement will obey the CSC and which ones will not. We intend this squib as an empirical contribution to the taxonomy of movement that any such general theory will have to strive to derive.

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^{13.} Another, more controversial potential violation of the CSC is gapping, which Johnson (2002) and Lin (2002) analyze in terms of CSC-violating A-movement of the first conjunct's subject. Here, too, no CSC violation in head movement appears to be required.

^{14.} This is in fact noted as a problem by Bošković (2020), whose theory would predict head movement to generally be exempt from the CSC altogether. Bošković thus conjectured that T-to-C movement might constitute, so to speak, an exception to the exception, because of the feature-inheritance relation holding between those two heads as per Chomsky (2008). The contrast between ACI and matrix questions (32) shows that the picture cannot be quite so simple: different T-to-C movements must be able to differ in whether they are constrained by the CSC or not.

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