

*The Coordinate Structure Constraint:  
not a constraint on movement\**

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**Abstract**

The Coordinate Structure Constraint (CSC) is typically taken to be a constraint on movement and is used as a movement diagnostic.

This note mostly merely recapitulates existing work, [Ruys \(1993\)](#), [Fox \(2000\)](#), [Lin \(2001\)](#), [Lin \(2002\)](#), [Johnson \(2009\)](#), adding some controls. These works demonstrate that both A and A-bar movement can systematically violate the CSC under the right conditions and suggest instead that the CSC should be viewed as a constraint on interpretation. This allows movement to violate the CSC, as long as the output (at LF) is interpretively well formed.

It next briefly discusses some consequences regarding binding, control theory, and clitic doubling.

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## 1 Introduction

A still common assumption about the Coordinate Structure Constraint (CSC) much relied upon in the literature is exemplified by quotes from [Bruening \(2021, p. 429, 430\)](#) discussing movement approaches to Condition A, here a case of *herself* in a coordination:<sup>1</sup>

In movement theories, then, (some part of) *herself* in such examples must move. However, coordinate structures constitute islands to movement. Movement should not be possible from just one conjunct of a coordinate structure.

...

However, the fact is that all movement processes that have been identified are unable to move a single conjunct out of a coordinated phrase.

The same argument could be leveled against the movement theory of control, given the following acceptable examples in English and French:

- (1) Mary (both) wants [[ PRO to win ] and [ John to lose ]]  
 Mary veut (à la fois) [[ PRO gagner ] et [ que Pierre perde ]]

Such reasoning is far from isolated. Another recent example is found in [Paparounas and Salzmann \(2023, p. 1\)](#):

We investigate the syntax of the hitherto understudied phenomenon of first conjunct clitic doubling, with reference to Modern Greek. We argue that it provides crucial evidence against movement-based approaches to clitic doubling, which would incorrectly rule out first conjunct clitic doubling as a violation of the Coordinate Structure Constraint.

There is a substantial body of work, [Ruys \(1993\)](#), [Fox \(2000\)](#), [Lin \(2001\)](#), [Lin \(2002\)](#), [Johnson \(2017\)](#), showing that the Coordinate Structure Constraint (CSC) is not a constraint on movement but a constraint on interpretation. But this is scattered across several publications and many years, with different agenda (QR, Gapping...), where there is no general discussions about movement and the CSC: some work concentrate on QR or wh-in-situ (to understand scope shifting operations or the interpretation of indefinites), others with instances of A-movement (to understand how Gapping functions). As a consequence, the general results are not visible, as evidenced by the quotes above.

I will summarize this work, outline a formulation of the CSC as a constraint on interpretation and briefly return to the impact of this formulation as a constraint on interpretation on the analysis of Binding, Control or clitic doubling, showing that the above arguments have no force.

<sup>1</sup> [Bruening \(2021\)](#)'s example, *The queen invited the baron and herself to tea* is not controlled for the exempt status of the anaphor. [Bruening \(2021\)](#) asserts that because a pronoun in place of the reflexive triggers a Condition B effect, the anaphor must be (able to be) non exempt. But this assertion is not justified and is false under certain approaches to Condition A and B (e.g. [Reinhart and Reuland, 1993](#), and descendants). So this example is not telling. However, there are examples with inanimates circumventing this confound, to wit *The MOMA sells pictures of its collection and pictures of itself*.

## 2 Background

### 2.1 Preliminaries

#### 2.1.1 Islandhood and Movement

There are two (relevant) kinds of XP/XP Dependencies between a structurally high  $\alpha$  and a structurally low  $\beta$ :

- (2) Binding of  $\beta$  by  $\alpha$ :  
Nobody $_{\alpha}$  thinks that (I believe that) you saw him $_{\beta}$
- (3) Movement from  $\beta$  to  $\alpha$  (e.g. question or relative clause formation, topicalization):
  - a. Who $_{\alpha}$  does nobody think that (I believe that) you saw $_{\beta}$
  - b. The woman who $_{\alpha}$  nobody thinks that (I believe that) you saw $_{\beta}$
  - c. This woman $_{\alpha}$ , nobody thinks that (I believe that) you saw $_{\beta}$

Binding and Movement are analyzed as having properties in common such as c-command of  $\beta$  by  $\alpha$ ) and properties not in common such as Island sensitivity. Movement only is assumed to be island sensitive: there cannot be any island boundary between  $\beta$  and  $\alpha$  (where the latter is the most local binder of the former):

- (4) Movement and Islandhood : \*  $\alpha \dots [islandboundary \dots \beta$   
if  $\alpha$  locally binds  $\beta$  as its immediate trace (i.e. one step movement).

But how do we evaluate whether (4) is correct? To do so, we must have an independent characterization of movement dependencies and check whether such so characterized dependencies obey islands.

However movement is defined, say Rmerge,<sup>2</sup> to evaluate the truth of (4), we must find a reliable way to detect all and only Rmerge cases.

One reliable property of movement is Displaced interpretation, aka Reconstruction / Connectivity, namely the possibility in an  $\alpha/\beta$  dependency for  $\alpha$  to semantically behave as if it was structurally located where  $\beta$  is. Why?

Firstly it is natural: given how first Merge functions, when first merged, a contentive  $\alpha$  must enter into a function argument relation with some local element. It is not surprising therefore than when Rmerged, it should continue behaving as such semantically, that is as if it were in the position  $\beta$  (e.g. for binding and scope).

Secondly, reconstruction is reliable: in all the standard/agreed upon cases of movement and non movement, if movement has taken place, reconstruction is available. This can be used as a diagnostic.<sup>3</sup>

Thirdly, the precise properties of reconstruction and how it correlates with movement is predictable: it is possible to construct a theory of how movement functions that predicts this correlation: Sportiche (2016) shows it follows from:

<sup>2</sup> Movement is defined as Rmerge: an element first merged in some position Q is rmerged in some position P c-commanding Q. However, new questions arise in the context of Chomsky (2021), which separates Internal Merge from "Form Copy", which are beyond the scope of this note.

<sup>3</sup> Note that movement does entail the possibility of **total** reconstruction as movement may be an intrinsic scope shifting rule. Conversely, apart possibly from certain copular constructions which have special semantic properties (because of the verb *be*), cf. Sharvit, 1999, if reconstruction is available, movement is deemed to have taken place. This implication - if reconstruction then movement - is sometimes questioned, see e.g. Keine and Poole (2018), but, for reasons beyond the scope of this note, unconvincingly in my view.

- Movement being the case of a single syntactic object having more than one structural address (=more than one occurrence).
- The Full Interpretation Principle applying to syntactic objects (not occurrences), implying that as long as one occurrence is interpreted, this principle is satisfied (thus licensing ‘total reconstruction’).
- Semantic compositional rules only composing sisters.

There are other movement diagnostic tools briefly discussed e.g. in Sportiche (2020, appendix), the application of which would be compatible with using reconstructability. Using reconstructability, Sportiche (2020) shows that some movement - namely French Clitic Left Dislocation - does violate (strong) islands. This illustrates the general point that the \*kind\* of movement involved matters when evaluating the scope of (4). And therefore, this means that some care must be taken using islandhood as a test for movementhood. Licitly being an island violating dependency does not mean not being movement.

### 2.1.2 CSC

The CSC, like many other island constraints, is formulated as a constraint on movement, blocking movement dependencies between inside and outside of these islands. Following Ross (1967, Ch.4:(84))’s first formulation, this is typically interpreted as applying universally, to all movements. This formulation must be amended due to a known exception to the CSC: the case of Across-the-Board extraction (ATB, cf. Williams (1977), Williams (1978)). Here is an amended version adapted from Mayr and Schmitt (2017):

- (5) The Coordinate Structure Constraint:  
 In a coordinate structure, no element contained in a coordinate may be moved out of that coordinate unless it moves from all coordinates, nor may any coordinate be moved.<sup>4</sup>

This yields the following, with the first sentence ill formed as a CSC violation and the second well formed by ATB extraction:

- (6) a. \*The people which<sub>i</sub> Henry [<sub>VP</sub> wanted to meet  $t_i$  ] and [<sub>VP</sub> met friends of Bill] left  
 b. The people which<sub>i</sub> Henry [<sub>VP</sub> wanted to meet  $t_i$  ] and [<sub>VP</sub> met friends of  $t_i$  ] left

Given the conclusion of the previous section, one should be careful about generalizing from the typical constructions used to illustrate the CSC - typically relative clause or question formation - to other kinds of dependencies, e.g. other A-bar movement dependencies, A-movement dependencies.

And indeed, investigating what happens more systematically will lead to the conclusion that in fact, (non ATB) movement can licitly violate the CSC, as long as the CSC is not violated at LF, as Ruys (1993) concludes.

<sup>4</sup> The last clause deals with such cases as:

(a) We know the people who<sub>i</sub> Henry wanted to meet [<sub>DP</sub>  $t_i$  ] and [<sub>DP</sub> friends of  $t_i$  ]  
 (b) We know the people who<sub>i</sub> Henry wrote to [<sub>DP</sub>  $t_i$  ] and [<sub>DP</sub>  $t_i$  ]

### 3 Movement Violations of the CSC

#### 3.1 The A-bar movement case: Ruys (1993), Fox (2000)

Ruys (1993) and Fox (2000) primarily discusses QR and provides arguments that it is best analyzed as a (covert) movement rule, and that the CSC is not a constraint on movement but a constraint holding at LF.

##### 3.1.1 Wh-movement violations of the CSC

The kind of QR examples Ruys discusses can be adapted to overt wh-movement. Consider the following contrasts (both in French reflecting my own and others’s judgments, and English):

- (7) Which author<sub>m</sub> didn’t you want to study t<sub>m</sub> nor read ...  
 Quel auteur<sub>m</sub> ne voulais tu pas étudier t<sub>m</sub> ni lire ...
- a. \*Montesquieu’s essays  
    \*les essais de Montesquieu
  - b. his<sub>✓?m,\*p</sub> novels  
    ses<sub>✓?m,\*p</sub> romans
  - c. none of his<sub>✓?m,\*p</sub> novels  
    aucun de ses<sub>✓?m,\*p</sub> romans
  - d. anything that            was said about him<sub>✓?m,\*p</sub>  
    quoi que ce soi qu’on ait dit de lui<sub>✓?m,\*p</sub>
  - e. the other authors who knew him<sub>✓?m,\*p</sub>  
    les autres auteurs qui le connaissait<sub>✓?m,\*p</sub>

(a) is a straight CSC violation. All others are much better than (a), even perfectly acceptable, as long as the pronoun they contain is understood as bound by the wh-phrase (else they are ill formed).<sup>5</sup>

How are these facts compatible with the CSC as a constraint of movement? The only option would be to analyze the acceptable cases as involving ATB. This would require moving from a position in the second conjunct disallowing a silent trace; and removing the violation, spelling the trace out as a pronoun.

To assess the feasibility of such an analysis, we need an independent criterion to decide whether movement is involved. We can use reconstructability, as discussed in section 2.1.1 and as did Aoun et al. (2001) for resumption in Lebanese: unsurprisingly, wh-movement does not reconstruct into islands, even in the presence of a resumptive pronoun. To illustrate, consider the putative movement structure involved from the second conjunct say in the (d) example which would be out without the resumptive pronoun:

- (8) Which author<sub>m</sub> didn’t you want to read whatever            was said about him<sub>m</sub>  
 Quel auteur<sub>m</sub> ne voulais tu pas lire quoi que ce soit qu’on ait dit de lui<sub>m</sub>

And let us construct a parallel example where we attempt reconstruction (simplifying it

<sup>5</sup> Note that these examples violate the ‘Parallelism Constraint on Operator Binding’ proposed in (Safir, 1984, p. 607, (6)). Safir does provide an example (p. 610, (15a)) of such a violation with coordination, but with the resumptive pronoun in the first conjunct and the gap in the second conjunct. These are degraded as compared to the good examples in (7) which needs to be understood. However, what matters to our purpose here is the acceptability of examples in (7).

somewhat. In (d), we used negation and an NPI to guarantee that there was embedding. Here this is no longer necessary):

- (9) [Which description of himself<sub>k</sub> ]<sub>m</sub> did you want to read what nobody<sub>k</sub>  
 [Quelle description de lui<sub>k</sub> ]<sub>m</sub> voulais tu lire ce que personne<sub>k</sub>  
 said about it<sub>m</sub>  
 n'en<sub>m</sub> avait dit

without the portion of *himself/ de lui*, the sentence has the intermediate status of a resumption into an island. With it and *himself/it* intended to be bound by *nobody*, the sentence is unacceptable. We conclude there is no movement originating from the second conjunct in (at least some of) the examples (7) and that they only involve movement from the first conjunct, hence CSC violations.

### 3.1.2 QR violations of the CSC

Ruys (1993) and Fox (2000) primarily<sup>6</sup> discuss QR, the mechanism for (some) scope assignment modeled as a movement rule.

First, QR is a type of A-bar movement. This is shown in Johnson and Tomioka (1998) which assimilates it to a kind of A-bar scrambling, and is supported by the analysis of Tiedeman's puzzle in Fox (2002, p.77), showing that QR can escape tensed clauses from object position. Next, it can be shown that QR obeys the CSC.<sup>7</sup> However, since Ruys (1993), how inverse scope (object outscoping subject) is supposed to function has evolved (see e.g. Fox, 2000) in a way that many classic examples used to show that QR obeys the CSC are confounded. This is discussed in Spector and Sportiche (2013), which provides non confounded cases illustrating the sensitivity of QR to the CSC (see op. cit, for why). Consider:

- (10) If at least one witness heard every robber come in...

This clearly can have an inverse scope reading, namely: 'if it is the case that for every robber, there is at least one witness (possibly different for each robber) who heard this robber come in, ...'. Now consider (11):

- (11) a. If at least one witness heard [[every robber come in] and [a guard snore]], ...  
 b. If at least one witness heard [[a guard snore] and [every robber come in]], ...

Here, in the absence of the CSC, an inverse-scope reading is predicted to be available, just as it is for (10). This reading would result from an LF in which the matrix subject *at least one witness* has been reconstructed to its VP-internal subject position and the subject of the first conjunct (*every robber*) has QR-ed to the edge of the matrix VP. This reading could be paraphrased as 'If, for every robber, there is at least one witness (possibly a different one for each robber) and there is a guard (possibly a different one for each robber) such that this witness heard this robber come in and this guard snore, ...'. But this reading is clearly not available, which can thus be reasonably attributed to the CSC.

Now the the type of examples discussed by Ruys (1993) and Fox (2000) bearing on the CSC are as follows:

- (12) a. a different student admires every professor and hates the Dean

<sup>6</sup> Ruys (1993) also discusses wh-in situ, which shows the same behavior as QR.

<sup>7</sup> This is unexpected under a view such as Barker (2022), which suggests treating scope shifting via 'continuations', essentially an unbounded version of QR.

- b. a different student<sub>*m*</sub> admires every professor<sub>*k*</sub> and wants him<sub>*k*</sub> to be on his<sub>*m*</sub> committee

In the first example, the object of the first conjunct cannot outscope the subject:<sup>8</sup> the choice of student cannot covary with the choice of professor. But in the second this is possible if this object binds a pronoun. In order for this binding to be allowed, this object must outscope the conjunction *and* so as to have the pronoun in its scope, and therefore violate the CSC.

Why is this allowed?

It should be clear that the structure of such examples is parallel to the wh-movement cases discussed in the previous section. Intuitively, we return to this in section 4, violating the CSC in the first example would violate the ban on vacuous quantification in the second conjunct since the universal quantifier has nothing to bind in it. But not in the second example, given the presence of the pronoun.

A covert ATB analysis of such cases is implausible. If QR is analyzed as covert movement, there is no option to leave a resumptive pronoun as trace. If QR is analyzed as covert overt movement, that is as overt movement with the trace being spelled out instead of the highest occurrence, a copy of the quantifier would be expected in the locus of the resumptive pronoun. Furthermore, it can be shown that there is no reconstruction of the QRed phrase into the second conjunct. Consider:

- (13) a. a different critic commented on [every portrait of Rothko<sub>*k*</sub>]<sub>*m*</sub> and wanted him<sub>*k*</sub> to comment on it<sub>*m*</sub>  
 b. a different critic commented on [every portrait of Rothko<sub>*k*</sub>]<sub>*m*</sub> and wanted **him<sub>*k*</sub>** to comment on [every portrait of **Rothko<sub>*k*</sub>**]<sub>*m*</sub>

We can understand the (a) example as meaning that for every portrait of Rothko, a different critic commented on it and wanted Rothko to comment on this painting. If there was ATB from the resumptive position, we would (given that QR is not A-movement, cf. e.g. [Johnson and Tomioka \(1998\)](#), [Fox \(2002\)](#)) erroneously it turns out, expect a condition C violation as shown in red in (b). Furthermore, it is easy enough to construct examples with a pronoun in the second conjunct deeply embedded inside an island (here a possessive inside a reduced relative), making a movement analysis unavailable given the locality constraints on QR-ing quantifiers like *every*.

- (14) a different student admires every professor<sub>*k*</sub> and tries to attend [all the lectures discussing his<sub>*k*</sub> work]

All such examples show that movement can violate the CSC.

### 3.1.3 A short note about some other cases

Overt violations of the CSC are also reported in other configurations. For example, such violations are reported in German and discussed in [Johnson \(2002\)](#) (and analyzed in a way similar to some of the A-movement CSC violations discussed in section 3.2) and in [Mayr and Schmitt \(2017\)](#). Similarly, overt violations are reported in South Slavic (cf. [Arsenijević et al., 2020](#), and references therein). How to analyze these cases is still controversial. They seem consistent with what is concluded in section 4, but only further research can determine if they truly are.

<sup>8</sup> This is not a CSC effect. See [Spector and Sportiche \(2013\)](#) as to why.



### 3.2 The A-movement case: Lin (2001), Lin (2002), Johnson (2017)

Clear cases of A-movement violating the Coordinate Structure Constraint are found with Gapping constructions. This is discussed in various works of Kyle Johnson's since the early 1990's, see Johnson (2017) for a summary, as well as in Lin (2001), Lin (2002), which, adopting the view in Ruys (1993) and Fox (2000) concludes that the CSC is an interpretive constraint. Here is one case illustrating these violations (and a couple more are discussed below in section 4).

Consider the following from Johnson (2017, (88)-(90)):

- (15) a. X can be true and Y be false  
       (i) because they are logically independent  
       (ii) #but X can't be true if Y is false.  
       b. It's possible for X to be true and Y to be false (because they are logically independent).  
       c. X can be true and Y can be false (but X can't be true if Y is false).  
           *compare*  
           # It's possible for X to be true and Y to be false but X can't be true if Y is false.

(15a) is unambiguous in a surprising way: it must mean that it is possible both for X to be true and Y to be false. More precisely, (15a) can express what (15b) does, and is therefore compatible with the continuation in (15a-i). This is the interpretation that arises if *can* outscopes *and*. But (15a) can't express what (15c) does, and is therefore, unlike (15c), incompatible with the continuation in (15a-ii). This means that the modal *can* must have scope over the conjunct in cases like (15a) (see Johnson, 2017 for a discussion of when this arises).

What kind of syntax gives rise to this pattern? The syntax in (16a) below with clausal coordination would give the wrong result since it would allow the interpretation in (15c).

- (16) a. X can be true and Y can be false  
       b. X<sub>k</sub> can [ [ be t<sub>k</sub> true] and [ Y be false] ]

The syntax in (16b) - the small conjunct analysis - correctly yields only the right one and is thus widely adopted (e.g. by Siegel, 1984 in essence, Coppock, 2001, Lin, 2002, Johnson, 2017, Potter et al., 2017), Hirsch, 2017). But this requires A-movement to be able to violate the CSC.

## 4 How to formulate the CSC

The CSC clearly does not block movement itself, neither in the A-bar movement case, not in the A movement case but seems instead to constrain the output of movement, as Ruys (1993) had concluded. How should it be formulated? Fox (2000, chap 2, (57)) adopts the following which would be consistent with the observed data on wh-movement and QR:

- (17) a. Extraction out of a coordinate structure is possible only when the structure consists of two independent substructures, each composed of one the coordinates together with material above it up to the landing site (henceforth, *component structures*).

- b. Grammatical constraints are checked independently in each of the component structures.

It would apply as follows. In a licit, ATB movement case, each component is well formed.

- (18) ATB WH-movement
- a. ✓ Which poet<sub>k</sub> did you [ [ read t<sub>k</sub> ] and [ love t<sub>k</sub> ] ]?  
Component Structures:
  - b. ✓ Which poet<sub>k</sub> did you [ read t<sub>k</sub> ]?
  - c. ✓ Which poet<sub>k</sub> did you [ love t<sub>k</sub> ]?

In an illicit non ATB movement case, one component is ill formed, ruled out by the independent general principle in (20):

- (19) Non-ATB WH-movement
- a. \*Which poet<sub>k</sub> did you [ [ read t<sub>k</sub> ] and [ love William Blake ] ]?  
Component Structures:
  - b. ✓ Which poet<sub>k</sub> did you [ read t<sub>k</sub> ] ?
  - c. \*Which poet<sub>k</sub> did you [ love William Blake ]?

- (20) Vacuous quantification is banned

In a licit non ATB movement case, with a bound pronoun, there is no vacuous quantification.

- (21) Non-ATB WH-movement
- a. ✓ Which poet<sub>k</sub> did you [ [ read t<sub>k</sub> ] and [ love all of his<sub>k</sub> poems ] ]?  
Component Structures:
  - b. ✓ Which poet<sub>k</sub> did you [ read t<sub>k</sub> ] ?
  - c. ✓ Which poet<sub>k</sub> did you [ love all of his<sub>k</sub> poems ]?

To derive the right result here, we must make a bit more precise what is meant by ‘grammatical constraints’ in (17). Indeed (21c) on its own is less acceptable than (21a). A natural idea is to restrict them to LF relevant constraints, that is interpretive constraints.<sup>9</sup> This is in part independently warranted (see below example (31) showing that agreement mismatch does not matter). From this point of view, (21c) is well formed but degraded for other non interpretive reasons.<sup>10</sup> As Lin (2002), proposes, this applies to the A-movement case just discussed. Accordingly, an example like (16b) or (22) below would be well formed provided that the subject *Bill* totally reconstructs in its trace position as in (22a), yielding the two components (22a-i) and (22a-ii), each interpretively well formed:<sup>11</sup>

<sup>9</sup> Johnson (2009) suggests an even more restrictive version, fundamentally limiting them to (20) as follows:

Let  $\alpha$  be a term outside a coordination, C. If  $\alpha$  binds a variable in one conjunct of C, then it must bind a variable in all conjuncts of C.

This would work for the next examples if an A-movement trace is analyzed as a variable bound by its antecedent.

<sup>10</sup> That is whatever governs the availability of resumptive pronouns, for example, competition with alternatives lacking a resumptive, which would be responsible for why a pronoun in the trace position in the second conjunct of (18a) is perceived as deviant.

<sup>11</sup> As Lin (2002) notes, total reconstruction of *Bill* seems to contradict Fox’s 2000 Scope Economy condition barring vacuous scope shifting operation. This could be taken to mean that scope independent elements such as proper names do not fall under Scope Economy.

- (22) Bill<sub>k</sub> can [ [ be t<sub>k</sub> right] and [ Tom be wrong] ]  
 a. can [ [ be Bill<sub>k</sub> right] and [ Tom be wrong] ]  
   (i) can [ be Bill<sub>k</sub> right]  
   (ii) can [ Tom be wrong]  
 b. Bill<sub>k</sub> can [ [ be t<sub>k</sub> right] and [ Tom be wrong] ]  
   (i) Bill<sub>k</sub> can [ be t<sub>k</sub> right]  
   (ii) Bill<sub>k</sub> can [ Y be wrong]

Failing to totally reconstruct the subject Bill in its trace position as in (22b) would yield the two components (22b-i) and (22b-ii), the former interpretively ill formed (Bill not being the argument of anything). As Lin (2002) remarks this makes two correct predictions. First, the following sentence is ambiguous, but its gapping counterpart is not:

- (23) a. Many drummers can't leave on Friday  
 b. Many drummers can't leave on Friday, and many guitarists arrive on Saturday

The ambiguity of (23a) arise because the subject may either scope over or under the negated modal. If the subject outscopes the modal, the sentence means that for many different individual drummers, it's the case that they are unable to leave on Friday. If the subject is interpreted below the negated modal, this yields: it is not possible that a large group of drummers leave on Friday.

The above account correctly predict that only this second reading is available in (23b), where *many drummers* reconstructs under the negated modal.

The second prediction takes care of the following example from Lin (2002, p.73, (23)) inspired by similar examples noted in McCawley (1993):

- (24) Not every girl<sub>i</sub> will [ [ t buy a hat ] and [ her<sub>i</sub> brother buy a sweatshirt ] ]  
 a. Not every girl<sub>i</sub> will t buy a hat ]  
 b. Not every girl<sub>i</sub> will [ her<sub>i</sub> brother buy a sweatshirt ]

The remarkable fact here is that the QP *not every girl* in the first conjunct is able to bind the pronoun *her* in the second conjunct. This means that at LF, the subject outscopes the coordination as shown in (24). This time, this option is predicted to be fine: the two components that such a sentence yields without reconstruction, namely (24a) and (24b), are both interpretively well formed, the QP in each of them binding a variable.<sup>12</sup>

<sup>12</sup> Combining the last two types of examples shows that the syntactic structure must be able to be a bit more complex than shown so far. Indeed, consider the French example (which apparently differs from comparable English examples reported in Lin (2002, p.81, (43b))):

- (i) Beaucoup de musiciens ne peuvent pas partir le jeudi et leurs remplaçants n'arriver  
 Many musicians<sub>k</sub> can't leave on Thursday, and their<sub>k</sub> replacements arrive  
 que le samedi  
 only on Saturday

Given the presence of the pronoun in the second conjunct, reconstruction of *many musicians* under the negated modal should not be required. But this contradicts at least my judgement: the subject must scope under the modal. This shows that the subject must reconstruct below the modal but not so low as not to take the coordinated structure in its scope. This can be resolved if the structure is as below, with an intermediate trace on the spine, outside of the coordinated structure:

- (ii) Many musicians<sub>k</sub> [can't t<sub>k</sub> [[ t<sub>k</sub> leave on Friday] and [their<sub>k</sub> replacements arrive only on Saturday]]

Before proceeding, we may wonder why Fox’s generalization in (17) should hold? Why should each component independently be checked for LF well formedness? Recent work suggests a natural answer. [Schein \(2017\)](#) and [Hirsch \(2017\)](#) defend in different ways an analysis of at least some cases of symmetric coordination (of the type discussed here) as involving conjunction reduction in the classical sense of taking arguments with (more or less) sentence meanings. As a result, each component must be checked for interpretability because these components are syntactically and semantically present (together with some ellipsis and its effects).

The idea that the CSC is a constraint on interpretation makes it also apt to handle apparent CSC violations involved in asymmetric coordination (regardless of what the coordinator is, be it *and*, *or*, *etc.*) of the following kind:

- (25) a. How much can you [drink \_ and still stay sober]? ([Lakoff \(1986, example 2\)](#))
- b. How many lakes can we [destroy \_ and not arouse public antipathy]? ([Pollard and Sag \(1994, p. 201\)](#))
- c. He regards the limitless abundance of language as its most important property, one that any theory of language [must account for \_ or be discarded]. ([Campbell \(1982, p. 183\)](#))

Indeed, characterizing such cases requires paying attention to the interpretive properties of the constructions. Thus a necessary condition for these type of violations to be allowed is failure of semantic symmetry defined as truth conditional invariance under conjunct permutation (cf. [Mayr and Schmitt, 2017](#), for discussion).<sup>13</sup>

Finally, note that we have not discussed head movement. How to model head movement is controversial. What matters here is whether it could have interpretive effects. If not, it is predicted to be able to always violate the (classical) CSC. If yes, as some authors (e.g. [Lechner, 2006](#), [Roberts, 2010](#), [Harizanov and Gribanova, 2019](#)) argue, the prediction of the present account, to be verified, is that these interpretive effects should not arise when head movement violates the (classical) CSC.

## 5 Consequences

**Binding:** some authors ([Kayne, 2002](#), [Drummond et al., 2011](#), [Charnavel and Sportiche, 2021, 2022, 2023](#)) have argued that the relation between an anaphor and its antecedent is one of movement of or from the anaphor (say ‘from’ here, for concreteness) to the antecedent. If it is movement, it must be allowed to violate the CSC as a constraint on movement:

- (26) The Orsay museum<sub>k</sub> sells replicas [ [of the Louvre] ] and [of itself t<sub>k</sub> ] ]

Would a derivation involving movement violates the CSC as a constraint on interpretation? The answer is negative.

The components given by the formulation of the CSC in (17) would be:

- (27) a. The Orsay museum<sub>k</sub> sells replicas of the Louvre
- b. The Orsay museum<sub>k</sub> sells replicas of [ itself t<sub>k</sub> ]

<sup>13</sup> That a semantic property is a prerequisite casts doubts on pragmatic, rather than semantic, treatments of the CSC as in [Kubota and Lee \(2015\)](#).

Both are well formed. Precisely because such a derivation would involve movement of the DP *the Orsay museum* to a  $\theta$ -position, this DP is able, but, crucially, is not required, to bind anything (unlike in standard A-movement, where binding of a trace is needed to get a  $\theta$ -role).

**Control:** It should be clear that exactly the same reasoning makes [Hornstein’s 1999](#) analysis of Obligatory Control as movement immune to the CSC. Returning to example (1), its components are as given, and both well formed:<sup>14</sup>

- (28) Mary wants [ [ PRO to win ] and [ John to lose ] ]  
 ↑  
 a. Mary wants [ PRO to win ]  
 b. Mary wants John to lose ]

The CSC is thus not relevant to decide the feasibility of this approach to control.

**Clitic Doubling** [Paparounas and Salzmann \(2023\)](#) references a situation in Greek in which a clitic here  $cl_k^1$  doubles the first conjunct of a coordination of direct objects, here  $DP_1$  as below:

- (29) ...  $cl^1$  ... [  $DP$  [  $DP_1$  X ] and [  $DP_2$  Y ] ]

Would movement to  $cl_k^1$  of  $DP_1$  violate the CSC as an LF condition? This would yield the following structure, with its components once total reconstruction has applied (as it would have to, else one component will be ill formed):

- (30) [  $DP_1$  X ]  $cl^1$  ... [  $DP$  [  $DP_1$  t ] and [  $DP_2$  Y ] ]  
 ↑  
 a. ...  $cl^1$  ... [  $DP_1$  X ]  
 b. ...  $cl^1$  ... [  $DP_2$  Y ]

Are these interpretively well formed? It all depends on the status of the clitic. If the clitic has some interpretive property crucially linked to his DP associate, the second component should be ill formed since the clitic has no associate. [Angelopoulos and Sportiche \(2021\)](#) however argues (i) that such clitics in Greek (or in French) do not contribute any semantics: they are probes agreeing with their goals the way T agrees with its goal; (ii) that phrases doubled by clitics can totally reconstruct. If this right, components as above are available (under total reconstruction) and clitics are from an interpretive point of view invisible, even with some  $\phi$  features or Case values specified. These would behave like the features on the verb *be* in the following French Gapping case, which translate the English examples (22) with the same interpretation (requiring total reconstruction of the subject). They are well formed despite the mismatch in  $\phi$  features:

- (31) Ces propositions ne peuvent pas être vraies et celle-ci être fausse  
 these propositions can’t-3<sup>rd</sup>prs-plural be true and this one be false  
 a. ne peuvent pas [ces propositions être vraies]  
 can’t-3<sup>rd</sup>prs-plural [these propositions be true]

<sup>14</sup> Note incidentally that this is true even if movement completely vacates one of the conjuncts (see footnote 4). This would also hold in the binding case above if, as argue, the reflexive is the trace (as opposed to containing the trace of) of its antecedent.

- b. ne peuvent pas [celle-ci être fausse]  
 can't-3<sup>rd</sup>prs-plural [this one be false]

In other words, these components would be interpretively well formed. What this all mean is that an argument against movement being involved with Clitic Doubling based on putative CSC violations is not convincing, for now. Interestingly, [Angelopoulos and Sportiche \(2021\)](#) leaves open the status of Dative clitics, mentioning that they may have interpretive import (e.g. possibly animacy, or inducing affectedness on their associate). If they do, the expectation would that one of the corresponding components in a situation like (30) would be ill-formed. Preliminary consultations with native speakers of Greek suggest this is a correct prediction: first conjunct doubling of Datives is ill formed.

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