Subject control predicates and the movement analysis of gapping*

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1 Introduction

Gapping had traditionally been analyzed as deletion until Johnson (1996, 2006) proposed an alternative analysis in terms of across-the-board movement. His analysis of an example like (1) rests on the following assumptions: (i) coordination happens at the vP level; (ii) the verb undergoes ATB movement out of vP[1]; (iii) the subject of the first conjunct moves to SpecTP while the subject of the second conjunct remains in Spec$v$P.[2] The whole derivation is given in (2).

(1) Randy drank scotch and Amy [__] rum.

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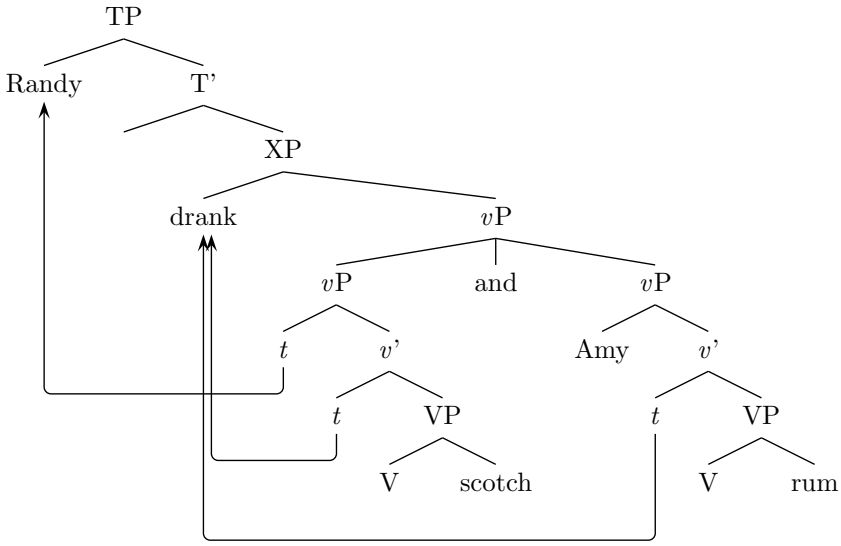
[1]I have analyzed verb movement in (2) as head movement, although, as will be discussed in §2.1, Johnson (1996) actually analyzes it as remnant predicate movement. For the time being, this issue is irrelevant, since this remnant movement must anyway be tweaked so that it mimics the patterns produced by regular head movement.

[2]This ought to be a violation of the Coordinate Structure Constraint. Johnson (2006, 8) gets around this problem by stipulating that A movement is not subject to the CSC. See, however, Lin (2002, 59ff) for an attempt to derive this stipulation through a redefinition of the CSC.

(2)



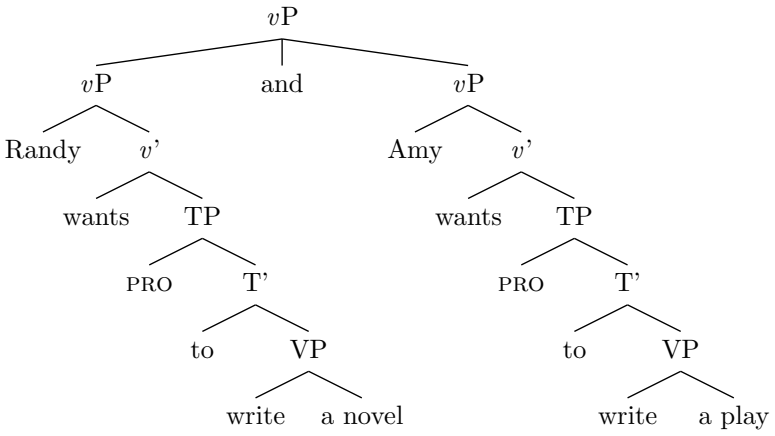
Johnson's analysis offers some interesting advantages over deletion approaches to gapping. To begin with, it accounts for the observation that negation and modals that appear to be embedded in the first conjunct actually outscope coordination. Moreover, being based on ATB head movement (or its remnant movement reinterpretation), it also offers a plausible reason as to why gapping is restricted to coordination contexts and resists embedding. Nonetheless, it also raises several non-trivial difficulties. An illuminating discussion of the latter can be found in Coppock (2001), who concludes that a deletion analysis is superior. The goal of this squib is to offer an additional argument against Johnson's analysis by considering the interaction of gapping with subject control predicates. The argument is based on examples like (3), first noted in Ross (1970).

(3) Randy wants to write a novel and Amy [__] a play
[=... and Amy wants to write a play]

The gapped part in (3) is the verbal complex *wants to write*. The fact that the highest verb is a subject control verb helps us pinpoint the lowest possible position for the subjects: they must be sitting in the Spec$v$P of each *want*, as their external arguments. If they were any lower, they would not be able to receive a θ-role from *wants*.[3] In turn, the lowest possible position of the second conjunct subject also determines the smallest possible structure that can be coordinated –namely, the vP headed by *want*. Visually (with irrelevant projections omitted):

[3]Note that this statement, as well as tree, (4) presupposes that control involves PRO. This assumption will be re-examined in §2.3.

(4)



In order to derive (3) from (4) via ATB movement, it would be necessary to move the whole verbal complex *wants to write*. This cannot be done directly, given that this string does not form a constituent. There are, however, various indirect ways of achieving the same result, and Johnson (1996) himself explores one. In this squib, I examine both Johnson's analysis of (3) and two other alternatives, and conclude that neither of them is tenable. I adopt a *reductio ad absurdum* strategy, where for each alternative I first identify the assumptions one would have to make in order to derive (3) under an ATB movement analysis, and then I show that those assumptions have undesirable consequences in other areas of syntax.[4] To the extent that the reasoning here is correct, we are led to the conclusion that Johnson's analysis of gapping cannot be maintained.

2 Non-solutions to the problem

2.1 The gapped string is a constituent

As just mentioned, the main problem with an ATB analysis of (3) is that it requires us to move a non-constituent. This difficulty can be circumvented if we choose to analyze the string *wants to write* as a constituent. This is the option taken in Johnson (1996, 43ff) to account for what he calls "complex gaps". These include (3) as well as examples in which the gapped string contains a verb plus an adverb (5a), a verb plus its object (5b), a verb plus a small clause subject (5c), or a verb plus a small clause predicate (5d).

(5) a. Max sometimes beats his wife, and Ted [__] his dog.

b. Philip reads things quickly and Mikey [__] thoroughly.

[4]The reader will often be asked to accept certain assumptions without further explanation, since the point of this squib is simply to determine exactly which assumptions are required to derive (3), not to explore their theoretical underpinnings.

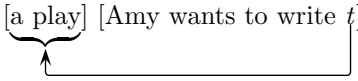
c. Some found Mittie clever with pictures and others [__] good with children.

d. I made Sal fond of it on Tuesday and [__] Holly [__] on Wednesday [=... and I made Holly fond of it on Wednesday]

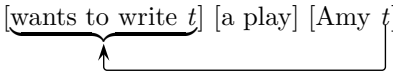
In order to be able to analyze the gapped string in complex gaps as a constituent, Johnson (1996, 50ff) proposes that verb movement in English is actually remnant predicate movement, as independently proposed by (amongst others) Kayne (1998) and Baltin (2002). The type of derivation Johnson proposes for (3) is illustrated in (6) in a simplified manner.

(6) *A remnant movement analysis of one of the vPs in (3)*

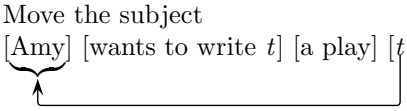
a. Move the object
[a play] [Amy wants to write *t*]



b. Move the verb complex
[wants to write *t*] [a play] [Amy *t*]



c. Move the subject
[Amy] [wants to write *t*] [a play] [*t t*]



After step (6c), *wants to write* forms a constituent to the exclusion of everything else, hence it can undergo ATB movement in order to derive (3). For the sake of argumentation, let us grant that all the required movement operations can be justified, and focus on the question of whether it is reasonable to call *wants to write* a constituent. The answer is arguably negative, given that this string does not pass basic constituency tests. To begin with, it cannot be coordinated with a similar string. Note that (7) can be given Right Node Raising analysis if *a play* is separated from the rest of the clause by a heavy prosodic break. However, if (7) is given the regular (non-RNR) intonation that would correspond to the indicated parse, the result is ungrammatical.

(7) * Randy [wanted to write] and [tried to attend] a play.

Similarly, *want(s) to write* cannot be left dislocated (8a) or clefted (8b).

(8) a. * Randy said that he wanted to write a play, and [want to write], he (did) a play.

b. * It is [want to write] that Randy (does) a play.

In the third place, *want(s) to write* cannot be a fragment answer either.

(9) A: What is it with Randy and the novel?

B: * Want(s) to write.

Finally, under this analysis, *write* does not form a constituent with *a novel*. This means that it should be possible to apply VP ellipsis to *write* without affecting *a novel*, and that it should be impossible to VP elide *write a novel* –at least, to the extent that VP ellipsis can only affect constituents. In reality, the judgements are the opposite. Note that one cannot justify the pattern in (10) by saying that the derivation (6) applies only in the case of gapping. Such an explanation would only beg the question.

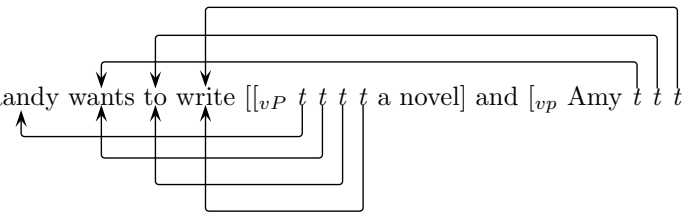
(10) a. * Randy wants to write a novel, and Amy wants to [__] a play too
b. Randy wants to write a novel, and Amy wants to [__] too

If we allow *wants to write* to be a constituent in order to derive (3), then it is not clear why examples (7) through (10) should be ungrammatical. In particular, example (8a) is particularly mysterious, since it illustrates a case of movement, and the same applies to (9B) if we adopt Merchant's (2004) analysis of fragment answers in terms of movement. Given that the whole point of analyzing *wants to write* as a constituent is to let it undergo movement, there no reason why it shouldn't be able to move in these environments. In the light of these considerations, we must conclude that this particular solution is not plausible.

2.2 Each gapped element moves independently

If *wants to write* cannot be extracted out of the coordinate structure as a constituent, then it might be the case that each of its subconstituents moves on its own. Under this analysis, (3) would be analyzed as in (11). For ease of parsing, movements out of the first conjunct are represented with arrows below the example, and movements out of the second conjunct with arrows above it.

(11) Randy wants to write [[$_{vP}$ t t t t a novel] and [$_{vp}$ Amy t t t a play]]



One can plausibly analyze movement of the finite verb as movement to a functional projection right outside vP (see, e.g., Julien 2002). The analysis of the rest of the gapped verbs, though, is not so obvious. Let us assume without further discussion that there is a series of functional heads right above vP that provide the required landing sites (cf. the LD/stacking projections postulated in Koopman and Szabolcsi 2000). Alternatively, one could also assume multiple adjunction to vP. Either way, deriving the correct result would also require an order preservation constraint (however this is to be encoded), so that the string of moved verbs parallels the order in its base position. Finally, even though these movements target heads, they must be exempted from the very strict locality conditions on head movement.

These are already quite extraordinary assumptions within English syntax, but let us nonetheless assume they are correct. At this point, it would be tempting to attack this analysis on the grounds that it introduces a great deal of complication in syntax: since it is possible to gap a large stack of verbs (cf. Ross 1970), things can quickly get complicated. Consider (12).

(12) Randy wants to begin to try to write a novel, and Amy [__] a play.

In order to derive (12) in this fashion, it would be necessary to draw fifteen separate movement arrows, each with its corresponding trace. This might look quite daunting, but in reality it is not: as Koopman and Szabolcsi (2000) point out, once we accept that LD projections (or some equivalent) are available, it is a technically trivial task to iterate them to derive examples of arbitrary size. Thus, I will not take derivational complexity to be an argument against Johnson's analysis. Rather, we'll proceed directly to a more substantial problem.

Assume, therefore, that (11) is the correct derivation of (3). If so, we are forced to accept that non-finite verbs move out of the vP headed by their finite selecting verb in all cases, and not just in gapping sentences. Now, consider the interaction of this conclusion with VP ellipsis. In particular, assume that Merchant (2007) is correct it claiming that VP ellipsis targets a category never larger than vP. If the non-finite verb must move outside their containing finite vP in all cases, then it follows that non-finite verbs will never be affected by VP ellipsis. In other words, English would be predicted to have a type of verb-stranding VP ellipsis (cf. Goldberg 2005) that would rule in the following example.

(13) * Randy wants to write a novel, and Amy wants to write [__] too.

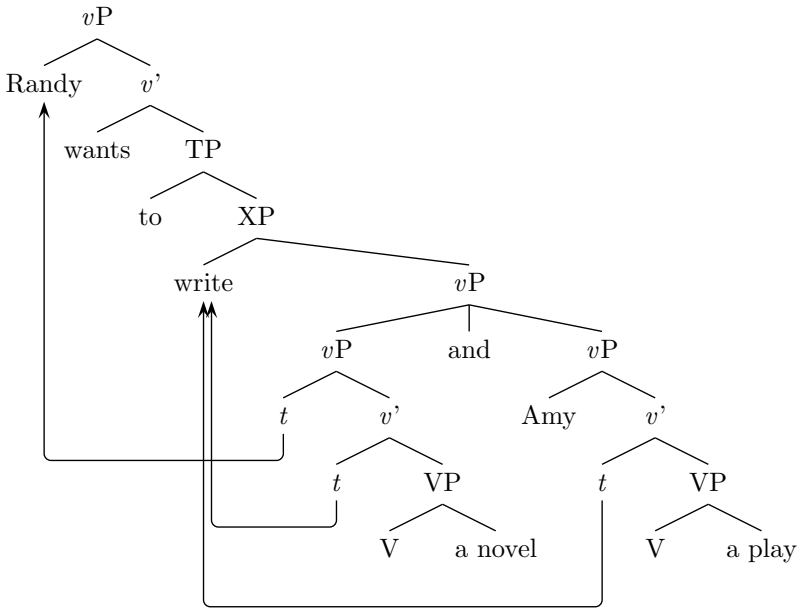
In order to avoid this result, one would have to say that the movements of non-finite verbs illustrated in (11) only happen in gapping clauses. This, however, leads us into a circular argument, and we must conclude that this is not a possible analysis of (3) either.

2.3 Small coordination plus backward control

The final alternative does not involve extraction of a verbal complex: rather, let a large part of the verbal complex be base-generated outside the coordinate structure, as in (14) below. In this way, gapping could be derived simply by head movement of *write* to a functional projection right outside vP –a much more plausible pattern of ATB extraction. The structure resulting from this analysis is given in (14).[5] For space reasons, I include the structure only up to the vP level, and assume that it proceeds in the usual way from there upwards.

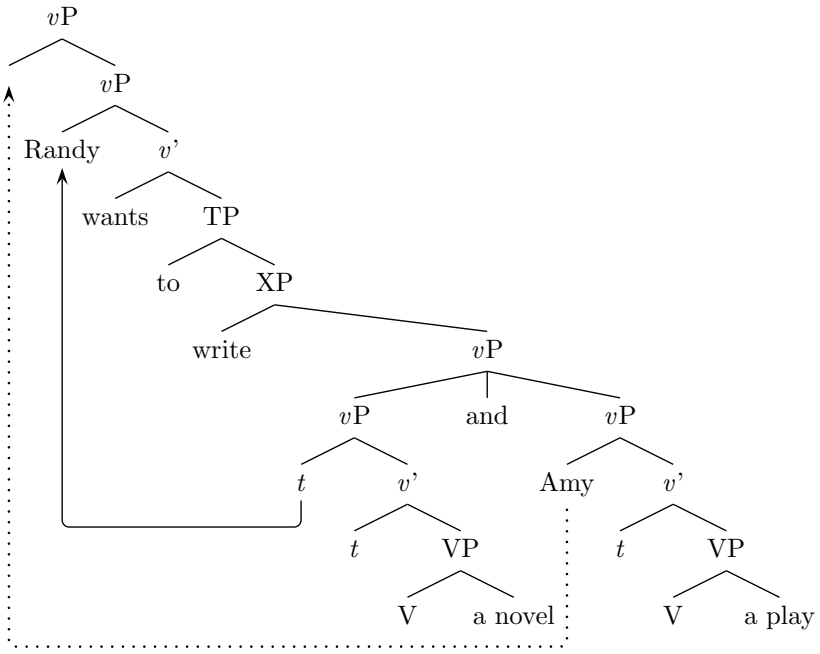
[5] Johnson (2006) includes various examples with this structure. However, and very crucially, none of them features a θ-role assigning verb outside the coordinate structure, so no problems arise in this respect.

(14)



As mentioned above, (14) is problematic in that *Amy* does not seem to receive a θ-role from wants. As far as I can see, there is no way out of this problem if one assumes that control involves PRO, since that would require *Amy* to be generated in the Spec$v$P of *wants*, blocking the type of coordination illustrated in (14). Suppose, however, that we take control to be movement (cf. Hornstein 1999 *et seq*). In particular, suppose that English gapping sentences exceptionally allow backward control (where the controller appears in the expected position of PRO), and let us adopt the suggestion in Polinsky and Potsdam (2002) that backward control can be analyzed as covert movement in the context of a movement theory of control. If we grant this much, then we can recast (14) as (15), where the dotted arrow represent the covert movement of *Amy* to receive its θ-role (order of multiple specifiers is irrelevant here; in order to avoid cluttering, I have ignored verb movement, as well as a potential intermediate landing site in the embedded SpecTP).

(15)



In order for this derivation to work, we must accept that a single v head can assign an external θ-role to more than one argument, and that a single T head can assign nominative case to more than one single external argument too. In fact, there is no reason to limit this number to just two: under this analysis, v and T heads must be able to license an arbitrary number of independent arguments, as evidenced by the acceptability of examples like (16):

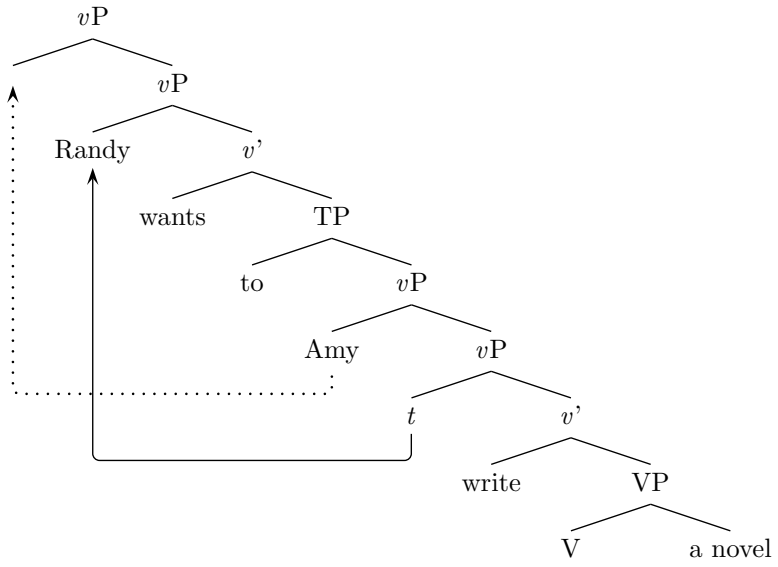
(16) Randy wants to write a novel, Amy [__] a play, Lawrence [__] a fugue, Rudy [__] a math paper, and Enoch [__] a memoirs book.

However, if we accept this, then we would also expect to find multiple subjects elsewhere. Note that we are talking here about true multiple subjects licensed by a single verb, not a single subject containing a complex coordinate structure. In particular, by analogy with (15), we would expect (17) to have the indicated reading.

(17) * Randy wants to Amy write a novel.
[=Randy wants to write a novel, and Amy wants to write a novel too]

The derivation, illustrated in (18), would proceed as follows: both *Randy* and *Amy* are merged as independent external arguments of *write* (if we allow one single v head to assign more than one external θ-role, then all verbs should in principle be able to make use of this possibility). After that, *Randy* raises overtly to the Spec$v$P of *wants* to receive a θ-role, and *Amy* does the same covertly. Finally, the matrix T head assigns Case to both *Randy* and *Amy* separately. As above, I only provide the derivation up to the matrix vP level.

(18)



Note that we haven't invoked any mechanism that wasn't already invoked in (14)/(15), yet (17) is ungrammatical in the indicated reading. There seems no way to capture this asymmetry, which leads us to the conclusion that this third analysis is also untenable.

3 Conclusion

We have seen that an ATB movement analysis of gapping cannot be extended to subject control predicates, since the gapped material cannot be placed outside the coordinate structure by either movement or base generation. We must conclude that, unless a better analytical option can be provided, gapping of subject control predicates (and, by extension, gapping in general) cannot be based on ATB movement. Rather, it must be analyzed as deletion, as advocated by Coppock (2001) and Lin (2002). I find this a rather unfortunate conclusion, though, since one of its consequences is that all the advantages that follow naturally from Johnson's analysis are lost too. See, however, Lin (2002) for an attempt to implement these advantages within a deletion analysis of gapping.

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