

English middles and implicit arguments

Appendix: Additional facts and arguments

Benjamin Bruening (University of Delaware, bruening@udel.edu)

1 VP ellipsis

VP ellipsis tolerates active-passive mismatches (e.g., Merchant 2008; 2013):

- (1) a. You should bribe politicians whenever it becomes apparent that they can be. (active antecedent, passive elided clause)
- b. Politicians can easily be bribed, although when I was a lobbyist I never did. (passive antecedent, active elided clause)

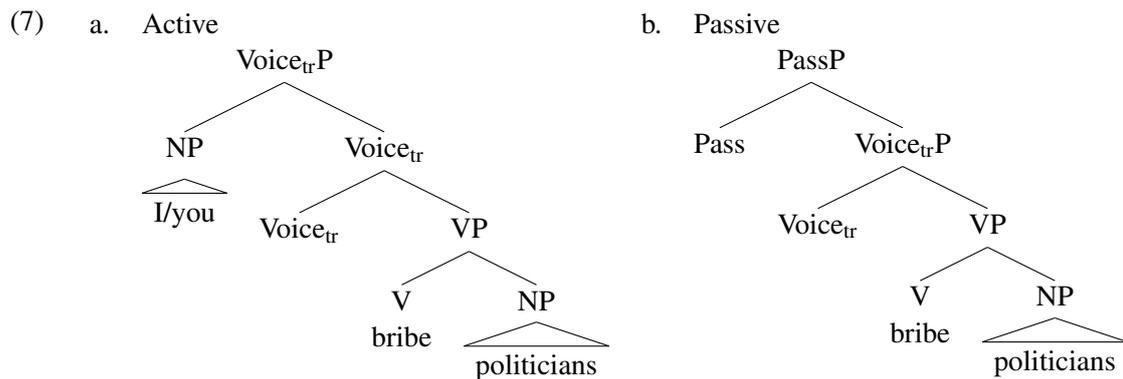
In contrast, middles do not license VP ellipsis in standard actives, or vice versa:

- (2) (middle antecedent, active elided clause; Ackema & Schoorlemmer 2006: 142, (31c–d))
 - a. This book reads easily, *but I can't.
 - b. This egg peels easily, *but I can't.
- (3) (middle antecedent, active elided clause)
 - a. * Politicians bribe quite easily, although when I was a lobbyist I never did.
 - b. * This car handles so well that you can with one hand.
- (4) (active antecedent, middle elided clause)
 - a. * You should read this book because it does well.
 - b. * You should start selling pet rocks because they do like hot cakes.

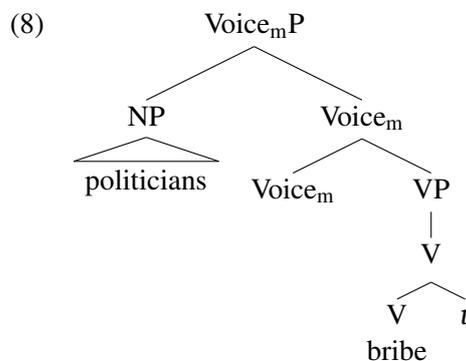
Middles and passives also do not license ellipsis of each other:

- (5) (middle antecedent, passive elided clause)
 - a. * Politicians bribe quite easily, and that politician definitely was.
 - b. * This car handles so well that it can be with one hand.
- (6) (passive antecedent, middle elided clause)
 - a. * This book should be read because it does well.
 - b. * Pet rocks should be sold because they do like hot cakes.

These facts follow on the assumption that ellipsis requires (near-)structural identity. Following Bruening (2013), I assume that the passive has a head *Pass* that takes *Voice_{tr}* as its complement and suppresses the argument of *Voice_{tr}*:



These two structures are identical up to the mother of Voice_{tr}^0 . One therefore licenses ellipsis of the other, as in (1a–b). In contrast, in the analysis here, middles have the following structure:



Middles differ from both actives and passives: actives and passives both have Voice_{tr} as the sister of VP, while middles have Voice_m . If VP ellipsis necessarily includes the Voice head, then actives and passives will license ellipsis of each other, but middles and actives/passives will not.

If the Voice head has to be included in VP ellipsis and has to match the antecedent, then we predict that unaccusatives, which have Voice_{un} , also will not successfully participate in VP ellipsis with either a transitive active or a passive (both of which have Voice_{tr}). This prediction appears to be correct:

- (9) a. A: Boil that water! B: It is *(boiling)!
- b. A: Is the water being boiled? B: It is *(boiling).
- c. A: Has the water boiled? B: I did *(boil it) already.
- (10) a. A: Hurry and roll these stones down the hill! B: They already are *(rolling down the hill).
- b. A: These stones need to be rolled down the hill. B: *They did by themselves.
- c. A: The stones have to roll down the hill. B: They have been *(rolled down the hill) already.
- (11) a. A: Charley tried to curve his next pitch across the inside corner. B: *And did it?
(based on Bouton 1969: 246, (40–42))
- b. A: The next pitch needs to be curved across the inside corner, but I don't think it will *(curve across there).
- c. A: The next pitch needs to curve across the inside corner. B: *I will.

This analysis also predicts that middles can license ellipsis of other middles, which is correct:

- (12) a. A: Politicians bribe easily. B: No they don't!
- b. The car handled very well, as I expected it to.

2 On putative parasitic gap licensing in middles

Massam (1992) suggests that middles might be capable of licensing parasitic gaps. She gives the following examples, and credits David Pesetsky for the better ones:

- (13) (Massam 1992: 133, (35f), (47a–b))
- a. * This book reads easily even without liking.
 - b. ? This wall paints beautifully without double-coating.
 - c. ? Chickens kill pretty easily, even without tranquilizing first, but elephants sure don't.

It would be very strange if middles could license parasitic gaps. A-movement as in the passive does not license parasitic gaps, and middles do not have any of the hallmarks of A-bar movement (they cannot be long-distance, for instance). It is very questionable whether these actually are parasitic gaps, however. To the extent that the above examples are acceptable, the verb in the adjunct clause seems to be behaving as an NP. A nominalization is equally acceptable:

- (14) Chickens kill pretty easily, even without tranquilization first.

Without can take an NP complement, and nouns do not require their objects to be present. The above examples are probably instances of nouns without objects, rather than parasitic gaps after verbs. This is why Massam's example in (13a) is unacceptable: *liking* is not a good noun (in this use). In support of this hypothesis, the active correspondent of the other two examples has exactly the same status:

- (15) a. ? You can paint this wall beautifully even without double-coating.
b. ? You can kill chickens pretty easily, even without tranquilizing first.

Since there is no movement at all here, there is no possibility of a parasitic gap. Moreover, if we change the examples to ones where the missing object could only be a parasitic gap and not a null object of a noun, they are unacceptable:

- (16) a. * This wall paints beautifully without having to apply a second coat to.
b. * Chickens kill pretty easily, even without waiting for your helper to tranquilize first.

I conclude that middles do not license parasitic gaps, as the non-movement analysis proposed here would predict. It would not be desirable to propose movement of a null operator in the middle.

3 External-argument-oriented modifiers

Middles allow instrumentals and external-argument-oriented comitatives (Keyser & Roeper 1984):

- (17) a. Members of parliament bribe easily with free plane trips.
b. This drawer opens with a key.
c. These trees will fell easily with a chainsaw.
- (18) a. Members of parliament bribe easily with an accomplice.
b. This armoire moves readily with a friend.
c. This appendage amputates easily with an assistant.

Instrumentals and external-argument-oriented comitatives are thought to require either an agent (e.g., Parsons 1990; Marelj 2004; Reinhart & Siloni 2005), or the head that projects the external argument, even if the external argument is not actually projected (e.g., Bruening 2013). I adopt

the latter view. According to Bruening (2013), these adjuncts adjoin to a projection of Voice_{tr} in the active and the passive. I add that they can also adjoin to Voice_m in the middle. (See Bruening (2013) for suggested analyses of instrumentals and external-argument-oriented comitatives.)

According to Roberts (1987), middles do not permit *deliberately*-type modifiers:

- (19) a. * The book sold deliberately.
b. * The baby raccoons tamed well intentionally.

This might seem strange, since the logical external argument is semantically entailed. Klingvall (2005), however, shows that these adverbs can appear in middles, but they can only modify the surface subject if they do:

- (20) (Klingvall 2005: (26–27))
a. ? Prisoners intentionally hang easily.
b. ? Kamikaze pilots intentionally die easily.

Bruening & Tran (2015) argue that *deliberately*-type adverbs do not require either an external argument or the head that projects the external argument, since they can appear with unaccusatives. Rather, they modify whatever argument is projected *highest*. In the current analysis, that is the logical internal argument. It is projected in a specifier of Voice_m, higher than any other argument. The logical external argument is not projected at all. The current analysis therefore correctly predicts that *deliberately*-type adverbs could only modify the logical internal argument and could not modify the logical external argument.

4 Donkey anaphora

Stroik (1995) argues that donkey anaphora shows that the implied external argument of a middle is syntactically present. Stroik (1995) cites Authier (1992) as showing that only syntactically present quantificational phrases in an if-clause can license the bound reading for a pronoun in the main clause. Then Stroik claims that the null external argument of the middle can do this:

- (21) (Stroik 1995: 170, (14a–b))
a. If a book about oneself reads poorly, one must just grin and bear it.
b. If memos to oneself don't read well enough, one should rewrite them.

However, it does not seem to be correct that only syntactically present quantificational phrases can license the pronoun *one* in the main clause. Consider the following:

- (22) a. If a book is too difficult, one should seek help understanding it.
b. If the wash comes out stiff and wrinkled, one must add special product to the wash cycle.

It appears that *one* can appear in the main clause of such conditionals, regardless of the argument structure of the *if*-clause. Examples like those presented by Stroik are therefore not telling.

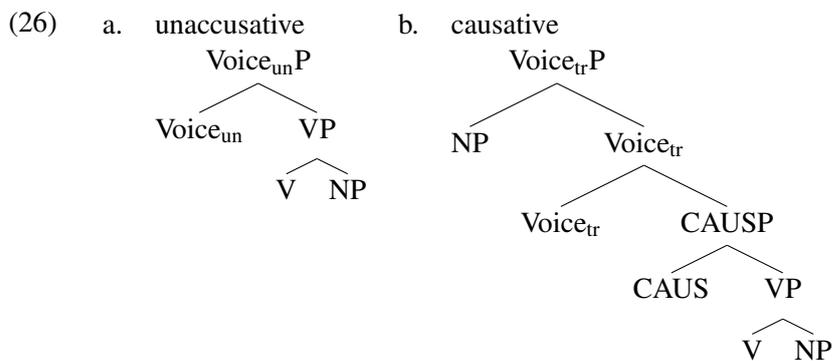
5 Allomorphy

Allomorphy data from Fellbaum (1986) shows that the verb in a middle is transitive and not unaccusative. In English, the few verbs that have a different form in the unaccusative versus the transitive appear in the transitive form in the middle:

- (23) (Fellbaum 1986, cited in Schäfer 2007)
- The sun rises from the east. (unaccusative)
 - John raises his kids very strictly. (transitive)
 - Obedient daughters raise more easily than disobedient sons. (middle)
- (24)
- Many trees will fall. (unaccusative)
 - The lumberjacks will fell many trees. (transitive)
 - These trees will not fell easily. (middle)
- (25)
- Many children can sit under the trees. (unaccusative)
 - The teachers will seat many children under the trees. (transitive)
 - Hyperactive children don't seat easily. (middle)

This is the same form that appears in the passive (*Many trees were felled*).

Bruening (2019), among others, argues that the causative member of a causative-inchoative pair differs from the unaccusative not just in which Voice it has, but also in the presence of a CAUS head:



Voice_m must also have this CAUS head, since it is semantically just like Voice_{tr} in its event semantics and in adding an external argument. The addition of an external argument to an inchoative requires a CAUS head. This addition will change nothing in the analysis: Voice_m can still locally license the *t* head adjoined to V, because V, CAUS, and Voice_m all form a complex head within a single phase. The allomorphy is now conditioned by the presence of CAUS: If CAUS is not present, the form of the verb is *rise*, *fall*, *sit*. If CAUS is present, it is pronounced *raise*, *fell*, *seat*. Since CAUS is only absent in the unaccusative, this accounts for why the unaccusative takes one form and the active, passive, and middle all take the other.

6 Middles do not lack Voice

Stroik (2005) argues that middles do not have vP, which for him seems to be the equivalent of Voice. He presents the following paradigm (his judgments):

- (27) (Stroik 2005: 237–238, (25a–g))
- I waved to all the children leaving.
 - I waved to all the children resembling me.
 - I'll wave to anyone knowing the answer.
 - * I waved to the woman seeming to be leaving.
 - * I waved to all the children being tall.
 - * I gave money to all the police bribing easily.

- g. * I'll buy many books reading well.

Stroik hypothesizes that the unacceptable examples are unacceptable because they lack vP. If this is correct, then middles must also lack vP, because they are also unacceptable in this context (the f and g examples).

However, Stroik has not shown that the problem here is lack of vP. Stroik says that the contrast cannot be eventive versus stative, because *resemble* and *know* are stative but are acceptable in this context. However, I do not find *know* acceptable in this context. It is quite bad as a postnominal modifier with *-ing*:

- (28) a. * Children knowing French don't need to attend the French lesson.
b. * Co-workers knowing secrets must be watched carefully.

It is also not clear why the raising verb *seem* would lack vP. It is just like an unaccusative, and unaccusatives are fine in this context (*Children arriving early must proceed to the gymnasium*). Other raising verbs are also fine:

- (29) a. Children appearing upset or mad when they're online should have their internet usage monitored closely.
b. Children tending to be morose should be referred to a child psychologist.

Moreover, eventive middles seem acceptable as postnominal modifiers with *-ing* (just as they are acceptable in the progressive):

- (30) a. The car handling well is a Nissan.
b. The baby raccoons taming well were captured at birth.

Contra Stroik, the contrast does seem to be something along the lines of eventive versus stative or individual-level versus stage-level. This set of data therefore does not have anything to say about the presence or absence of vP/Voice in the middle. All other indications are that middles do have a Voice projection, and I analyze them as such.

7 Adverbs are not necessary

It is sometimes claimed that some sort of adverbial modification is necessary in the middle (e.g., Newman 2020; see Ackema & Schoorlemmer 2006). However, as numerous publications have pointed out, adverbial modification is not necessary at all (capital letters indicate focus intonation):

- (31) a. Now, this car HANDLES. (McConnell-Ginet 1994: 231, (6))
b. THIS bureaucrat bribes. (modified from Ackema & Schoorlemmer 1994)
c. The spot won't wash out. (Fagan 1992)
d. Stows on floor or shelf. (Fagan 1988)
e. This dress buttons up. (Marelj 2004)
f. Come on, cut! (said in anger to something that isn't cutting)
g. The butter spread, but only after I microwaved it. (no verum focus required)
h. Knight A: How did it go? Knight B: The dragon slew.

Middles often are more natural with adverbs, but so are many other sentences, as well. In particular, the simple present is often very strange in English: *I walk* and *I eat* are not felicitous out of the blue. *I walk regularly* is much more natural, as is *I eat with my hands*. Negation and

focus also help, exactly the same way they do with middles: *MELISSA walks, That model doesn't eat*. Since most generic middles use the simple present, we should expect the same pattern. This is a fact about discourse, though, and not syntax. No one would claim that *I walk* and *I eat* are ill-formed syntactically. (See also Iwata 1999: 551.)

Some semantic analyses of middles include the adverbial modification as a crucial part. For instance, for Condoravdi (1989), adverbial modification is necessary for a well-formed semantic formula: The adverb provides a nuclear scope for a generic quantifier. This obviously cannot be correct, since many of the examples shown above lack adverbial modification. It is also often claimed that if no adverb is present, then negation or some special focus is necessary. This is also not correct, as many of the examples above have shown (e.g., 31d–h). It is also not clear in a semantic analysis like that of Condoravdi's how negation, in particular, could have the same effect as an adverb in the quantificational formula. Negation negates a proposition, it does not form the nuclear scope of a quantifier. The semantic analysis is therefore both conceptually implausible and empirically incorrect.

I conclude that adverbs, focus, and negation are not necessary in a middle. I therefore do not include any of them in the syntactic analysis. If adverbs or negation or focus are present, they simply act as they always do.

In addition, Fellbaum (1986) claims that middles differ from unaccusatives and transitives in adverb placement possibilities:

- (32) a. This book (*easily) reads (easily).
 b. Yesterday, the door (quickly) opened (quickly).
 (33) a. This book (*slowly) reads (slowly).
 b. John (slowly) read the book (slowly).

This does not seem to be correct, instead adverb placement seems to depend on focus. Adverbs like *easily* can appear before the middle verb if something else comes after it:

- (34) a. Politicians easily bribe with free plane rides.
 b. Such minor spots will easily wash out.

Additionally, Iwata (1999) points out that some non-middles also disprefer preverbal adverbs:

- (35) The door (*easily) closes (easily); it only takes a gust of air. (Iwata 1999: 550, (iva–b))

Iwata (1999: 549–552) also argues that Fellbaum's adverb placement data are not significant. Iwata suggests a functional explanation for preferences regarding adverbs in middles, and shows that those preferences are not unique to middles.

I conclude that a syntactic analysis of middles does not need to say anything in particular about adverbs. The analysis proposed here does not.

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