

The Emerging Middle Class¹
Byron Ahn (byron@ucla.edu) and Craig Sailor (cwsailor@ucla.edu)
UCLA Department of Linguistics

1. Preview

- Observation: *accommodation* (1)a and *make* (1)b constructions in English exhibit several properties familiar to the middle voice (1)c:

(1)	a.	This bed sleeps two people.	<i>Accommodation</i>
	b.	Clowns make good fathers.	<i>Make</i>
	c.	Illinois governors bribe easily.	<i>Canonical middle</i>
- Claim: the *accommodation* and *make* constructions are middles.
- Analysis: We propose a complete reduction of the structural properties of middles to the features of a [Middle] Voice⁰. This analysis captures the similarities of (1)a-c, and appeals only to existing syntactic machinery: VoiceP (Kratzer 1996) and smuggling (Collins 2005a).
- Consequences:
 - Middles (along with passives) are no longer seen as being derived from actives
 - There is no middle “transformation”
 - Distinct structures among the voices arise from distinct features among the Voice⁰s
 - Opens the door for a Voice⁰ analysis of unaccusatives & raising verbs

2. Background on middles

Canonical examples of the middle voice in English are in (2):

Middles (examples from Keyser & Roeper 1984)

- (2)
- a. Bureaucrats bribe easily.
 - b. These toys assemble rapidly.

The literature on middles (Keyser & Roeper 1984, Fujita 1994, Iwata 1999, Rapoport 1999, a.o.) generally agrees on their relevant (morpho-)syntactic properties:²

Core (morpho-)syntactic properties of middles

- (3)
- a. No possible syntactic expression of an external argument
 - b. Surface subject behaves like an underlying internal argument
 - c. Distinct morphology from other voices is possible cross-linguistically

We discuss the first two properties in detail (cf. Appendix discussion of middle morphology).

¹ We would like to thank all of our UCLA colleagues – especially Peter Hallman, Anoop Mahajan, Jessica Rett, and Carson Schütze – and Artemis Alexiadou for their helpful comments on this work.

² Contra e.g. Iwata (1999), we do not take adverbial modification to be a core property of middles. While less common, unmodified examples are still felicitous: *I don't like bamboo flooring – it scratches (easily).*

2.1. Middles lack external arguments

Although long passives have overt external arguments (in *by*-phrases), middles never do:³

Middles: no overt external argument

- | | | | |
|-----|----|--|----------------|
| (4) | a. | Mobsters bribe bureaucrats easily. | <i>Active</i> |
| | b. | Bureaucrats are bribed easily by mobsters. | <i>Passive</i> |
| | c. | * Bureaucrats bribe easily by mobsters. | <i>Middle</i> |

This is because external arguments are not syntactically present in middles (see e.g. Zribi-Hertz 1993, Rapoport 1999, and Bhatt & Pancheva 2006). This is distinct even from the “missing” external arguments of short passives, since those of middles cannot control a subject PRO:⁴

Middles: no subject control from the “implicit” external argument

- | | | | |
|-----|----|---|----------------|
| (5) | a. | Workers _i assemble our toys rapidly [to PRO _i meet deadlines]. | <i>Active</i> |
| | b. | Our toys are assembled <i>e_i</i> rapidly [to PRO _i meet deadlines]. | <i>Passive</i> |
| | c. | * Our toys assemble rapidly [to PRO meet deadlines]. | <i>Middle</i> |

Similarly, subject-oriented adverbs are ungrammatical in middles (but possible in short passives):

Middles: No subject-oriented adverbs

- | | | | |
|-----|----|--|----------------|
| (6) | a. | Doug (always) translates Greek <u>begrudgingly</u> . | <i>Active</i> |
| | b. | Greek is (always) translated <u>begrudgingly</u> . | <i>Passive</i> |
| | c. | * Greek (always) translates <u>begrudgingly</u> . | <i>Middle</i> |

These facts indicate that middles truly lack external arguments in their derivation.

2.2. Middles involve object “promotion”

The surface subject of a middle begins its syntactic life as an internal argument, similar to the subjects of passives and unaccusatives. Consider the representation in (7):

Internal argument “promotion” in middles, passives, and unaccusatives

- | | | | |
|-----|----|--|---------------------|
| (7) | a. | Safeway sells Spam quickly. | <i>Active</i> |
| | b. | Spam _i sells <i>e_i</i> quickly for Safeway. ⁵ | <i>Middle</i> |
| | c. | Spam _i is sold <i>e_i</i> quickly by Safeway. | <i>Passive</i> |
| | d. | Spam _i disappears <i>e_i</i> quickly in Safeway. | <i>Unaccusative</i> |

³ There is no reason that a *by*-phrase should be the only oblique expression of an external argument. In fact, Stroik (1992) argues that *for*-phrases are overt expressions of the implicit external argument in middles (but see Rapoport 1999 for convincing arguments to the contrary). Still, many middles disallow any such phrase, such as *Spam sells {*by/*for/*with/*in/*on} the shopkeeper*.

⁴ Control is actually not reliable for testing the syntactic status of an external argument given the availability of arbitrary PRO (*PRO_{arb} to get a PhD is hard*). Citing data such as *These houses won't sell without PRO advertising them*, Stroik (1995) argues that middles *do* contain syntactic external arguments. However, since the *advertisers* need not be the *sellers* in this case, such examples seem to involve PRO_{arb} rather than genuine subject control.

⁵ See fn. 3.

Some evidence for this comes from the “1-Advancement Exclusiveness Condition” (1AEX, Perlmutter & Postal 1984), which prohibits more than one promotion operation per clause.⁶ For example, passivizing a middle is as bad as passivizing any other derived-subject construction:

- 1AEX effects = “promoted” internal argument*
- (8) a. Spam is sold e_j quickly by Safeway. *Active*
b. *Safeway $_j$ is sold quickly for e_j by Spam. *Middle*
c. *Safeway $_j$ is sold quickly by e_j by Spam. *Passive*
d. *Safeway $_j$ is disappeared quickly in e_j by Spam. *Unaccusative*

The thematic interpretation of these subjects also implicates their status as internal arguments.

3. Minimal middles

We propose that middles (and perhaps all voice-related phenomena) owe their structure to the featural makeup of a single syntactic head: Voice⁰. This strong instantiation of VoiceP has several advantages that we consider shortly. First, we need some background on VoiceP:

- External arguments are not merged in vP/VP : Kratzer (1996)
- Instead, they are merged higher, in [Spec, VoiceP] (which is distinct from vP : Pytkäinen 2002, Harley 2007, Schäfer 2008, a.o.; see Appendix).
 - Does away with the need for “suppressed” external arguments in certain environments (e.g. *of_{ing}* gerunds, adjectival passives, etc.: Kratzer 1996:126-131)
 - Likewise, does away with the “special” syntactic status of external arguments
- Kratzer suggests that certain voice-related patterns might fall out from VoiceP, but does not pursue this in any detail.

Under a strong interpretation of VoiceP, the Voice⁰ that derives middles – call it [Middle] for short⁷ – must capture the core properties of middles we laid out in (3) (reprinted here):

- Core (morpho-)syntactic properties of middles*
- (3) a. No possible syntactic expression of an external argument
b. Surface subject behaves like an underlying internal argument
c. Distinct morphology from other voices is possible cross-linguistically

Recall that properties (3)b-c are common to passives, as well, meaning there should be overlap in the work done by [Middle] and [Passive]. To see how they overlap, consider the following data.

Middle verbs are always followed by their adverbial modifiers, unlike actives:

- Middles: adverb ordering effects (examples adapted from Iwata 1999)*
- (9) a. The salami cuts easily. *Middle*
b. *? The salami easily cuts. *Middle*

⁶ We leave aside the theory underlying the 1AEX, and appeal to it only as a descriptive fact.

⁷ [Middle] is shorthand for a rich featural matrix, whose contents we explore in Sailor & Ahn (in preparation).

Fujita (1996): middle verbs undergo obligatory head movement to a high verbal position.

We agree that middle verbs undergo movement, but not head movement. Consider (10):

- Middles: adverb ordering effects*
- (10) a. ??My TV quickly [_{VP} turns on]. *v-in-situ*
b. *My TV [_v turns]_x quickly [_{VP} t_x on]. *v-raising*
c. My TV [_{VP} turns on]_x quickly t_x. *vP-fronting*

These data show that middle verbs undergo *phrasal* movement, not head movement.⁸ Such movement is independently required of passives in a smuggling approach (Collins 2005a).

Brief background on Collins' smuggling approach to passives:

- Passives have the same fundamental argument structure as actives
- But the internal argument must move past the external argument into subject position
 - To avoid a minimality violation, the internal argument is “smuggled” across the external argument inside a fronted projection of the verb (via phrase movement)
 - With that part of the predicate higher than the external argument, the internal argument becomes the superior candidate for movement to subject position

We adopt this predicate-fronting approach in our analysis of middles (although nothing is overtly “smuggled” in canonical middles⁹). Thus, we assume [Passive] and [Middle] differ only in that the former selects an external argument, while the latter does not (cf. (2)a and section 2.1).

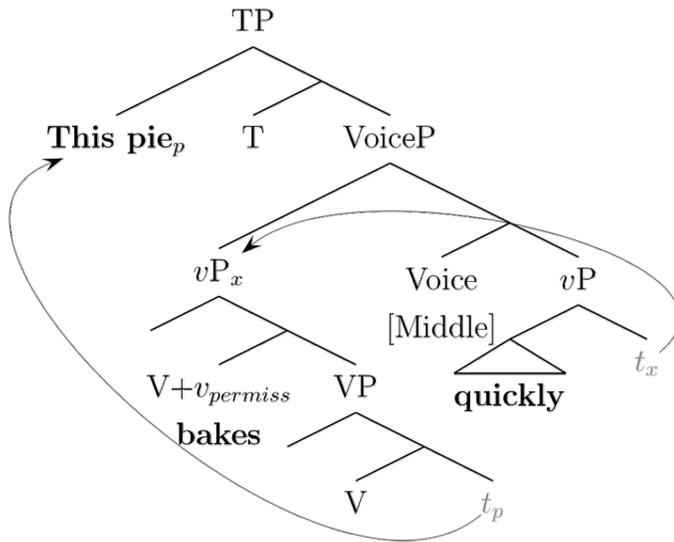
Taking stock, we propose the following structure for English middles:¹⁰

⁸ Note that, though adverbs like ‘quickly’ may appear on the right in the active voice as well, we make no claim as to whether this would necessarily involve vP-fronting. Adverbs *may* appear on the right in actives, whereas they *must* in middles; we take this as evidence that middles must involve a syntactic operation that actives need not.

⁹ We say nothing is “smuggled” in canonical middles (11) because there is no minimality violation to overcome; however, see section 4 for middles which do seem to involve minimality violations (which this approach captures).

¹⁰ Nothing in this structure forces a generic stative reading; this allows us to capture eventive middles (see appendix).

(11) This pie bakes quickly.¹¹



This “smuggling” approach to middles is especially relevant for the data we present in section 4.

Note that [Middle] selects for a v_{permiss} head in (11). This reflects a salient interpretational property of middles – one of both causation and modality, paraphrasable with *enable*:

Middles: paraphrases with ‘enable’

- (12) a. This type of pie crust burns easily.
 b. = [Some property] enables this pie crust to easily become burnt.

The meaning is weaker than causative: the properties of a pie crust do not necessarily “cause” it to become burnt. Yet there is direct evidence that causation plays a role in the middle voice when we consider the morphology of certain verbs (those with causative stem alternations):

Middles: causative verb form required

- (13) a. You can {raise/*rise} this flag easily, when you use the pulley. *Causative active*
 b. This flag {raises/*rises} easily, when you use the pulley. *Middle*
- (14) a. The usher says he can {seat/*sit} sober guests more easily than drunk ones. *Caus act.*
 b. The usher says sober guests {seat/*sit} more easily than drunk ones. *Middle*

We suggest that the causative interpretation is weakened through interaction with the modality inherent to middles.¹² We call the resulting interpretation “permissive” on the v_{permiss} head.¹³

¹¹ Although [spec, vP] is empty here, the interpretation of (11) involves an understood “permitter”. We take this to indicate the presence of a semantic (but *not* syntactic) argument in the form of a property; cf. the paraphrase in (12).

¹² See Massam (1992) for further discussion of this modality, but cf. Iwata (1999) for possible counterarguments.

¹³ This complex interpretation may best be captured as the interaction of multiple syntactic heads (i.e. a causative v^0 and a silent modal in T^0). We would like to suggest that the generic interpretation common to most middles (cf. Iwata 1999) arises from v_{permiss} bearing present (habitual) tense in English (as it disappears in non-present tenses).

4. The emerging middle class: *accommodation* and *make* constructions

We turn now to data lacking adequate prior treatment – the *accommodation* and *make* constructions in (15) – and show that they must also be considered middles:¹⁴

- A new class of middles: accommodation and make constructions*
- (15) a. This cabin sleeps four people. *Accommodation*
b. John makes a good doctor. *Make*

These data pattern like middles (cf. (3)) despite that they contain what look like overt objects, which canonical middles lack.

4.1. *Accommodation*

First noted in Chinese (Her 2009; see Appendix), *accommodation* examples are also grammatical in English:

- Accommodation constructions in English*¹⁵
- (16) a. A queen-size bed sleeps two people.
(≈ [something] enables two people to sleep in a queen-size bed)
b. This clown car seats thirty.
(≈ [something] enables thirty people to sit in this clown car)

The paraphrases in (16) reflect the thematic status of the surface subjects: they bear theta roles consistent with internal arguments, just like middles do.

Likewise, *accommodation* constructions disallow the expression of an external argument, suggesting it is not present syntactically:

- Accommodation: no syntactically present external argument with [Middle]Voice*⁰
- (17) a. The hotelier_j sleeps tall people in extra-long beds_i (PRO_j to avoid complaints). *Active*
b. This extra-long bed_i sleeps tall people (*by the hotelier_j). *By-phrase*
c. This extra-long bed_i sleeps tall people (#PRO_j to avoid complaints). *Control*
- (18) a. The usher_j seats our elderly guests in the front row_i (PRO_j to be courteous). *Active*
b. The front row_i seats our elderly guests (*by the usher_j). *By-phrase*
c. The front row_i seats our elderly guests (#PRO_j to be courteous). *Control*

Moreover, *accommodation* constructions also fail the 1AEX, suggesting a promotion operation has occurred (movement from internal argument to subject):

¹⁴ We predict that such constructions might bear middle morphology in languages that have it, but to this point we have been unable to find equivalent constructions in such languages (e.g. Hebrew: see Appendix). Note that their being middle-marked need only be a possibility, not a necessity: not all syntactically “middle” constructions bear middle morphology (cf. Alexiadou & Doron 2007 for discussion of anticausatives, reflexives, etc.).

¹⁵ Other English verbs participating in this construction are *buy* (*\$10 buys two tickets*) and *fit* (*One size fits all*). On the other hand, *feed* (*a large pizza feeds 10 people*) is not a member of this class: it passes the 1AEX test in (19).

Accommodation: 1AEX effects

- (19) a. *Two people are slept by queen-size beds.
b. *Thirty people are seated by this clown car.

4.2. *Make*

The second construction we are concerned with bears a similar paraphrase to (16) above, except for the relative ordering of the arguments:

Make constructions in English

- (20) a. He makes a lovely drag queen.
(≈ [something] enables him to be a lovely drag queen)
b. Clowns make good fathers.
(≈ [something] enables clowns to be good fathers)

Nevertheless, we argue that the structures of (16) and (20) are quite similar: they are both in the middle voice. To that end, *make* examples appear to lack external syntactic arguments:

Make: no syntactically present external argument with [Middle]Voice⁰

- (21) a. Attention to detail_j makes Tom_i a great janitor (without PRO_j burdening him). *Active*
b. Tom_i makes a great janitor (*by attention to detail_j). *By-phrase*
c. Tom_i makes a great janitor (*without PRO_j burdening him). *Control*

And, like the *accommodation* construction, *make* fails the 1AEX splendidly:

Make: 1AEX effects

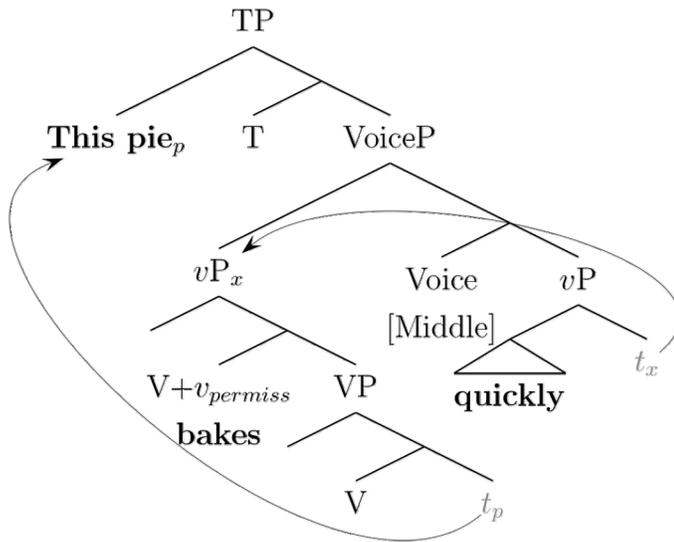
- (22) a. *A lovely drag queen is made by him.
b. *Good fathers are made by clowns.

These patterns are entirely consistent with the core properties of middles (3).

5. Structures of the middle class

We assume that these similarities have a structural source. For comparison, we repeat our analysis of canonical middles (11) below:

(11) This pie bakes quickly.

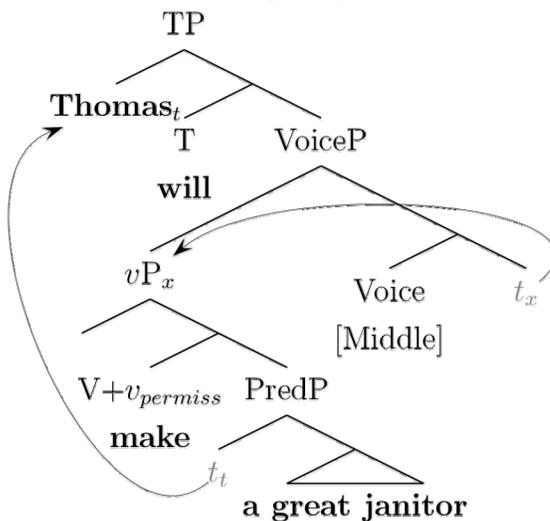


We argue that canonical middles, *accommodation*, and *make* all share (i) a [Middle] Voice⁰ where no external argument is introduced, and (ii) a fronted vP (smuggling).

5.1. The structure of *make*

We propose the structure in (23) for the *make* construction:¹⁶

(23) Thomas will make a great janitor.



Thus, the structure of *make* is nearly identical to canonical middles (11), except that (23) contains what looks like a surface object (*a great janitor*): this is a predicate-denoting nominal.¹⁷

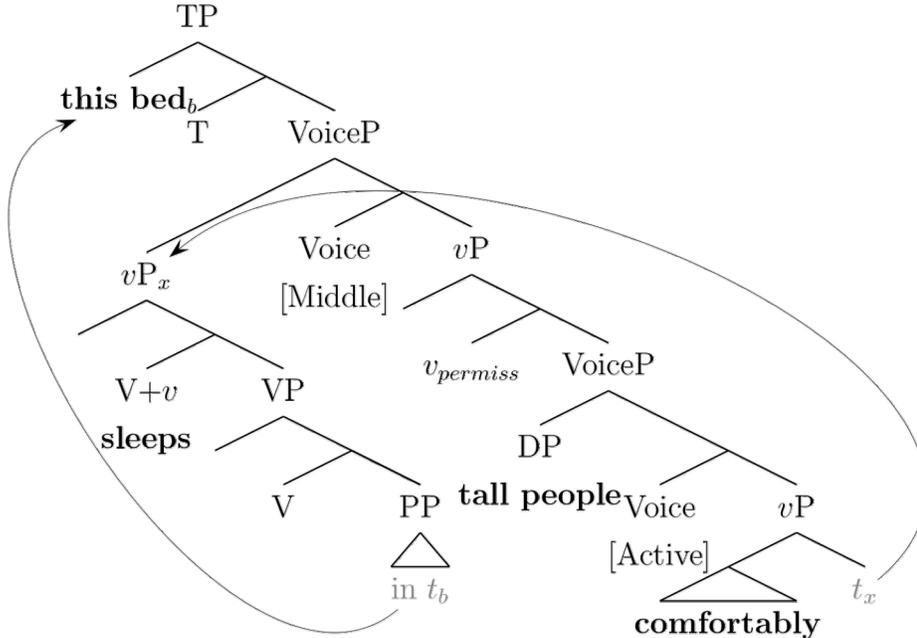
¹⁶ The movement of vP to the specifier of the head that selects it in (23) is a violation of anti-locality (Abels 2003). We therefore stipulate the existence of additional silent structure between Voice⁰ and vP to allow for this movement.

¹⁷ As opposed to a referring nominal; see Doron (1988) and Appendix for discussion.

5.2. Accommodation structure

Accommodation constructions, on the other hand, involve quite a bit more structure than *make*. That is, they are bi-clausal structures involving two VoicePs:¹⁸

(24) This bed sleeps tall people comfortably.



The external argument of the lower, active VoiceP (*tall people*) is overt. Given our assumptions about external arguments, then there must be two VoicePs – an active one to host this external argument, and a middle one to derive the middle structure.

The v_{permiss} here is different from that of (23), as it selects for the active VoiceP small clause.¹⁹

Given (24), it may be surprising that underlying prepositions “disappear” in the surface subjects of *accommodation* middles; however, this pattern is independently present in similar constructions such as *-able* affixation (25) and instrumental alternation (26):

Disappearing prepositions: -able affixation

- (25) a. You can rely on John.
 b. John_i is reliable (*on e_i).

Disappearing prepositions: instrumental alternation

- (26) a. You can open that door with this key.
 b. This key_i opens that door (*with e_i).

¹⁸ We assume that anti-locality (Abels 2003) blocks the attraction of the higher vP to [Spec, VoiceP], meaning the lower (non-minimal) vP must front instead. We are then left to explain the structure in (23); see fn. 16.

¹⁹ v_{permiss} is likely a case assigner here (for *tall people*), like other heads that take clausal complements (e.g. ECM).

6. Typological Extensions

In our analyses, Voice⁰ is responsible for the presence or absence of two phenomena:

- i) an external argument
 - descriptively, a binary parameter [\pm external argument]²⁰
- ii) a vP-fronting (smuggling) operation
 - descriptively, a binary parameter [\pm smuggled vP]

Laying out the possible combinations of these parameter settings, we see the three familiar Voice⁰s that we have discussed so far.²¹

(27) *A predicted typology of Voice⁰s*

	+ external argument	– external argument
– smuggled vP	Active	
+ smuggled vP	Passive	Middle

The empty cell in (27) describes a voice lacking both an external argument and a smuggled vP; instead, the closest argument (which happens to be an internal argument) is attracted to subject position, as normal. We tentatively take this to represent a raising and unaccusativity “voice”.²²

Therefore, we predict the grammar to allow for a language whose raising and unaccusative constructions are morphologically distinct from the other voices, analogous to languages whose morphology distinguishes e.g. actives from passives.²³

7. Conclusion

In this paper we have provided:

- a modern minimalist analysis of middles that integrates two influential voice-related proposals: VoiceP and smuggling (vP fronting)
- strong evidence that *accommodation* and *make* constructions are middles
- a strong logical extension of Kratzer (1996)’s VoiceP: one which does away with the need for voice “transformations” by reducing their effects to the features on Voice⁰
- typological extensions that predict a possible fourth Voice⁰ which seems to suit unaccusative and raising constructions

²⁰ See Alexiadou & Anagnostopoulou (2004) for a similar usage of [\pm external argument].

²¹ There may be more features at play in determining voice properties, and this typology might not be sufficiently fine-grained. We leave open the possibility that more features and a bigger typology may be required.

²² Collins (2005b) proposes smuggling for raising constructions with experiencers. We leave this aside for now.

²³ See Appendix for possible Voice⁰ analyses of three voices not treated in this talk (active, passive, and raising).

References

- Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. University of Connecticut dissertation.
- Ackema, Peter, & Maaike Schoorlemmer. 1995. Middles and nonmovement. *Linguistic Inquiry* 26.173–197.
- Alexiadou, Artemis and Elena Anagnostopoulou. 2004. Voice morphology in the causative-inchoative alternation: Evidence for a non-unified structural analysis of unaccusatives. In *The unaccusativity puzzle: explorations of the syntax-lexicon interface*, ed. by Artemis Alexiadou, Elena Anagnostopoulou, & Martin Everaert, volume 5 of *Oxford Studies in Theoretical Linguistics*, 115–136. Oxford University Press.
- Alexiadou, Artemis and Edit Doron. 2007. The syntactic construction of two non-active voices: passive and middle. Presented at the Workshop on Global selective comparison, GLOW XXX, Tromsø.
- Bhatt, Rajesh and Roumyana Pancheva. 2006. Implicit arguments. In *The Blackwell Companion to Syntax*, ed. by Martin Everaert & Henk van Riemsdijk, volume 2, 554–584. Blackwell Synergy.
- Collins, Chris. 2005a. A smuggling approach to the passive in English. *Syntax* 8.81-120.
- Collins, Chris. 2005b. A smuggling approach to raising in English. *Linguistic Inquiry* 36.289-298.
- Doron, Edit. 1988. The semantics of predicate nominals. *Linguistics* 26.281–302.
- Doron, Edit. 2003. Agency and voice: The semantics of the semitic templates. *Natural Language Semantics* 11.1–67.
- Fagan, Sarah. 1992. The syntax and semantics of middle constructions: A study with special reference to German, volume 60 of *Cambridge Studies in Linguistics*. Cambridge University Press.
- Farrell, Patrick. 1993. A last look at the 1AEX. In *Proceedings of the Eleventh West Coast Conference on Linguistics*, ed. by Jonathan Mead, 191–206.
- Fujita, Koji. 1996. Double objects, causatives, and derivational economy. *Linguistic Inquiry* 27.146–173.
- Harley, Heidi. 2007. External arguments: on the independence of Voice and v. Presented at the Thirtieth Annual Colloquium of Generative Linguistics in the Old World.
- Her, One-Soon. 2009. Apparent subject-object inversion in Chinese. *Linguistics* 47.1143–1181.
- Iwata, Seizi. 1999. On the status of an implicit arguments in middles. *Journal of Linguistics* 35.527–553.
- Kemmer, Suzanne. 1993. *The Middle Voice*. John Benjamins Publishing Company.
- Keyser, Samuel Jay, & Thomas Roeper. 1984. On the middle and ergative constructions in English. *Linguistic Inquiry* 15.381–416.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase Structure and the Lexicon*, volume 33 of *Studies in Natural Language and Linguistic Theory*, 109–137. Dordrecht: Kluwer.
- Lekakou, Marika. 2002. Middle semantics and its realization in English and Greek. *UCLA Working Papers in Linguistics* 14.399–416.
- Lekakou, Marika. 2004. Middles as disposition ascriptions. In *Sinn und Bedeutung VIII, Proceedings of the Eighth Annual Meeting of the Gesellschaft für Semantik*, ed. by Cécile Meier & Matthias Weisgerber, 181–195.
- Massam, Diane. 1992. Null objects and non-thematic subjects. *Journal of Linguistics* 28.115–137.

- Perlmutter, David and Paul Postal. 1984. The 1-Advancement Exclusiveness Law. *Studies in Relational Grammar 2*, eds. David Perlmutter & Carol Rosen. University of Chicago Press.
- Pylkkänen, Liina. 2002. *Introducing Arguments*. Massachusetts Institute of Technology dissertation.
- Rapoport, Tova. 1999. The English middle and agentivity. *Linguistic Inquiry* 30.147–155.
- Sailor, Craig and Byron Ahn. In preparation. *The Voices in our Heads*. UCLA, *ms*.
- Schäfer, Florian. 2008. Two types of external argument licensing: the case of causers. Presented at the Thiry-First Annual Colloquium of Generative Linguistics in the Old World.
- Stroik, Thomas. 1995. On middle formation: A reply to Zribi-Hertz. *Linguistic Inquiry* 26.165–171.
- Zribi-Hertz, Anne. 1993. On Stroik's analysis of English middle constructions. *Linguistic Inquiry* 24.583–589.

APPENDIX

A. Distinct Middle Voice Morphology

Middles can exhibit distinct morphology from actives and passives in some languages:²⁴

Hebrew (examples from Doron 2003)

- 1) a. Dani gihec et-ha-xulca *Active*
Dani iron.INTNS.ACT ACC-the-shirt
“Dani ironed the shirt.”
- b. ha-xulca lo hitgahaca *Middle*
the-shirt not iron.INTNS.MID
“The shirt didn’t iron.”
- c. ha-xulca lo gohaca *Passive*
the-shirt not iron.INTNS.PASS
“The shirt wasn’t ironed.”

However, as is the case with English, there may syncretism with other voice morphology. While in English middles are homophonous with actives, Greek middles are syncretic with passives:

Greek (adapted from Alexiadou et al. 2006 and Alexiadou & Doron 2007)

- 2) a. o Janis katastraf-i to hirografo (Greek Active)
the Janis destroy-ACT the manuscript
Janis destroys the manuscript
- b. to hirografo katastraf-ike (Greek Middle)
the manuscript destroy-NACT
The manuscript (got) destroyed
- c. to hirografo katastraf-ike apo tin ipalilo (Greek Passive)
the manuscript destroy-NACT by the employee
The manuscript was destroyed by the employee

B. VoiceP is not a notational variant of vP

Evidence for a distinction between VoiceP and vP can be found in recent work arguing that both projections can be required within a single derivation (on the assumption that VoiceP is a verbal shell; Pytkänen 2002, Harley 2007, Schäfer 2008, iter alia).

Harley (2007), for example, shows that distinguishing VoiceP from vP finds support in the independence of causation and agentivity her data from Hiaki applicative-causative constructions.

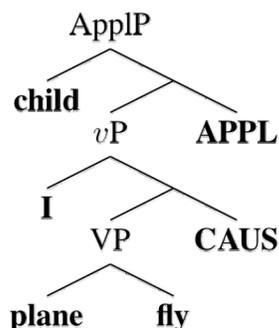
- 3) Nee usi-ta avion-ta ni’i-tua-ria-k
I child-acc plane-acc fly-CAUS-APPL-PRF
“I [[made the (model) plane fly] for a child].” (Harley 2007)

²⁴ In some languages, actives and middles are marked the same (English), while in other languages, passives and middles are marked the same (Greek) – see Alexiadou & Doron (2007) and appendix.

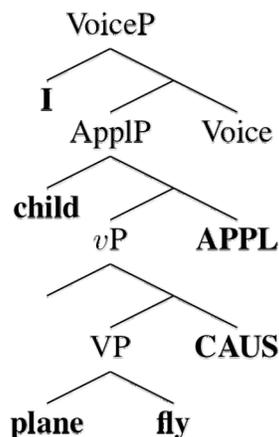
This features CAUS-APPL morpheme ordering, suggesting (by the Mirror Principle) that the applicative head is higher in the structure than the causative head (v^0), and that the applicative argument *usi* “child” is introduced in that higher position.

If we naively assume that external arguments are generated in vP , then we would expect the higher applicative argument to c-command the external argument, as demonstrated by the structure in (4).

4)



5)



However, such an analysis would be counter to fact: although the applicative attaches to a causative verb, the external argument c-commands the applicative argument, implicating the necessity of a structure like (5).

C. Eventive Middles

- 6)
 - a. Spam **sold** faster than we could restock it yesterday.
 - b. This poem by Catullus **is translating** quite easily.
- 7)
 - a. This extra-long bed sleeps tall people comfortably; in fact, last night, it **slept** Yao Ming without any problems
 - b. Thomas will make a good janitor; I know this because his father **made** an outstanding janitor.
 - c. The cotton shirts **ironed** quickly, but the silk shirts **didn't iron** at all.

D. Not just quantified DPs for the Accommodation Construction (contra Her)

- 8)
 - a. A bed this size can sleep Fat Albert (so it can definitely sleep the average couple).
 - b. This clown car seats the entire circus with room to spare.
 - c. zhè jiān xiǎowū shuì jùrén.
 this CL cabin sleep giant
 ‘This cabin sleeps giants.’

E. The “object” in the *make* construction is a predicate

Doron (1988) points out that a DP can be *predicational* (as a predicate nominal) or *referring*, with only the latter being possible with a non-restrictive relative clause. Take as examples “the/an organized janitor” a below:

- 9) a. * Thomas is [an organized janitor], who I described. *Predicational DP*
b. Thomas is [the organized janitor], who I described. *Referring DP*

In this way, though the DP after *make* seems like an object, it actually acts more like a *predicational DP*. Using *make* with a referring DP is out:

- 10) a. Thomas {makes/is} [an organized janitor]. *Predicational DP*
b. Thomas {*makes/is} [the organized janitor]. *Referring DP*

Our structure for the *make* construction (23) reflects the fact that the DP is predicational: [*Thomas a great janitor*] is underlyingly a small-clause constituent.

Further evidence that *make* requires a predicational DP comes from the fact that *make* is never licit with a non-restrictive relative modifying the lower DP:

- 11) a. * Thomas makes [an organized janitor], who I described. *Predicational DP*
b. * Thomas makes [the organized janitor], who I described. *Referring DP*

F. *Make* and *be* have different properties

Make as used in (12) can only assert that Chris is personable (for a) IT manager – in other words, Chris’ being an IT manager seems to be a presupposition. This is different from using *be*, which additionally allows for an interpretation where Chris’ being an IT manager is also being asserted.

- 12) a. Chris makes a personable IT manager.
b. Chris is a personable IT manager.

Perhaps similarly, *make* cannot be used when there is no construable interpretation of what it would mean to be [ADJECTIVE for a NOUN], as is the case in (7) where one has no expectations of an IT manager’s height:

- 13) a.#? Chris makes a short IT manager.
b. Chris is a short IT manger.

G. Varying degrees of necessary modification

Most canonical middle (as well as *accommodation*) constructions are improved by the use of a predicate adverb:

- 14) a. Bureaucrats bribe ?(easily).
 b. This bed sleeps Yao Ming ?(comfortably).

As Keyser and Roeper (1984) mention in a footnote, such predicate modification is not required. Focus also seems to greatly improve middles without predicate adverbs.

- 15) a. (I don't know about John, but) BUREAUCRATS bribe (easily).
 b. (I don't know about that bed, but) THIS BED sleeps Yao Ming (comfortably).

However, *make* constructions necessitate predicate modification. (Recall that the predicate is a nominal predicate, and thus predicate modifiers are adjectives, not adverbs.)

- 16) a. (I don't know about John, but) BUREAUCRATS make good fathers.
 b.##(I don't know about John, but) BUREAUCRATS make fathers.

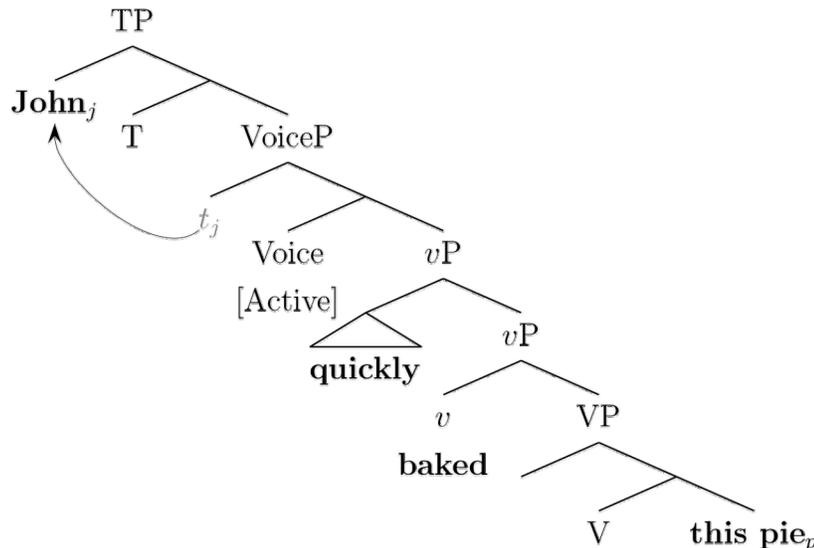
It is not clear why focus fails to improve *make* when there is no predicate modification.

H. A VoiceP analysis of other voices

Recall that there are no voice transformations in monoclausal configurations. That is to say, a passive is not a special transformation of an active clause – rather, all voices have different featural and selectional properties (see Sailor and Ahn in preparation).

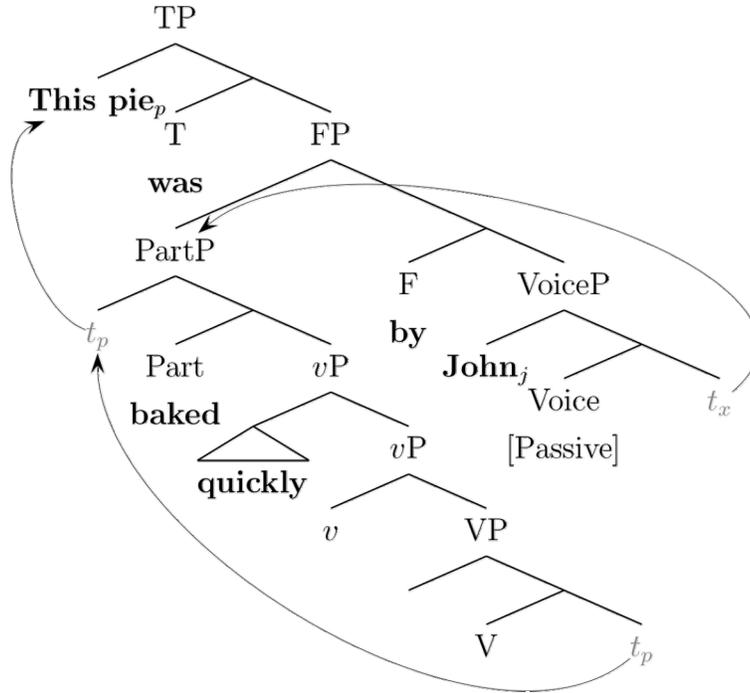
An [Active] Voice⁰ always introduces a phonologically overt external argument:

- 17) John quickly baked this pie.



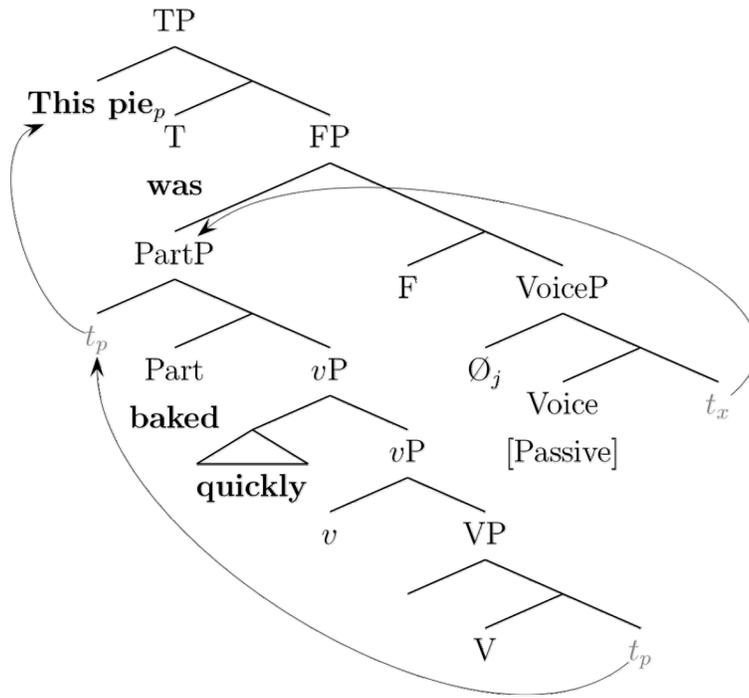
A [Passive] Voice⁰ always introduces an external argument, which may be phonologically overt (long passive, 18)) or phonologically null (short passive, 19)):²⁵

18) This pie was baked quickly by John



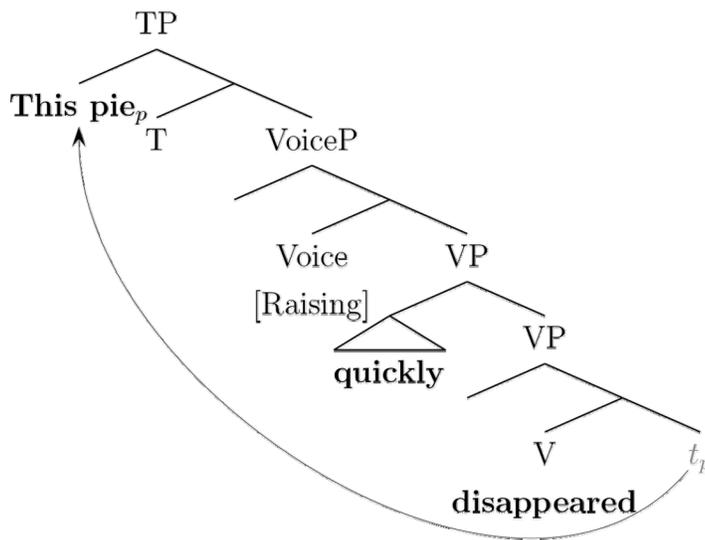
²⁵ We use FP here to be faithful to Collins' (2005a) analysis, where *by* does not form a unique constituent with the external argument underlyingly. We suggest that this configuration is actually derived: [Passive]_i, spelled out as *by*, is forced to move up to F⁰ once its specifier is filled, to avoid a doubly-filled COMP (p.c. Harold Torrence). On F⁰, it then triggers smuggling. An alternative analysis involves multiple specifiers on VoiceP, the higher of which hosts the smuggled vP, and the lower of which hosts a phase containing *by John*. See Sailor & Ahn (in preparation).

19) This pie was baked quickly



Finally, structures without an external argument or any obligatory vP-fronting are what we have called the [Raising] Voice.²⁶

20) This pie quickly disappeared



²⁶ Raising structures with experiencer phrases may require more structure with smuggling; cf. Collins (2005b).

I. Accommodation constructions in Chinese

Her (2009) notes the existence of “inverted” structures in Chinese, whose apparent subjects bear internal argument theta roles (e.g. patient), and whose apparent objects can bear external argument theta roles (e.g. agent):

Accommodation constructions in Chinese (Her 2009)

- (28) a. zhe jian xiaowu shui juren.
this CL cabin sleep giant
‘This cabin sleeps giants.’
- b. Yi bao yan xi shi ge ren.
One pack cigarette suck ten CL person
‘One pack of cigarettes allows the smoking by ten people.’

We treat the English equivalents of such constructions in section 4.