

# Voice and Ellipsis

*Jason Merchant*

Elided VPs and their antecedent VPs can mismatch in voice, with passive VPs being elided under apparent identity with active antecedent VPs, and vice versa. Such voice mismatches are not allowed in any other kind of ellipsis, such as sluicing and other clausal ellipses. These latter facts appear to indicate that the identity relation in ellipsis is sensitive to syntactic form, not merely to semantic form. The VP-ellipsis facts fall into place if the head that determines voice is external to the phrase being elided, here argued to be vP; such an account can only be framed in approaches that allow syntactic features to be separated from the heads on which they are morphologically realized. Alternatives to this syntactic, articulated view of ellipsis and voice either undergenerate or overgenerate.

*Keywords:* sluicing, ellipsis, voice, verb phrase ellipsis

The conditions that regulate the distribution of ellipsis have long held a central place in linguistic theory because of the possibility they raise for shedding light on fundamental questions about the form-meaning mapping. Various theories in the last four decades have used elliptical constructions as testing grounds for exploring the nature of the various posited components of the grammar, both syntax-phonology interactions and syntax-semantic ones. Elliptical phenomena were, and continue to be, a central point in the debate over the nature of linguistic representations as well. Broadly speaking, two strands are distinguishable: those that take ellipsis to be entirely a semantic phenomenon, and those that posit that ellipsis is sensitive to syntactic form (either in lieu of semantic form or as a supplement to it). The question is important because how it is answered has straightforward implications for the fundamentals of linguistic theory. If syntactic form is implicated, grammar formalisms that eschew unpronounced syntactic structures must be amended

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The paper published here was originally completed in 2007. It did not seem wise to try to update it to take into account all the more recent developments in the literature on these matters (though see Chung 2013 for a recent approach and references); and because the facts it presents and the basic structural analysis it gives have been cited in the interim, it seems better in the interests of scholarship to present it essentially as originally written, with minimal changes.

or abandoned, and grammars must countenance a degree of abstractness in their representations that at first sight may appear to be at odds with folk intuitions about the structure of phrases and clauses.

It is in this light that the contrasts between voice mismatches in varying kinds of ellipses loom large. Deviance from identical values for voice on a verbal head can occur in VP-ellipses in English, but not in other elliptical structures (sluicing, fragment answers, gapping, stripping, and pseudogapping). The generalization that emerges is that when the target of ellipsis is a small amount of structure, such as a VP, mismatches in voice appear to be possible, but when more structure is targeted, as in sluicing and the like, no voice mismatch is allowed.

Section 1 of the article presents in detail the data underlying these empirical assertions. Sections 2 and 3 then present an analysis of these data in terms of the size of the elided constituent, crucially turning on the question of whether the head that determines voice is or is not included in the ellipsis site. Voice mismatch turns out to be an illusion: the identity relation that regulates ellipsis does not tolerate differences in value for the feature Voice. It is only apparently the case that voice mismatch occurs with VP-ellipsis, because the head bearing the syntactic feature that determines the voice morphology on the verb is external to the verbal projection targeted by ellipsis. When this voice head is internal to the elided projection, apparent voice mismatch is seen to be impossible.

## 1 Voice Mismatch Tolerance in Ellipsis: The Data

### 1.1 Low/Little Ellipsis: Voice Mismatches Possible

It is a well-established fact that mismatches in the voice of an elided verb phrase and that of its antecedent are tolerated, provided that certain discourse relations hold (see Kehler 2002 for discussion of this further requirement). This holds both for antecedents in the active voice with elided passive verbs and vice versa. The examples in (1) and (2) are typical (see Sag 1976, 2006, Tanenhaus and Carlson 1990, Dalrymple, Shieber, and Pereira 1991, Hardt 1993, Fiengo and May 1994, Johnson 2001, Kehler 2002, Arregui et al. 2006, Frazier and Clifton 2006, Kertz 2010, Kim et al. 2011, and SanPietro, Xiang, and Merchant, to appear, for further examples, discussion, and very important qualifications regarding the relative acceptability of various pairings). In these examples, I indicate the understood ellipsis with added material in angled brackets following the example itself.

(1) *Active antecedent, passive ellipsis*

- a. The janitor must remove the trash whenever it is apparent that it should be. <removed>
- b. It engaged them in a way that I did not think they could be that early in the morning. <engaged><sup>1</sup>

<sup>1</sup> Barbara Hagerty, "A pulpit for the masses," National Public Radio, 7 February 2012.

- c. “No-one can hypnotize me.”  
 “Usually the people who are certain they can’t be are the easiest to do it to.”  
 ⟨hypnotized⟩<sup>2</sup>
- d. . . . there was really no one at the meeting who could answer the question the way it should be. ⟨answered⟩<sup>3</sup>
- e. [Prison guards deserve their good salaries] Proposing to reduce their numbers to save money would be endangering them even more than they are. ⟨endangered⟩<sup>4</sup>
- f. Actually, I have implemented it [= a computer system] with a manager, but it doesn’t have to be. ⟨implemented with a manager⟩<sup>5</sup>
- g. Steve asked me to send the set by courier through my company insured, and it was. ⟨sent by courier through my company insured⟩<sup>6</sup>
- h. “Nevertheless, I shouldn’t have brought you into this.”  
 It seems I already am, thought the piano tuner, but he was silent. ⟨brought into this⟩<sup>7</sup>
- i. I was disappointed that the author did not include as a source Polish-American Jesuit Walter Ciszek, who spent 23 years in Stalin’s prisons and camps, although the memoirs of American Alexander Dolgun are. ⟨included⟩<sup>8</sup>
- j. We also use the xpdf package in our examples, so you may want to install that now if it isn’t already. ⟨installed⟩<sup>9</sup>

(2) *Passive antecedent, active ellipsis*

- a. The system can be used by anyone who wants to. ⟨use it⟩
- b. A: Has this ever been tested?  
 B: There’s never been a reason to. ⟨test it⟩
- c. Curacao lies outside the hurricane belt, but can still occasionally be smitten by hurricanes, as for example Omar did in 2008. ⟨smite it⟩<sup>10</sup>
- d. ‘Slippery slope’ arguments can be framed by consequentialists (though I wouldn’t in this case). ⟨frame a slippery slope argument⟩<sup>11</sup>
- e. This obviously has never been faced or solved properly before and somehow we have to. ⟨solve it properly⟩<sup>12</sup>

<sup>2</sup> David Baldacci. 2007. *Simple genius*. New York: Grand Central, p. 300.

<sup>3</sup> “Member comments.” *Evergreen*, Newspaper of the Hyde Park Cooperative Society, Vol. 60.2, February 2007.

<sup>4</sup> Letter to the editor. *San Jose Mercury News*, 24 June 2004; cited in Sag 2006:2, (10).

<sup>5</sup> Kehler 2002:53.

<sup>6</sup> Kehler 2002:53.

<sup>7</sup> Daniel Mason. 2002. *The piano tuner*. New York: Vintage, p. 131.

<sup>8</sup> [www.amazon.com/Gulag-History-Anne-Applebaum/dp/1400034094/](http://www.amazon.com/Gulag-History-Anne-Applebaum/dp/1400034094/); accessed 27 March 2009.

<sup>9</sup> Thanks to Jim McCloskey for supplying this example.

<sup>10</sup> [en.wikipedia.org/wiki/Curacao](http://en.wikipedia.org/wiki/Curacao); accessed 5 July 2010.

<sup>11</sup> Richard Dawkins. 2006. *The God delusion*. New York: Houghton Mifflin, p. 293.

<sup>12</sup> Richard Williams, “Memo to all animators, *Who framed Roger Rabbit?*, Re: eye lines.” August 1987.

- f. The members are, technically speaking, separate lexemes since partly idiosyncratic morphological changes mark the verbal forms, and must therefore be listed separately in any truly informative dictionary, as indeed Jacobson's dictionary does. ⟨list them⟩<sup>13</sup>
- g. This guy's tape obviously should be scrutinized more than you did. ⟨scrutinize it⟩<sup>14</sup>
- h. [The Watch was] Bad food, eaten when you could. ⟨eat it⟩<sup>15</sup>
- i. This information could have been released by Gorbachev, but he chose not to. ⟨release it⟩<sup>16</sup>
- j. This problem was to have been looked into, but obviously nobody did. ⟨look into this problem⟩<sup>17</sup>
- k. Please read the message, phrased better than I could, below, as we look for respondents for a workshop with Prof Michael Fishbane. ⟨phrase it⟩<sup>18</sup>

In earlier investigations, it was usually claimed that voice mismatches were *not* possible in VP-ellipsis. A representative claim is that of Sag (1976:17), who gives the examples in (3), reproduced here with the judgments he reports.

- (3) a. \*Paul denied the charge, but the charge wasn't by his friends.
- b. \*John had observed many of the enemy's soldiers, but hadn't been by them.

These examples are indeed unacceptable, but they are not representative of the full class of relevant data. Sag himself notes counterexamples in his footnote to the above example (Sag 1976: 75n2). This footnote is worth quoting in full.

- (4) Although this observation [that voice mismatches are unacceptable] is surely in general correct, I have nevertheless noted the following peculiar examples of VPD [VP-deletion] ignoring the difference between active and passive.

- (i) Botanist: That can all be explained.

      Mr. Spock: Please do.

- (ii) It should be noted, as Dennett does, that . . . (Lust (ms.))

Also note the following general type of discourse:

- (iii) Speaker A: Someone mugged Tom yesterday.

      Speaker B: Oh yeah?

      Speaker C: You know, the same thing happened to Mary.

      Speaker B: Wow!

      Speaker A: You know, now that I think of it, Sandy was, too.

<sup>13</sup> Anthony C. Woodbury, "Counting Eskimo words for snow: A citizen's guide." Ms., University of Texas at Austin, July 1991; accessed at [www.princeton.edu/~browning/snow.html](http://www.princeton.edu/~browning/snow.html), 29 April 2007.

<sup>14</sup> Director's commentary. *King of Kong*, 2007, 00:52:59.

<sup>15</sup> Terry Pratchett. 1996. *Men at arms*. New York: HarperTorch, p. 47.

<sup>16</sup> Hardt 1993:37.

<sup>17</sup> Kehler 2002:53.

<sup>18</sup> Thanks to Jerry Sadock for forwarding me this example.

This last kind of discourse, which I suspect is rather common, probably shows more about memory (or processing) than it does about grammar. It's clear that there is much more going on here than can be explained at the moment.

What seems to be going on here is that Sag's original examples involve pseudogapping, a special subcase discussed in detail in Merchant 2009. In pseudogapping, as Stump (1977) originally noted, voice mismatches are indeed generally impossible; such examples contrast in this respect with examples of VP-ellipsis *tout simple* (though see Tanaka 2011b for important qualifications). The examples in Sag's footnote are in fact the more representative ones, and show that voice mismatches in VP-ellipsis are found and must be accounted for.<sup>19</sup>

### 1.2 High/Big Ellipses: No Voice Mismatches Possible

It has not previously been systematically observed, however, that larger ellipsis types are much more resistant to voice mismatches. In sluicing, fragment answers, gapping, and stripping, the elided material and the antecedent phrase must match in voice.

Examples of voice mismatch in sluicing were to my knowledge first discussed in Merchant 2001, and recent years have seen a number of contributions to the literature on this topic, especially Chung 2006, 2013, and Tanaka 2011a,b, which build on the present article. The data are given here for English and for German; German shows the contrasts particularly clearly, since it marks the relevant case morphologically (nominative indicates the subject of an active transitive clause).

#### (5) *English*

- a. \*Joe was murdered, but we don't know who.
- b. \*Someone murdered Joe, but we don't know who by.

#### (6) *Illicit German voice mismatches, intended nonsubject correlate: act<sub>A</sub> ↔ pass<sub>E</sub>; pass<sub>A</sub> ↔ act<sub>E</sub>*

- a. \*Erika hat jemanden ermordet, aber sie wissen nicht, wer.  
Erika has someone murdered but they know not who.NOM  
(Lit. 'Erika murdered someone, but they don't know who.')

<sup>19</sup> Voice mismatches are also found with other kinds of VP-anaphora, such as *do so*, as in (i)–(iii); see Dalrymple, Shieber, and Pereira 1991, Kehler and Ward 1999, and especially Houser 2010 for many more examples.

- (i) On stage they have often ridiculed that idea by comparing it to songs such as "The Star-Spangled Banner" that could also be construed as drug songs if the listener were of a mind to do so.  
(‘Puff, the Magic Dragon.’ en.wikipedia.org/wiki/Puff\_the\_magic\_dragon; accessed 6 November 2007)
- (ii) To the extent that victory can be achieved with a minimum of personal sacrifice, the Bush administration will try to do so.  
(Ted Koppel, "The long, cost-free war." *New York Times*, 6 November 2006, p. A23)
- (iii) Apple's lawyers sent Gizmodo a letter asking that the phone be returned, and the Web site did so.  
(Brian Stelter and Nick Bilton, "Computers seized from home of blogger in iPhone inquiry." *New York Times*, 27 April 2010, p. B7)

- b. \*Peter wurde von jemandem ermordet, aber sie wissen nicht, wer.  
 Peter was by someone murdered but they know not who.NOM  
 (Lit. ‘Peter was murdered by someone, but they don’t know who.’)
- (7) *Illicit German voice mismatches, intended subject correlate: act<sub>A</sub> ↔ pass<sub>E</sub>; pass<sub>A</sub> ↔ act<sub>E</sub>*
- a. \*Jemand hat Peter ermordet, aber sie wissen nicht, von wem.  
 someone has Peter murdered but they know not by who.DAT  
 (Lit. ‘Someone murdered Peter, but they don’t know by whom.’)
- b. \*Jemand wurde von Erika ermordet, aber sie wissen nicht, wen.  
 someone was by Erika murdered but they know not who.ACC  
 (Lit. ‘Someone was murdered by Erika but they don’t know whom.’)

Parallel facts hold in fragment answers, which derive from movement of the fragment to a clause-external position followed by ellipsis of the clause (Merchant 2004, Arregi 2010, Temmerman, to appear). English cannot show the entire paradigm, since it does not reliably mark case on fragments (that is, case on fragments tends to be accusative regardless of their origin site) and since English allows preposition stranding. In other words, in a pair like *Q: Who were you sent by? A: Marcus*, we cannot be sure whether *Marcus* is the underlying object of the preposition *by* in a passive clause (corresponding to the voice of the question) or whether *Marcus* is the subject of an active clause (a potential voice mismatch). Only the possibility of pied-piping the passive *by* in an answer to a question in the active voice permits the relevant test to be carried out in English, as seen in (8).

- (8) Q: Who is sending you to Iraq?  
 A: \*By Bush.

Such confounding factors do not affect a language like German, in which fragment answer DPs bear the case assigned at their origin site, and in which preposition stranding is barred. In German, active/passive mismatches like (9a) are barred, as are passive/active mismatches like (9b).

- (9) a. Q: Wer hat den Jungen untersucht?  
 who.NOM has the boy examined  
 A: \*Von einer Psychologin.  
 by a psychologist.DAT  
 Q: ‘Who examined the boy?’  
 A (intended): ‘(He was examined) by a psychologist.’
- b. Q: Von wem wurde der Junge untersucht?  
 by who.DAT was the boy examined  
 A: \*Eine Psychologin.  
 a psychologist.NOM  
 Q: ‘Who was the boy examined by?’  
 A (intended): ‘A psychologist (examined him).’

Gapping similarly does not tolerate voice mismatches, as noted by Stump (1977) and Johnson (1996, 2009) (who also notes that gapping in general is much less tolerant of mismatches than VP-ellipsis or sluicing; this follows from his analysis of these as instances of across-the-board movement, not ellipsis).

- (10) a. \*Some bring roses and lilies by others.  
 b. \*Lilies are brought by some and others roses.

It comes as no surprise, then, that stripping or bare argument ellipsis, commonly analyzed as a subspecies of gapping, also fails to allow voice mismatch. Again, because of the case and preposition-stranding properties of English, the possibility of examples like *The roses were bought by MAX on credit, not AMY* shows nothing, since nothing can guarantee that *AMY* in such an example is the subject of an elliptical active clause, and is not the object of an elided passive *by*. German again shows that once these potential confounds are controlled for, it is clear that voice mismatch in stripping is disallowed.

- (11) *Stripping/Bare argument ellipsis*  
 a. \*MAX brought the roses, not by AMY!  
 b. \*Der Junge wurde von einer Psychologin untersucht, und ein  
 the boy was by a psychologist.DAT examined and a  
 Kinderarzt auch.  
 pediatrician.NOM too  
 (On the intended reading:) ‘The boy was examined by a psychologist, and a pediatrician examined him, too.’

All of the examples in this section would be irrelevant to the theory of ellipsis if their ill-formedness could be attributed to some other component; the most likely candidates would be some more general constraints on connected discourse sequences or more specific constraints on focus across discourse-trees. Such constraints certainly exist, and have been investigated by, among others, Lambrecht (1994), Kehler (2002), and Büring (2003). As always, it is therefore crucial to compare the above examples from sluicing, fragment answers, gapping, and stripping with their putative nonelliptical counterparts. If general principles of discourse well-formedness or specific principles of focus were to rule out voice switches among such clauses, then the elliptical cases would simply form a proper subdomain of the application of such principles, and nothing about the nature of ellipsis itself could be gleaned from the attested contrasts.

The following examples, from English and from German as necessary, provide the relevant controls. All produce well-formed discourses, despite the voice switch. While these may not be ideal or even optimal discourse sequences, their status is significantly better than that of their elliptical counterparts above.

- (12) *Nonelliptical counterparts to sluicing: English*  
 a. Joe was murdered, but we don’t know who murdered Joe.  
 b. Someone murdered Joe, but we don’t know who Joe was murdered by.

- (13) *Nonelliptical counterparts to sluicing: German*
- a. Erika hat jemanden ermordet, aber sie wissen nicht, wer von ihr ermordet wurde.  
Erika has someone murdered but they know not who.NOM by her murdered was  
'Erika murdered someone, but they don't know who was murdered by her.'
- b. Peter wurde von jemandem ermordet, aber sie wissen nicht, wer ihn ermordet hat.  
Peter was by someone murdered but they know not who.NOM him murdered has  
'Peter was murdered by someone, but they don't know who murdered him.'
- c. Jemand hat Peter ermordet, aber sie wissen nicht, von wem er ermordet wurde.  
someone has Peter murdered but they know not by who.DAT he murdered was  
'Someone murdered Peter, but they don't know who he was murdered by.'
- d. Jemand wurde von Erika ermordet, aber sie wissen nicht, wen sie ermordet hat.  
someone was by Erika murdered but they know not who.ACC she murdered has  
'Someone was murdered by Erika, but they don't know who she murdered.'
- (14) *Nonelliptical counterparts to fragment answers*
- a. Q: Who is sending you to Iraq?  
A: I'm being sent by Bush.
- b. i. Q: Wer hat den Jungen untersucht?  
who.NOM has the boy examined  
A: Er wurde von einer Psychologin untersucht.  
he was by a psychologist.DAT examined  
Q: 'Who examined the boy?'  
A: 'He was examined by a psychologist.'
- ii. Q: Von wem wurde der Junge untersucht?  
by who.DAT was the boy examined  
A: Eine Psychologin hat ihn untersucht.  
a psychologist.NOM has him examined  
Q: 'Who was the boy examined by?'  
A: 'A psychologist examined him.'
- (15) *Nonelliptical counterparts to gapping*
- a. Some bring roses and lilies are brought by others.  
b. Lilies are brought by some but others bring roses.
- (16) *Nonelliptical counterparts to stripping/bare argument ellipsis*
- a. MAX brought the roses—they weren't brought by AMY!



- b. Der Junge wurde von einer Psychologin untersucht, und ein Kinderarzt  
 the boy was by a psychologist.DAT examined and a pediatrician.NOM  
 hat ihn auch untersucht.  
 has him too examined  
 ‘The boy was examined by a psychologist, and a pediatrician examined him, too.’

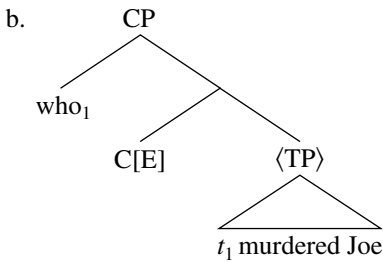
In sum, voice mismatches are ruled out in all cases of ellipsis other than VP-ellipsis, and this fact must be derived from the theory of ellipsis itself.

## 2 Triggering Ellipsis

Ellipsis of a phrase XP is subject to two major requirements, known as the *licensing* requirement and the *identification* requirement, following Lobeck (1995). The first term refers to the local, idiosyncratic syntactic features of a head that ‘licenses’ the ellipsis (see Johnson 2001 for an exemplary discussion of the licensing requirements for VP-ellipsis, and Winkler 2005 and Aelbrecht 2010 for important related points). For VP-ellipsis, this requirement usually reduces to the claim that a missing VP must be locally c-commanded by a T node (hosting an auxiliary of some sort, including *do*, or *to*, or the null T found with negation in embedded subjunctives). For sluicing, the licensing head is the complementizer found in constituent questions in English. These requirements can be implemented as structural conditions on a transformation (as in Sag 1976), as a kind of Empty Category Principle–like filter (as in Lobeck 1995 and Johnson 2001), as *sui generis* restrictions on phrase structure rules or constructions (as in theories like those proposed in Ginzburg and Sag 2000 or Culicover and Jackendoff 2005), but none of these alternatives are particularly palatable in the more ontologically restrictive theories under the Minimalist umbrella, in which the locus of all variation is posited to be the lexicon. Taking this lexicalist idea seriously requires us to posit a lexical feature or family of features that can encode these requirements. Such an approach is developed in Merchant 2001, 2004, Van Craenenbroeck and Lipták 2006, Vicente 2006, Ha 2008, Toosarvandani 2009, Aelbrecht 2010, Van Craenenbroeck 2010, and Temmerman, to appear, among others: in this analysis, the English lexicon contains a feature E that must be merged with an appropriate head (certain Ts or auxiliary v’s for VP-ellipsis, C[+wh, +Q] for sluicing), because of its morphosyntactic deficiency (much in the spirit of certain analyses of clitics). For example, in its simplest instantiation, the E-feature that occurs in sluicing will be joined with the C, notated C[E], and will trigger the nonpronunciation (‘PF deletion’) of its complement, TP. This is illustrated in the tree in (17), where angled brackets enclose the TP node, which fails to undergo lexical insertion because of the effects of the E-feature on its sister; this can be viewed as a kind of morphosyntactic syncope of the PF-relevant features of the complement.<sup>20</sup>

<sup>20</sup> A reviewer asks the important question whether there is a relevant difference between conceiving of ellipsis as failure to pronounce at the PF interface and conceiving of it as failure of lexical insertion (in a Distributed Morphology view of the derivation, for example). For the contrasts analyzed here, we can remain agnostic, but see Baltin 2012 for arguments that these views may not be equivalent in all guises.

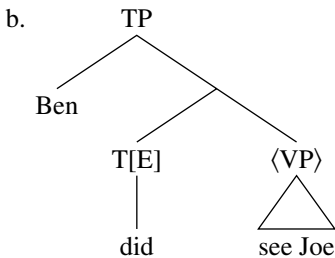
(17) a. Someone murdered Joe, but we don't know who.



Syntactically, on this view, the elided material is fully present in the derivation, both before and after Spell-Out, and indeed in sluicing contains the trace of the fronted *wh*-phrase in Spec,CP (the origin and properties of which require additional analysis on approaches that eschew syntactic structure inside the ellipsis site; see Van Craenenbroeck 2010 for a review of the arguments for and against this position).

For VP-ellipsis, on a widespread version of an endocentric clause structure, E would be on T, yielding the structure in (18b).

(18) a. Abby didn't see Joe, but Ben did.



In sluicing, then, a larger amount of structure is elided, while in VP-ellipsis, a smaller amount is.

### 3 Analyzing the Uneven Distribution of Voice Mismatch

#### 3.1 *VoiceP and the Height of Ellipsis*

The empirical contrasts found in the above data are puzzling for current theories of the identity relation between an elided phrase and its antecedent. The fundamental difficulty is that voice mismatch has an *uneven distribution*: it is found in some, but not all, kinds of ellipsis. For theories that posit only semantic identity based on entailment relations (such as that of Merchant 2001) or none at all (such as inference-based theories like those of Culicover and Jackendoff 2005, Hardt 2005, and Sag 2006), the puzzle is why voice mismatches should be *disallowed* in so many cases, since active and passive clauses are mutually entailing and allow for the relevant inferences. For theories that posit syntactic identity (whether implemented as LF copy as in Fiengo and May 1994, Chung, Ladusaw, and McCloskey 1995, Fortin 2007, and others, or as the trigger of syntactic or PF “deletion” as in Sag 1976, Baltin 2012, or otherwise, as in Williams 1977) or semantic

identity using model-theoretic equivalences (as in Sag and Hankamer 1984), the puzzle is why voice mismatches are sometimes *allowed*, given that the syntax of actives and passives is not identical.

It is important to remember that mismatches in voice between similarly related *nonelliptical* clauses in discourse are permitted. Note that the improvement found in such examples cannot simply be attributed to the fact that the extra pronounced material allows the hearer to “accommodate” in some way a perhaps strictly speaking infelicitous voice switch. Such a theory is posited in Fox 2000 for unrelated examples: working within a theory of LF identity for ellipsis, Fox shows that under certain circumstances, the LF of an elided phrase marker can be nonparallel to that of its antecedent, but just in case a parallel LF can be accommodated from the nonparallel antecedent. He posits that such accommodation is possible only when the clause containing the ellipsis contains some “accommodation-seeking material” (namely, some material that would indicate that the elided clause deviates in some way from its antecedent, and triggers the accommodation of a parallel LF for ellipsis resolution). While Fox shows that such a mechanism is necessary to derive the full range of narrow scope readings inside ellipsis sites, it must not be allowed to apply to voice mismatches. Examples like (5b), repeated here in (19), could otherwise be generated; the preposition *by* in the sluiced clause could function as “accommodation-seeking material,” triggering the creation via accommodation of a passive antecedent LF to license the ellipsis of *Joe was murdered*. Theories that allow inferences to unavailable antecedents must similarly be reined in: Webber (1978), Hardt (2005), and Sag (2006), for example, propose that inferences can be used to resolve ellipsis, but that “only inferences triggered by violations are possible” (Hardt 2005: 109). Despite the violation in examples like (19), marked by *by*, such examples remain unacceptable, and, as far as I have been able to determine, unattested. (Similar remarks hold for the unexpected, and ungrammatical, morphological case in the German examples above; Hardt notes such data but leaves their account open.)

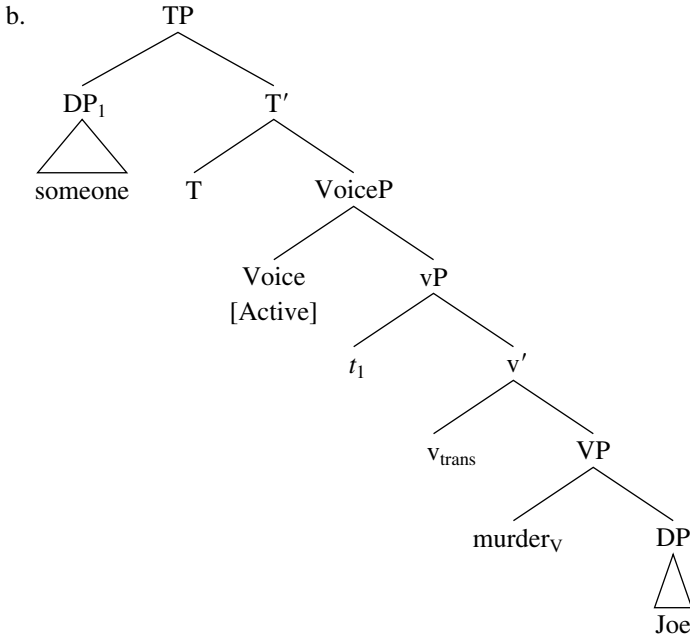
(19) \*Someone murdered Joe, but we don’t know who by. ⟨Joe was murdered⟩

The conclusion to draw, I think, is that the notion of accommodation or inferential triggering as typically conceived of in the literature cannot account for the facts involving voice mismatches.

Since theories that posit semantic or inferential equivalence as the identity condition on ellipsis overgenerate, we must look elsewhere for the solution to the distribution of voice mismatches in ellipsis. I would like to suggest that the direction of the uneven distribution points the way to the solution. In all cases, a lower node can be elided, but a higher node cannot, under the same circumstances. I take it that this fact is not accidental, and can be accounted for best if the voice morphology of a clause reflected in English on the verb is merely a morphological reflex of a syntactic agreement relation with a separate head that asymmetrically c-commands the verbal head V. This idea is commonplace since the work of Kratzer (1996), who identifies this head as *v*[Voice] and uses it to introduce external arguments. For reasons that will become clearer in section 3.3, I will follow the more recent proposal made by Collins (2005) that Voice is a separate head from the head that determines the transitivity (or unergativity or unaccusativity) of the VP, including introducing its external argument if one is present (see McCloskey 1996 for an early argument that the analysis of subjects in Irish requires two distinct low positions in the

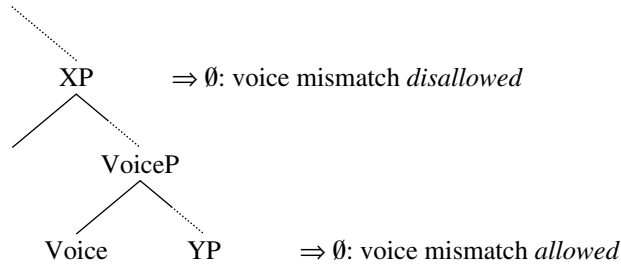
verbal extended projection, and Harley, to appear, for a recent overview and references). In other words, I adopt the proposal that the clause structure of (20a) is that given in (20b).

(20) a. Someone murdered Joe.



Various assumptions about the role of the syntax in determining the morphological form are compatible with this structure. If *v* is the locus of all relevant features, and if Voice is a morphological feature on *v* needing a value (as would be compatible with one analysis of languages like Greek and Swahili), then with head movement of the verb *murder* to the transitive  $v_{\text{trans}}$ , and with an application of Agree between Voice[Active] and the unvalued Voice[\_\_\_\_] feature on *v*, the resulting complex [murder +  $v_{\text{trans}}$ [Voice[Active]]] will be spelled out by the morphology as the active form *murdered*. On the other hand, if the participial form *murdered* simply lacks a Voice feature (as Collins (2005) proposes for English), no application of Agree is necessary and [murder + *v*] is spelled out as *murdered*. Either implementation is compatible with the analysis here.

This clausal architecture allows the desired structural distinctions to be drawn. If the identity relation between an elided phrase  $XP_E$  and its antecedent  $XP'_A$  is one of syntactic featural identity (and not morphological), then any elided Voice head will necessarily be the same (that is, have the same value for the feature Voice, Voice[{Active|Passive}]) in the elided structure and in its antecedent. On Voice, this feature is a categorial feature; as such, its value is fixed in the lexicon and cannot be altered by any process or operation (it is “interpretable” in some uses of that term). By contrast, the Voice feature on *v* is a morphological (or “inflectional”) feature that is unvalued in the numeration; its value is assigned by Agree(Voice,*v*; Voice) (where Agree is a

**Figure 1**

The basic geometry of licit versus illicit voice mismatches

relation between a head X and another head Y with respect to a categorial feature F on X and a matching morphological feature F' on Y, resulting in F's value being set to that of F).

In VP-ellipsis, then, the Voice head must not be included in the target of ellipsis. Since it is not, it is not subject to the elliptical identity requirement. In other ellipses, which target larger clausal nodes necessarily containing VoiceP, Voice will be part of the elided structure and thus subject to elliptical identity, which requires that its antecedent have the same value for the feature—namely, Active or Passive consistently. The simplest way to capture this distinction, then, is to posit that in VP-ellipsis, it is the verbal projection that is the complement to Voice that is elided, while in sluicing and the like, what is elided is a clausal node. Schematically, the basic idea is represented in the tree in figure 1: eliding a node that contains Voice, such as XP, will rule out voice mismatches, while eliding a node to which Voice is external, such as YP, will allow voice mismatches.

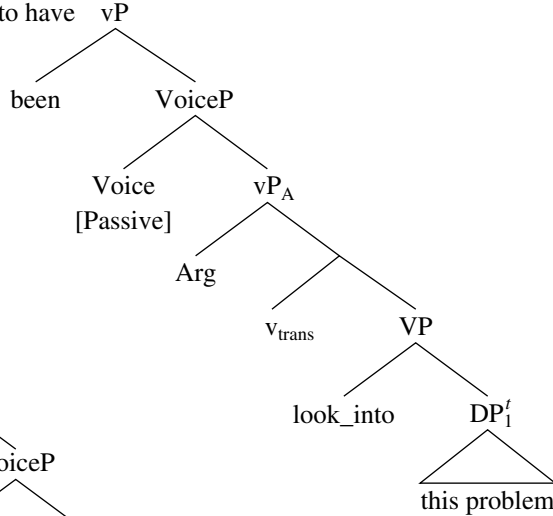
Specifically, for examples of licit voice mismatch in VP-ellipsis, such as (21a), the structural analysis is that in (21b–c). The elided VP, notated  $VP_E$  in (21c), is *look into this problem*. The antecedent VP, labeled  $vP_A$  in (21b), is identical to  $vP_E$ , assuming that movement of the underlying object into subject position leaves a copy.<sup>21</sup> Nonpronounced copies—traces, that is—I will represent either with the traditional *t* or, when it is helpful to see the content of the copy, as the phrase itself superscripted with *t*, as with  $DP^t$  in (21b). Following Baker, Johnson, and Roberts (1989), Emonds (2001), Collins (2005), and others (see Bhatt and Pancheva 2006 for a recent overview), I assume that the indefinite subject of a passive, if not expressed in a *by*-phrase, is syntactically present, here as a null indefinite argument I will express as *Arg*; it satisfies the selectional features of heads it combines with via Merge, though it is inaccessible to Move, and like all other null indefinite arguments, it takes a fixed narrow scope (see Fodor and Fodor 1980 and Mittwoch 1982 for the scopal observations, and see Lees 1963, Grinder 1976, and Gillon 2009 for discus-

<sup>21</sup> In general, the copy of a moved element in an antecedent behaves like its unmoved counterpart for the purposes of ellipsis resolution unless the moved element contrasts with a corresponding element in the clause containing the ellipsis (that is, syntactic identity is identity of phrase markers modulo focused elements whose focus alternatives are given by an element in the elided clause). I will sidestep this complication here, but see Merchant 2001 and Lipták and Griffiths 2011 for discussion.

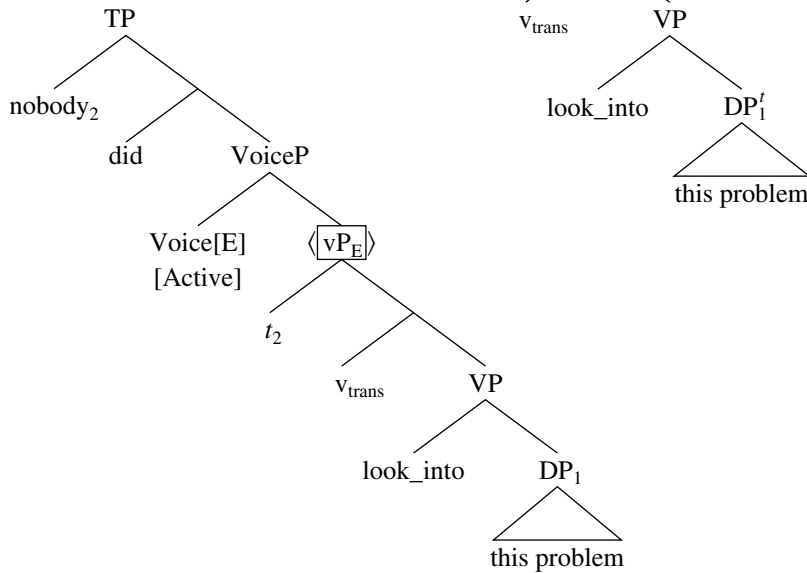
sion). While it would be simpler, and sufficient for the data seen thus far, to assume that VP, not vP, is the target of ellipsis (and thus consistent with a Kratzerian collapsing of Voice and v), we will see in section 3.3 why the more complex structure is needed.

(21) a. This problem was to have been looked into, but obviously nobody did.

b.  $[_{DP} \text{this problem}]_1$  was to have



c.

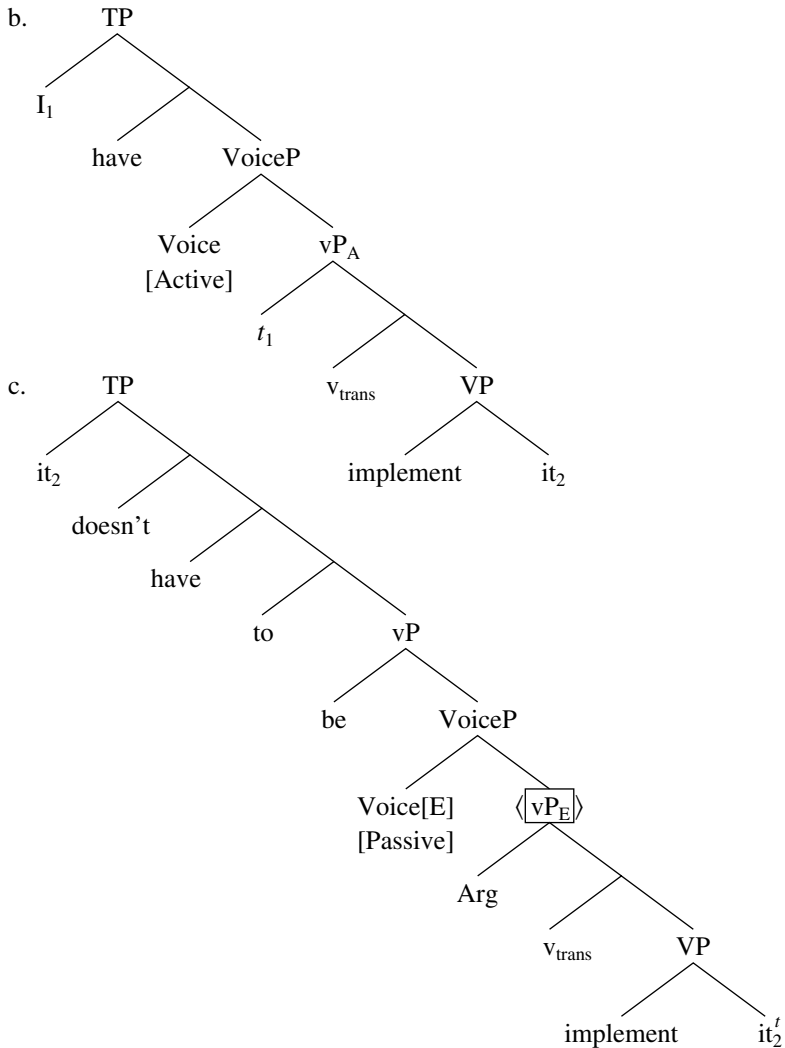


These structures shed light as well on the details of how the syntactic identity condition must ultimately be formulated. Note for the moment that while featural identity is crucial on Voice, it is not for elements that have moved out of the ellipsis site; here, for example, the vP-internal trace of the moved subject *nobody* is structurally equivalent to the unexpressed agent of the passive (Arg in Spec,vP in (21b)). The generalization is that the trace of an element moved out of an elided phrase must have a structural equivalent in the antecedent, though this correlate (here, Arg) need not be featurally identical if the differing featural content can be recovered by an element outside the ellipsis site (here, by *nobody*). The contents of traces are crucial, however, for understanding why the elided vP is understood as *look into this problem* and not simply *look*

into something or the like. Because there is no supplementary material in the elided clause that corresponds in position (or whose trace would correspond in position) to the trace of *this problem* in the antecedent clause, the content of that trace must be understood in the ellipsis site.

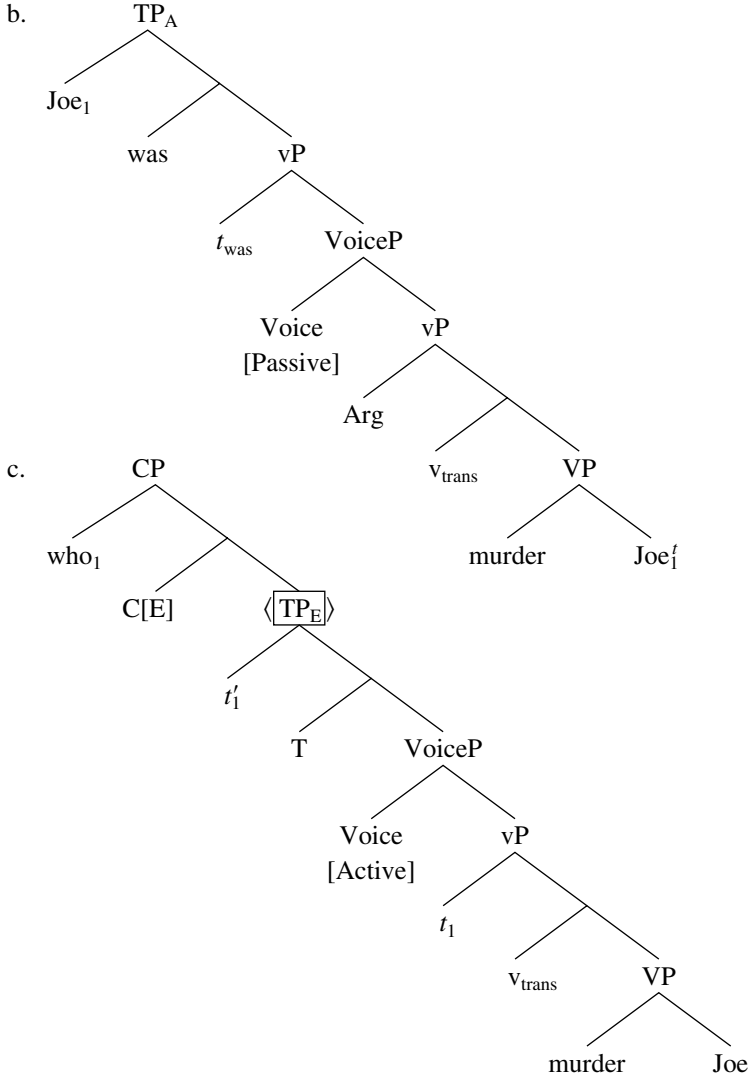
The same analysis applies when the voice mismatch is [active<sub>A</sub> : passive<sub>E</sub>], with an active antecedent and a passive elided verb phrase. In the following trees, I suppress some structural details for simplicity, such as the representation of the PP adjunct; I also assume that *have to* is a raising predicate, but avoid representing this in any detail. Of consequence here are only the structures under VoiceP.

(22) a. I have implemented it with a manager but it doesn't have to be.



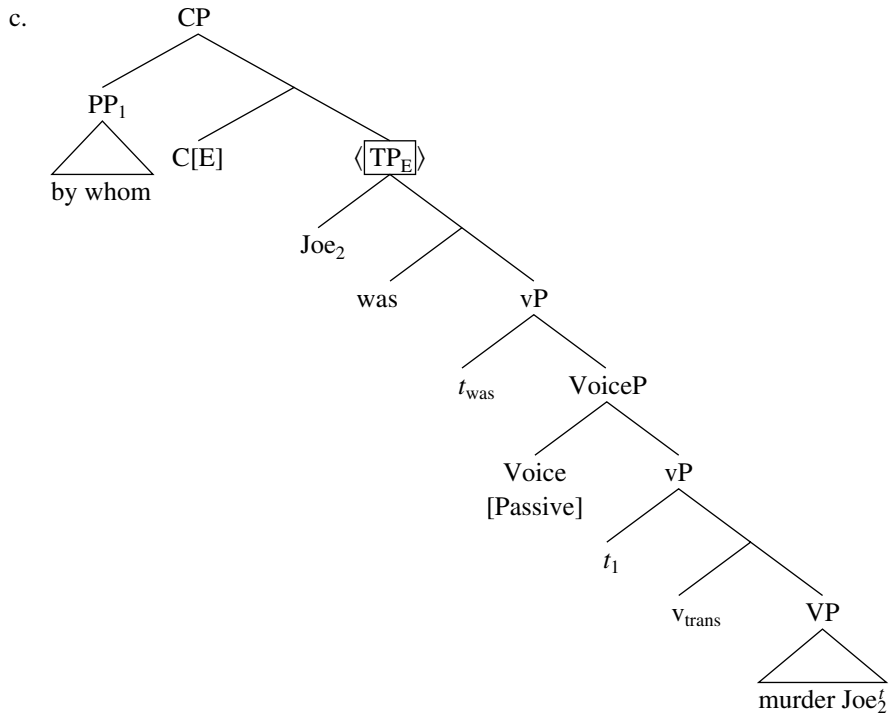
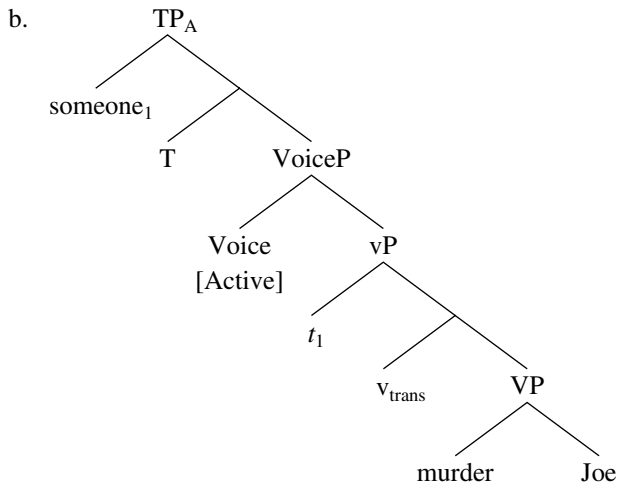
For sluicing (and the other clausal ellipses), the node targeted by ellipsis contains VoiceP; in sluicing, this node is TP. No voice mismatch will be possible, in either direction. This is shown in (23) for [passive<sub>A</sub> : active<sub>E</sub>] mismatch and in (24) for [active<sub>A</sub> : passive<sub>E</sub>].

(23) a. \*Joe was murdered (by someone), but we don't know who.





(24) a. \*Someone murdered Joe, but we don't know by whom.



It is important to note that it is impossible on this analysis to imagine a language that would be the inverse of English, allowing voice mismatches in TP, but not VP, ellipses. The fact of the uneven distribution of voice mismatches is captured by the variable height of ellipsis, and clausal ellipses will always elide more structure than VP ellipses. This negative prediction contrasts with a conceivable alternative to the above analysis framed in terms of constructions (construed as first-order objects in the ontology of linguistic description). Proponents of such construction-employing theories might simply claim that the construction of VP-ellipsis is subject to a weaker identity relation (say, the ones proposed in Culicover and Jackendoff 2005 or Sag 2006), but that the sluicing construction makes use of a different identity relation, one that is sensitive to the voice of its antecedent (when there is one). Besides the fact that there is no other known reason for positing different identity relations for the different ellipses studied here, note that such theories would be equally able to account for the “inverse” English just described.

In all such theories, voice is simply a feature on the verb (which may or may not be projected to the featural complex of that verb’s clause) and is not a separate head or projection in the syntax. There is therefore no way to separate the voice of the verb from the verb’s use in a particular structure. Only an articulated syntax in which Voice is external to the ellipsis site in “VP”-ellipsis can directly capture the uneven distribution of apparent voice mismatches across ellipsis types.

### 3.2 *VoiceP Is Crucial, Not the Passive Auxiliary*

Besides the differences in the Voice heads between the antecedents and elided phrases in the sluicing examples above, there is a difference in whether or not the auxiliary *be* occurs. One might equally take the presence of this auxiliary to be the distinguishing characteristic that rules out identity in the cases of sluicing, since its presence does indeed ensure a structural, syntactic difference between (e.g.) active antecedent TPs and elided passive TPs (assuming as I will for simplicity that it is always full TPs that are elided; see Nakao, Ono, and Yoshida 2006 and Yoshida 2010 for an importantly more complex view of the situation). While it would be consistent to follow this line of thinking for the cases examined thus far (and it would allow one to claim that voice switches in VP-ellipsis simply show that voice is irrelevant, generally), such a tack fails more generally. This can be seen, first, by noting that the facts are identical in a language that marks the passive/active distinction entirely synthetically through morphological means on the verb itself, such as Greek, and second, by the case of pseudogapping in English, in which voice mismatches are ruled out even though the auxiliary is external to the ellipsis site.

Sluicing in Greek, which shares a wide range of properties with its congeners in other languages and in English in particular (see Merchant 2000, 2001), also forbids voice mismatches between the antecedent clause and the elided one, as the examples in (25) show.

#### (25) *Illicit Greek voice mismatches*

- a. \*O Jannis skotose kapjon, ala ðen kserume pjos.  
 the Giannis.NOM killed.ACT someone.ACC but not we.know who.NOM  
 (Lit. ‘Giannis killed someone, but we don’t know who.’)

- b. \*O Jannis skotoθike, ala ðen kserume pjos.  
 the Giannis.NOM killed.PASS but not we.know who.NOM  
 (Lit. ‘Giannis was killed, but we don’t know who.’)

As always, it is crucial to compare the nonelliptical controls; these show that, while the voice switch may sometimes be dispreferred as somewhat awkward (hence the stigma “?” on (26a)), the examples are significantly more acceptable than their elided counterparts in (25).

(26) *Nonelliptical controls*

- a. ?O Jannis skotose kapjon, ala ðen kserume pjos skotoθike.  
 the Giannis.NOM killed.ACT someone.ACC but not we.know who.NOM killed.PASS  
 ‘Giannis killed someone, but we don’t know who was killed.’
- b. O Jannis skotoθike, ala ðen kserume pjos ton skotose.  
 the Giannis.NOM killed.PASS but not we.know who.NOM him.ACC killed.ACT  
 ‘Giannis was killed, but we don’t know who killed him.’

With only a synthetic active/passive in Greek, the presence or absence of an auxiliary is not at issue; the deviance must be due to the differing values on Voice itself.

Another instructive example in this respect comes from Danish, which has both a synthetic and an analytic passive, in roughly complementary distribution. As Houser, Mikkelsen, and Toosarvandani (2007) show, the voice morphology on the synthetic passive can be ignored for the purposes of licensing VP-anaphora in an analytic passive, as in the following example (their (12b)):

- (27) Jeg ved at både Palle og Susan gerne ville vælges til formand, men jeg  
 I know that both Palle and Susan happily would elect.PASS to chairman but I  
 ved ikke hvem af dem blev det.  
 know not who of them became DET  
 ‘I know that both Palle and Susan wanted to be elected chairman, but I don’t know  
 which of them was.’

These data show, as Houser, Mikkelsen, and Toosarvandani argue, that the varying realizations of passive morphology, here *-s* on *vælges* versus the participial form replaced by the VP-anaphor *det*, are irrelevant to the licensing of the anaphoric computation that allows *det* to surface, under circumstances that are not plausibly merely accidentally similar to those for VP-ellipsis in English.

That it is Voice itself at issue, and not merely the presence or absence of an auxiliary, can be seen in English pseudogapping as well, as argued in Merchant 2008a. I will not repeat those arguments here (see Tanaka 2011b for caveats), but merely note that, as a reviewer points out, the present analysis predicts that what is elided in pseudogapping should be something larger than a vP (namely, a node that is or includes VoiceP), and that this fact may well follow if the remnant in pseudogapping must be extracted from the VP by some kind of  $\bar{A}$ -movement, as is often supposed (see Takahashi 2004 for discussion and references). It is known independently

that when a binding dependency spans an ellipsis site (that is, when a binder is outside an ellipsis site and its bindee internal to it), the largest possible ellipsis site (when there are alternatives) must be chosen. Though the origins of this constraint (dubbed MaxElide in Merchant 2008b; see Takahashi and Fox 2006 and Hartman 2011 for extensions) are not understood, the constraint itself seems reasonably well-documented.

### 3.3 *Argument Structure Alternations under Ellipsis*

Argument structure alternations involve apparently different syntactic realizations of a verb's or predicate's semantic or thematic arguments. They fall into two broad classes of interest here. The first kind of alternation involves an argument appearing in some contexts as a subject of a verb (such as of an intransitive unaccusative or anticausative, as in *The ice melted*), and in other contexts as a nonsubject of the same verb (as a direct object, for example, as in *The sun melted the ice*). The second kind of argument structure alternation is between two differing kinds of internal argument expression, such as the "dative" alternation, or other kinds of direct object/prepositional object alternations (like *Max passed the ball to Sheila/Max passed Sheila the ball*). Such argument structure alternations are not found between an antecedent and an elided phrase in ellipsis of any type. If one diathesis variant is found in an antecedent phrase, then that same variant must occur in the elided phrase, under sluicing, VP-ellipsis, or any of the other ellipsis types that target clausal syntax. This fact is well-known for sluicing (see Chung, Ladusaw, and McCloskey 1995, Merchant 2001) and gapping (Johnson 1996), but it is equally true of VP-ellipsis, as for example Sag (1976), Johnson (2004), and Houser, Mikkelsen, and Toosarvandani (2007) point out. The following sections demonstrate this for each of these kinds of alternation.

*3.3.1 Subject/Nonsubject Alternations* Certain transitives (sometimes called causatives) alternate with intransitives (anticausatives or unaccusatives), in one of the best-known alternations in modern linguistics (see Perlmutter 1978 for the original observations and analysis and Alexiadou, Anagnostopoulou, and Everaert 2004 for recent approaches and references). Pairs such as the following are typical, given for English and Greek:

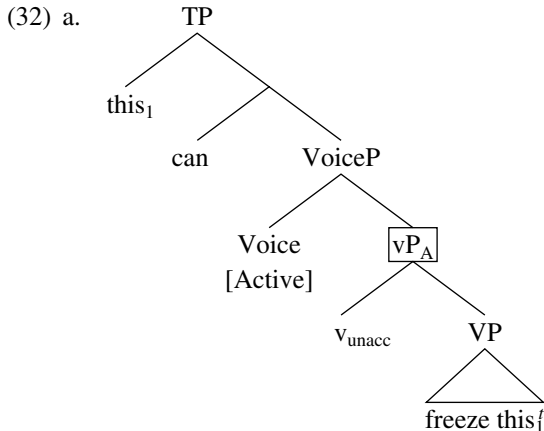
- (28) a. This can freeze. Please freeze this.  
 b. Bill melted the copper vase, and the magnesium vase melted, too.  
 c. Maria still tried to break the vase even though it wouldn't break.
- (29) a. Eklisan ena ðromo.  
 closed.3PL a.ACC road.ACC  
 'They closed a road.'  
 b. Enas ðromos eklise.  
 a.NOM road.NOM closed.3SG  
 'A road closed.'

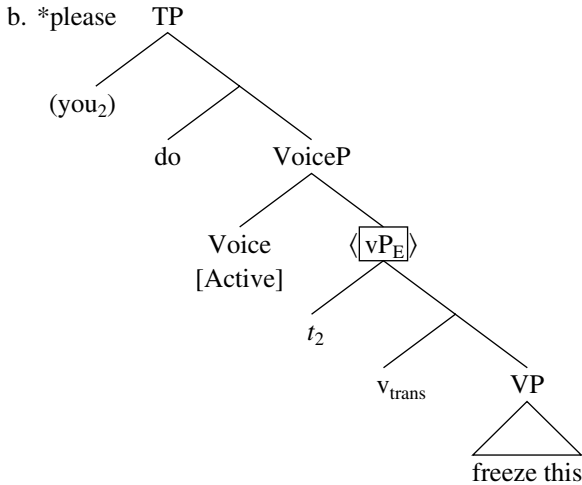
Such alternations are not found under ellipsis, however. This is illustrated in (30) for VP-ellipsis and in (31) for sluicing. The sluicing example in (31a) comes from Greek, where the case

morphology on the *wh*-phrase indicates whether the *wh*-phrase is a subject (of the unaccusative alternant) or an object (of the transitive alternant); the poor morphological case resources of English make seeing this in English impossible. A Greek control case (where the sluiced clause is transitive, and the *wh*-phrase accordingly properly marked accusative) is given in (31b).

- (30) a. This can freeze. \*Please do.  
(Johnson 2004:7)
- b. \*Bill melted the copper vase, and the magnesium vase did, too.  
(Sag 1976:160, (2.3.48))
- c. \*Maria still tried to break the vase even though it wouldn't.  
(Houser, Mikkelsen, and Toosarvandani 2007:188)
- (31) a. \*Eklisan ena ðromo, alla ðen ksero pjos. <eklise>  
closed.3PL a.ACC road.ACC but not know.1SG which.NOM closed.3SG  
(Intended: 'They closed a road, but I don't know which one (closed).')
- b. Eklisan ena ðromo, alla ðen ksero pjon. <eklisan>  
closed.3PL a.ACC road.ACC but not know.1SG which.ACC closed.3PL  
'They closed a road, but I don't know which one.'

If causatives and anticausatives/unaccusatives differ in their *v* (as Mokilese and other languages may show morphologically, and as may be required to state the selectional restrictions of the passive Voice head to capture Perlmutter's Generalization; see Legate 2003 for arguments that even unaccusatives have a *v*), then Voice takes as its complement the *v*P, which may introduce the external argument. The insightful account Johnson (2004) suggests for these cases carries over to the present system, *mutatis mutandis*: Voice selects *v*P; Voice hosts the E-feature; *v*P elides; and  $v_{\text{trans}} \neq v_{\text{unacc}}$ , so in Johnson's example (30a), the boxed *v*P<sub>A</sub> in (32a) will not license the deletion of the boxed *v*P<sub>E</sub> in (32b).





The crucial element involved in these accounts is the separation of the head that determines voice from the head that determines the external valency of the predicate. There is in fact no conceptual reason these two should go together, and the ellipsis facts argue directly against this assumption.

Another well-studied alternation involving subjects and nonsubjects is the transitive/middle alternation. In languages like English, while the morphology of the verb remains constant in the middle (namely, active), the argument realization changes.

- (33) a. They market ethanol well in the Midwest.  
 b. They sell Hyundais in Greece.  
 c. Studios generally release action films in the summer.
- (34) a. Ethanol markets well in the Midwest.  
 b. Hyundais don't sell in Greece.  
 c. This kind of movie generally releases in the summer.

No such alternations are found between antecedent~ellipsis pairs, however.

- (35) a. \*They market ethanol well in the Midwest, but regular gas doesn't.  
 b. \*They sell Hyundais in Greece because Hondas don't.  
 c. \*Studios generally release action films in the summer, and big-name comedies generally do as well.
- (36) a. \*Ethanol markets well in the Midwest, though they don't in the South.  
 b. \*Hyundais don't sell in Greece because dealers don't.  
 c. \*This kind of movie generally releases in the summer, though a studio might in the winter if it's Christmas-themed.

This follows, again, if the heads that regulate this alternation are internal to  $vP$ , under Voice. (And indeed if lexical, nonsyntactic approaches to middle formation are correct as well.)

3.3.2 *Internal Argument Alternations under Ellipsis* If internal argument alternations are regulated by syntactic heads (or even lexical rules operating on V entries) that are lower in the clausal structure than the heads that introduce external arguments, and lower than the Voice head, then we expect that all such alternations, even perfectly meaning-preserving ones, will be illicit across antecedent~ellipsis pairs. This is in fact the case. This was pointed out for sluicing in Chung, Ladusaw, and McCloskey 1995, and discussed further in Merchant 2001 and Chung 2006.

This holds for the ditransitive diathesis illustrated by *serve* in (37): as (38) shows, all combinations of the internal arguments can serve as *wh*-remnants in sluicing, but if one alternant occurs in the antecedent clause—for example, *serve*<sub>1</sub>—the same alternant must occur in the elided clause. Thus, while (38c) is possible, since *who* originates as the first object of *serve*<sub>1</sub>, in (39a), the PP *to whom* is ruled out, since *serve*<sub>1</sub>, present in the antecedent, does not license a PP complement. Any attempt to use the other alternant, *serve*<sub>2</sub>, as in (39b), fails.

- (37) a. They served<sub>1</sub> someone something.  
 b. They served<sub>2</sub> something to someone.
- (38) a. They served<sub>1</sub> the guests something, but I don't know what.  
 b. They served<sub>2</sub> something to the guests, but I don't know what.  
 c. They served<sub>1</sub> someone the meal, but I don't know who.  
 d. They served<sub>2</sub> the meal to someone, but I don't know (to) who(m).
- (39) a. \*They served<sub>1</sub> someone the meal, but I don't know to whom.  
 b. \*They served<sub>1</sub> someone the meal, but I don't know to whom ⟨they served<sub>2</sub> the meal *t*⟩.

The absence of internal argument alternations under ellipsis also holds for null argument~prepositional phrase alternations. In such cases, a stranded preposition must have a correlate in the antecedent. These facts are examined at length by Chung (2006), who concludes that the identity relation in ellipsis must be in part stated over syntactic representations.

- (40) a. Mary was flirting, but they wouldn't say with who ⟨Mary was flirting *t*⟩.  
 b. \*Mary was flirting, but they wouldn't say who ⟨Mary was flirting with *t*⟩.
- (41) a. They sent the package—find out who to ⟨they sent the package⟩!  
 b. \*They sent the package—find out who ⟨they sent the package to⟩!

This observation does not concern only stranded prepositions: object alternations that involve two different obliques are equally impossible, even when the alternating preposition is pied-piped (and hence not stranded internal to the ellipsis site in violation of elliptical identity stated over only otherwise nonnull distinct morphemes), as is the case with predicates such as *embroider*, *issue*, and *provide*. The examples in (42)–(43) illustrate this for sluicing: (42) illustrates the alternation in question (*embroider X with Y/embroider Y on X*), and (43) demonstrates that the elided phrase must contain the same alternant as the antecedent.

- (42) a. They embroidered something with peace signs.  
 b. They embroidered peace signs on something.

- (43) a. \*They embroidered something with peace signs, but I don't know what on ⟨they embroidered peace signs *t*⟩.  
 b. \*They embroidered something on their jackets, but I don't know with what ⟨they embroidered their jackets *t*⟩.  
 (On image impression reading of *with what*, not manner reading.)

The same can be seen in other elliptical phenomena, such as pseudogapping.<sup>22</sup>

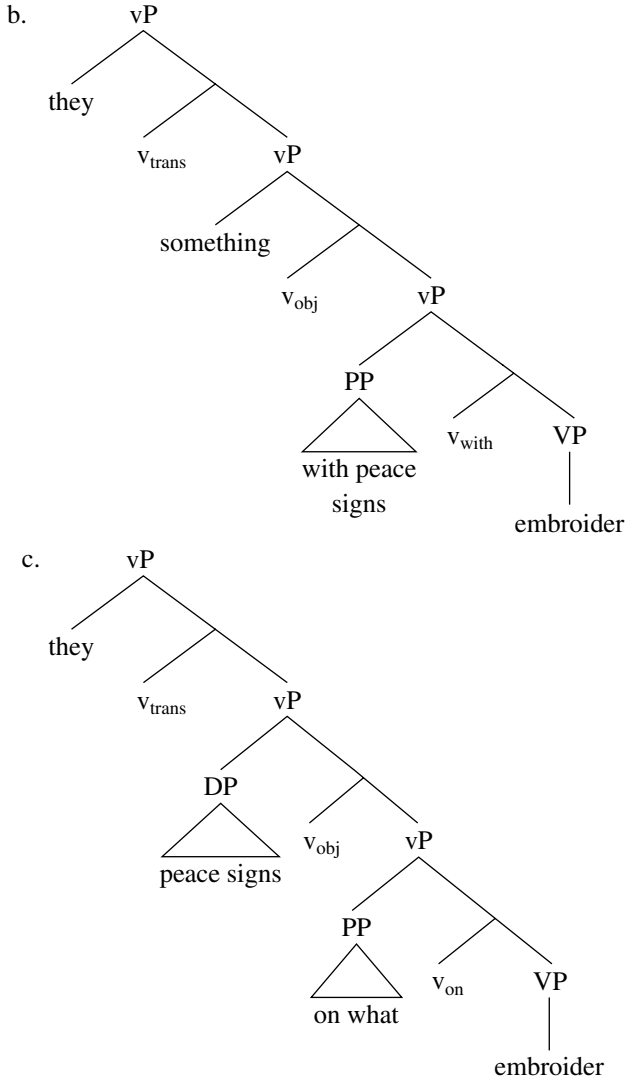
- (44) \*She embroiders peace signs on jackets more often than she does with swastikas.  
 (45) a. \*Abby flirted more often in general than Beth did ⟨flirt with⟩ Max.  
 b. ?Abby flirted with Ben more often than she did ⟨flirt with⟩ Ryan.  
 (46) a. \*He'd give Yale money more readily than he would ⟨give money⟩ to charity.  
 b. ?He'd give money more readily to Yale than he would ⟨give money to⟩ charity.

The lack of argument structure alternations (whether or not they involve stranded prepositions) follows if all such alternations reflect distinct heads in the numeration (Hale and Keyser 1993, 2002, and many later works). Here I use  $v_{trans}$  from Kratzer 1996 to introduce the external argument,  $v_{obj}$  from Jelinek 1998 to introduce the direct object (what Jelinek calls  $v_{[trans]}$ ; cf. Bowers 1993, 2002, Basilico 1998, and Hallman 2004), and  $v_P$  to introduce arguments that are marked with various prepositions, following the line of work that introduces oblique arguments as selected by “applicative”  $v$ 's of various sorts (see Anagnostopoulou 2003 and Pylkkänen 2008 for recent approaches). The latter sort of  $v$  will be coded as selecting the appropriate preposition; for example,  $v_{with}$  selects a PP headed by *with*, and so on. Note that by the test in Levin 2003 (possible cooccurrence with a “fake” object *X's way into Y* as in *She embroidered her way into the record books*), *embroider* has a simple event structure: [X ACT⟨MANNER⟩]; I take this to mean that it has no selectional feature of its own.

- (47) a. \*They embroidered something with peace signs, but I don't know what on ⟨they embroidered peace signs *t*⟩.

<sup>22</sup> Miller (1991) gives an example of a diathesis switch under pseudogapping that he marks as acceptable; I cannot account for the judgment he reports.





The complete lack of such argument structure alternations regardless of the size of the elided category follows from the syntactic identity condition if there is simply no location for the ellipsis-triggering E-feature low enough in the structure to exclude the *v* heads that regulate these alternations. This is in contrast to the situation with voice, where VP-ellipsis can target the sister to Voice. The fact that even causative~inchoative/unaccusative alternations are ruled out is further evidence that the heads that determine this alternation (namely, *v*<sub>trans</sub> vs. *v*<sub>unacc</sub>) are not the same as the head that determines the voice properties of the clause (namely, Voice) (and distinguishing among such variants of *v* allows us to straightforwardly capture Perlmutter's Generalization: Voice[Passive] in certain languages, like English, selects only for *v*<sub>trans</sub>, while Voice[Passive] in languages like Dutch can select for either *v*<sub>trans</sub> or *v*<sub>unerg</sub>, giving rise to impersonal passives). It

is worth noting that the mere suppression of an internal argument, when allowed by the predicate, as in (40a) and (41a), does not disallow ellipsis: one can conclude from this either that it is just the verbal heads that must be identical, or that even such implicit arguments (as assumed for the suppressed implicit external arguments of passives) are syntactically present (see Martí 2012 for a recent investigation).

This lack of alternation under ellipsis was demonstrated for sluicing, VP-ellipsis, and pseudogapping, but holds as well of fragment answers, gapping, and stripping. For reasons of space, I have also omitted the nonelliptical controls. Such controls show that the deviances found above are due to the ellipsis: while stylistically awkward, diathesis alternations across clauses without ellipsis do not give rise to ungrammaticality.

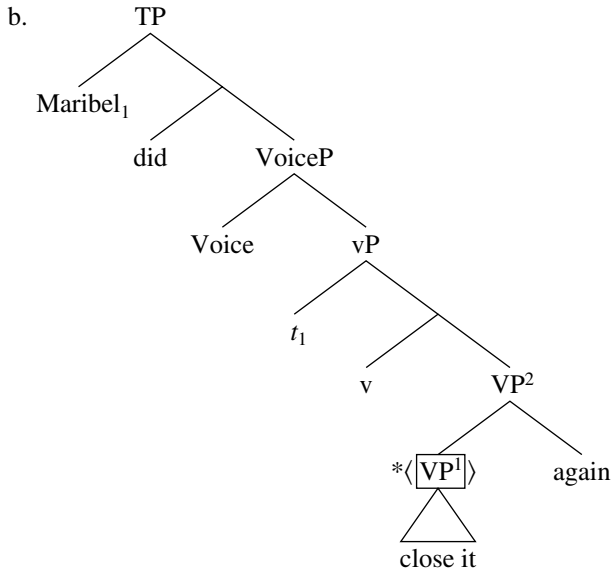
The above conclusions are also consistent with another set of facts raised by Johnson (2004). Following a substantial literature, he points out that *again* has two readings, one in which it indicates repetition of an event (the repetitive reading, given in (48a)) and one in which it operates on the internal state (the restitutive reading, available in (48b)).

- (48) a. The door was open. Ben closed it. It blew open. Maribel closed it again. (repetition)  
 b. The door was closed. The wind blew the door open and no one closed it. Finally, Maribel closed it again. (restitution)

Johnson shows convincingly that these two readings reflect two different possible attachment positions for *again*: the repetitive reading arises when *again* is adjoined high in the structure (to vP/VoiceP or higher), and the restitutive reading arises when *again* is adjoined low (to VP).

The novel observation that Johnson makes is that the restitutive reading is absent in VP-ellipsis; he correctly concludes that this fact indicates that ellipsis in these cases is targeting a node that precludes a low-adjoined *again* from surfacing. On the structures proposed here, this fact follows because the boxed VP<sup>1</sup> in (49b) is not a possible target for deletion (since it is not the sister to a head with the E-feature), so (49a) cannot be generated.

- (49) a. The door was closed. The wind blew the door open and no one closed it. Finally,  
 \*Maribel did again.



In sum, *no* argument structure alternations are possible under any kind of ellipsis: with the exception of voice, both sluicing and VP-ellipsis require antecedents that match in the exact syntactic expression of their arguments. This fact is compatible with either lexical or structural approaches to these alternations; on the latter approach, it merely requires that the heads that regulate the alternations be identical in the elided phrase and its antecedent.

#### 4 Conclusions

I have tried to show not only that we must posit syntactic structures internal to ellipsis sites, but also that the identity relation that licenses ellipsis is sensitive to syntactic form and cannot be plausibly stated over linguistic representations in which the difference between active and passive expressions is neutralized. If voice mismatch had been uniformly possible in both low ellipses like VP-ellipsis and high ones like sluicing, we would have concluded that ellipsis identity is not sensitive to such syntactic information. If voice mismatch had been uniformly impossible in both kinds of ellipsis, we would have concluded that syntactic matching was required. Previous work on these questions has addressed only one or the other of the kinds of ellipses examined here and so has generally reached one or the other conclusion, on the reasonable assumption that the identity relation is uniform across ellipsis types. But it is precisely the *uneven distribution* of voice mismatches that proves to be such an analytical puzzle, since on its surface, it seems to require a nonuniform theory of ellipsis licensing—a conclusion that seems otherwise entirely unwarranted.

The uneven distribution of voice mismatches in high versus low ellipses, coupled with the uniform ban on argument structure mismatches in all kinds of ellipsis, can be accounted for by a syntactic identity condition, as long as the relevant difference—here posited to be located in

Voice—is external to the ellipsis site in low ellipses but internal to it in high ellipses. This distribution thus provides evidence that ellipsis identity is calculated over syntactic structures. On approaches that posit them, it appears that semantic or “argument structure” or “conceptual structure” representations are either too coarse-grained (entailment-based or inference-based approaches) or too fine-grained (“argument structure” in the Head-Driven Phrase Structure Grammar sense) to make the necessary distinctions.

This analysis crucially relies on the assumption that surface differences can be due to different morphological realizations of what are syntactically the same items. These differing realizations are conditioned by the co-presence in the structure of elements *outside* the ellipsis site that determine the values of the features that the morphological realization rules are sensitive to. Specifically, these conclusions rely on a separation of traditional verbal information, with some of that information being encoded on (possibly unpronounced) higher nodes in the extended projection of the verb, though realized synthetically on the verb by the morphology of English. Frameworks that do not countenance such forms of distribution of features or that subscribe to some version of surface lexicalism cannot easily accommodate these data.

My goal here has not been to formulate the syntactic identity condition, but merely to present data that indicate that some such condition is necessary, no matter what form it may take in detail. There are several other syntactic identity phenomena that will be relevant to the eventual formulation of the identity condition,<sup>23</sup> and much work will need to be devoted to the details of such formulations; the facts from voice mismatches show that voice must be included as a factor in any such identity condition.

## References

- Aelbrecht, Lobke. 2010. *The syntactic licensing of ellipsis*. Amsterdam: John Benjamins.
- Alexiadou, Artemis, Elena Anagnostopoulou, and Martin Everaert, eds. 2004. *The unaccusativity puzzle: Explorations of the syntax-lexicon interface*. Oxford: Oxford University Press.
- Anagnostopoulou, Elena. 2003. *The syntax of ditransitives*. Berlin: Mouton de Gruyter.
- Arregi, Karlos. 2010. Ellipsis in split questions. *Natural Language and Linguistic Theory* 28:539–592.
- Arregui, Ana, Charles Clifton, Jr., Lyn Frazier, and Keir Moulton. 2006. Processing elided verb phrases with flawed antecedents: The recycling hypothesis. *Journal of Memory and Language* 55:232–246.
- Baker, Mark, Kyle Johnson, and Ian Roberts. 1989. Passive arguments raised. *Linguistic Inquiry* 20:219–251.
- Baltin, Mark. 2012. Deletion vs. pro-forms: An overly simple dichotomy? *Natural Language and Linguistic Theory* 30:381–423.
- Basilico, David. 1998. Object position and predication forms. *Natural Language and Linguistic Theory* 16: 541–595.

<sup>23</sup> One famous set of facts comes from the distribution of forms of *be* under ellipsis and as an antecedent to ellipsis: for *be*, strict identity of form is required (see Warner 1985, Lasnik 1995, Potsdam 1997, and Thoms 2010 for discussion; and McCloskey 1991, Goldberg 2005, Depiante and Hankamer 2008, Tanaka 2011a, Chung 2013, Gribanova, to appear, and Merchant, to appear, for related points and various formulations of the identity condition). Less known are the facts from gender mismatches under NP-ellipsis (see, e.g., Saab 2010) and from code-switching under sluicing (Gonzalez-Vilbazo and Ramos 2011).

- Bhatt, Rajesh, and Roumyana Pancheva. 2006. Implicit arguments. In *The Blackwell companion to syntax*, ed. by Martin Everaert and Henk van Riemsdijk, 2:554–584. Oxford: Blackwell.
- Bowers, John. 1993. The syntax of predication. *Linguistic Inquiry* 24:591–656.
- Bowers, John. 2002. Transitivity. *Linguistic Inquiry* 33:183–234.
- Büring, Daniel. 2003. On D-trees, beans, and B-accent. *Linguistics and Philosophy* 26:511–545.
- Chung, Sandra. 2006. Sluicing and the lexicon: The point of no return. In *Proceedings of the annual meeting of the Berkeley Linguistics Society 31*, ed. by Rebecca T. Cover and Yuni Kim, 73–91. Berkeley: University of California, Berkeley Linguistics Society.
- Chung, Sandra. 2013. Syntactic identity in sluicing: How much and why. *Linguistic Inquiry* 44:1–44.
- Chung, Sandra, William A. Ladusaw, and James McCloskey. 1995. Sluicing and Logical Form. *Natural Language Semantics* 3:239–282.
- Collins, Chris. 2005. A smuggling approach to the passive in English. *Syntax* 8:81–120.
- Craenenbroeck, Jeroen van. 2010. *The syntax of ellipsis: Evidence from Dutch dialects*. Oxford: Oxford University Press.
- Craenenbroeck, Jeroen van, and Anikó Lipták. 2006. The crosslinguistic syntax of sluicing: Evidence from Hungarian relatives. *Syntax* 9:248–274.
- Culicover, Peter W., and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford: Oxford University Press.
- Dalrymple, Mary, Stuart M. Shieber, and Fernando C. N. Pereira. 1991. Ellipsis and higher-order unification. *Linguistics and Philosophy* 14:399–452.
- Depiante, Marcela A., and Jorge Hankamer. 2008. La condición de identidad en la elipsis: El caso del truncamiento. Ms., Universidad Nacional del Comahue and University of California, Santa Cruz.
- Emonds, Joseph E. 2001. *Lexicon and grammar: The English syntacticon*. Berlin: Mouton de Gruyter.
- Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, MA: MIT Press.
- Fodor, Jerry A., and Janet Dean Fodor. 1980. Functional structure, quantifiers, and meaning postulates. *Linguistic Inquiry* 11:759–770.
- Fortin, Catherine. 2007. Indonesian sluicing and verb phrase ellipsis: Description and explanation in a Minimalist framework. Doctoral dissertation, University of Michigan, Ann Arbor.
- Fox, Danny. 2000. *Economy and semantic interpretation*. Cambridge, MA: MIT Press.
- Frazier, Lyn, and Charles Clifton, Jr. 2006. Ellipsis and discourse coherence. *Linguistics and Philosophy* 29:315–346.
- Gillon, Brendan. 2009. Model theoretic semantics for implicit arguments in English. Ms., McGill University, Montreal.
- Ginzburg, Jonathan, and Ivan Sag. 2000. *Interrogative investigations*. Stanford, CA: CSLI Publications.
- Goldberg, Lotus Madelyn. 2005. Verb-stranding VP ellipsis: A cross-linguistic study. Doctoral dissertation, McGill University, Montreal.
- Gonzalez-Vilbazo, Kay, and Sergio Ramos. 2011. A morphosyntactic condition on sluicing: Evidence from Spanish/German code-switching. Ms., University of Illinois at Chicago, Bilingualism Research Laboratory.
- Gribanova, Vera. To appear. Verb-stranding verb phrase ellipsis and the structure of the Russian verbal complex. *Natural Language and Linguistic Theory* 31(1).
- Grinder, John T. 1976. *On deletion phenomena in English*. The Hague: Mouton.
- Ha, Seungwan. 2008. Contrastive focus: Licensor for Right Node Raising. In *NELS 37*, ed. by Emily Elfner and Martin Walkow, 247–260. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Hale, Kenneth, and Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In *The view from Building 20*, ed. by Kenneth Hale and Samuel Jay Keyser, 53–110. Cambridge, MA: MIT Press.
- Hale, Ken[neth], and Samuel Jay Keyser. 2002. *Prolegomenon to a theory of argument structure*. Cambridge, MA: MIT Press.

- Hallman, Peter. 2004. NP-interpretation and the structure of predicates. *Language* 80:707–747.
- Hardt, Daniel. 1993. Verb phrase ellipsis: Form, meaning, and processing. Doctoral dissertation, University of Pennsylvania, Philadelphia.
- Hardt, Daniel. 2005. Inference, ellipsis and deaccenting. In *Proceedings of the Fifteenth Amsterdam Colloquium*, ed. by Paul Dekker and Michael Franke, 107–112. Amsterdam: University of Amsterdam, Institute for Logic, Language, and Computation and the Department of Philosophy.
- Harley, Heidi. To appear. External arguments and the Mirror Principle: On the distinctness of Voice and *v. Lingua*.
- Hartman, Jeremy. 2011. The semantic uniformity of traces: Evidence from ellipsis parallelism. *Linguistic Inquiry* 42:367–388.
- Houser, Michael J. 2010. The syntax and semantics of *do so* anaphora. Doctoral dissertation, University of California, Berkeley.
- Houser, Michael J., Line Mikkelsen, and Maziar Toosarvandani. 2007. Verb phrase pronominalization in Danish: Deep or surface anaphora? In *Proceedings of the Thirty-Fourth Western Conference on Linguistics*, ed. by Erin Bainbridge and Brian Agbayani, 183–195. Fresno: California State University, Department of Linguistics.
- Jelinek, Eloise. 1998. Voice and transitivity as functional projections in Yaqui. In *The projection of arguments: Lexical and compositional factors*, ed. by Miriam Butt and Wilhelm Geuder, 195–224. Stanford, CA: CSLI Publications.
- Johnson, Kyle. 1996. In search of the English middle field. Ms., University of Massachusetts, Amherst.
- Johnson, Kyle. 2001. What VP ellipsis can do, and what it can't, but not why. In *The handbook of contemporary syntactic theory*, ed. by Mark Baltin and Chris Collins, 439–479. Oxford: Blackwell.
- Johnson, Kyle. 2004. How to be quiet. In *Proceedings from the 40th Annual Meeting of the Chicago Linguistic Society*, ed. by Nikki Adams, Adam Cooper, Fey Parrill, and Thomas Wier, 2:1–20. Chicago: University of Chicago, Chicago Linguistic Society.
- Johnson, Kyle. 2009. Gapping is not (VP-) ellipsis. *Linguistic Inquiry* 40:289–328.
- Kehler, Andrew. 2002. *Coherence in discourse*. Stanford, CA: CSLI Publications.
- Kehler, Andrew, and Gregory Ward. 1999. On the semantics and pragmatics of 'identifier *so*'. In *The semantics/pragmatics interface from different points of view*, ed. by Ken Turner, 233–256. Amsterdam: Elsevier.
- Kertz, Laura. 2010. Ellipsis reconsidered. Doctoral dissertation, University of California, San Diego.
- Kim, Christina S., Gregory M. Kobele, Jeffrey T. Runner, and John T. Hale. 2011. The acceptability cline in VP ellipsis. *Syntax* 14:318–354.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. by Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer.
- Lambrecht, Knud. 1994. *Information structure and sentence form*. Cambridge: Cambridge University Press.
- Lasnik, Howard. 1995. Verbal morphology: *Syntactic Structures* meets the Minimalist Program. In *Evolution and revolution in linguistic theory*, ed. by Héctor Campos and Paula Kempchinsky, 251–275. Washington, DC: Georgetown University Press.
- Lees, Robert. 1963. *The grammar of English nominalizations*. The Hague: Mouton.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34:506–516.
- Levin, Beth. 2003. Objecthood and object alternations. Handout from a talk presented at the Department of Linguistics, University of California, Los Angeles, 2 May 2003.
- Lipták, Anikó, and James Griffiths. 2011. Contrast and island sensitivity in fragments. Ms., Leiden University and University of Groningen.
- Lobeck, Anne. 1995. *Ellipsis: Functional heads, licensing, and identification*. New York: Oxford University Press.
- Martí, Luisa. 2012. Grammar vs. pragmatics: Carving nature at the joints. Ms., University of Kent.
- McCloskey, James. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85:259–302.

- McCloskey, James. 1996. On the scope of verb movement in Irish. *Natural Language and Linguistic Theory* 14:47–104.
- Merchant, Jason. 2000. Islands and LF-movement in Greek sluicing. *Journal of Greek Linguistics* 1:39–62.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27:661–738.
- Merchant, Jason. 2008a. An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39:169–179.
- Merchant, Jason. 2008b. Variable island repair under ellipsis. In *Topics in ellipsis*, ed. by Kyle Johnson, 132–153. Cambridge: Cambridge University Press.
- Merchant, Jason. 2009. Phrasal and clausal comparatives in Greek and the abstractness of syntax. *Journal of Greek Linguistics* 9:134–164.
- Merchant, Jason. To appear. Polarity items under ellipsis. In *Diagnosing syntax*, ed. by Lisa Lai-Shen Cheng and Norbert Corver. Oxford: Oxford University Press.
- Miller, Philip. 1991. Clitics and constituents in phrase structure grammar. Doctoral dissertation, Utrecht University.
- Mittwoch, Anita. 1982. On the difference between *eating* and *eating something*: Activities versus accomplishments. *Linguistic Inquiry* 13:113–122.
- Nakao, Chizuru, Hajime Ono, and Masaya Yoshida. 2006. When a complement PP goes missing: A study on the licensing condition of swiping. In *Proceedings of the 25th West Coast Conference on Formal Linguistics*, ed. by Donald Baumer, David Montero, and Michael Scanlon, 297–305. Somerville, MA: Cascadilla Proceedings Project.
- Perlmutter, David M. 1978. Impersonal passives and the Unaccusative Hypothesis. In *Proceedings of the 4th annual meeting of the Berkeley Linguistics Society*, 157–189. Berkeley: University of California, Berkeley Linguistics Society.
- Potsdam, Eric. 1997. English verbal morphology and VP ellipsis. In *NELS 27*, ed. by Kiyomi Kusumoto, 353–368. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.
- Saab, Andrés L. 2010. (Im)possible deletions in the Spanish DP. *Iberia* 2:45–83.
- Sag, Ivan. 1976. Deletion and Logical Form. Doctoral dissertation, MIT, Cambridge, MA.
- Sag, Ivan. 2006. What's LF got to do with it? Presentation at organized session on ellipsis, annual meeting of the Linguistic Society of America, Albuquerque, NM.
- Sag, Ivan, and Jorge Hankamer. 1984. Toward a theory of anaphoric processing. *Linguistics and Philosophy* 7:325–345.
- SanPietro, Steven A., Ming Xiang, and Jason Merchant. To appear. Accounting for voice mismatch in ellipsis. In *Proceedings of the 30th West Coast Conference on Formal Linguistics*, ed. by Nathan Arnett and Ryan Bennett. Somerville, MA: Cascadilla Proceedings Project.
- Stump, Gregory T. 1977. Pseudogapping. Ms., Ohio State University, Columbus.
- Takahashi, Shoichi. 2004. Pseudogapping and cyclic linearization. In *NELS 34*, ed. by Keir Moulton and Matthew Wolf, 571–585. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Takahashi, Shoichi, and Danny Fox. 2006. MaxElide and the re-binding problem. In *Proceedings from Semantics and Linguistic Theory 15*, ed. by Effi Georgala and Jonathan Howell, 223–240. Available at [elanguage.net/journals/salt/article/view/283](http://elanguage.net/journals/salt/article/view/283).
- Tanaka, Hidekazu. 2011a. Syntactic identity and ellipsis. *The Linguistic Review* 28:79–110.
- Tanaka, Hidekazu. 2011b. Voice mismatch and syntactic identity. *Linguistic Inquiry* 42:470–490.
- Tanenhaus, Michael K., and Greg N. Carlson. 1990. Comprehension of deep and surface verb phrase anaphors. *Language and Cognitive Processes* 5:257–280.

- Temmerman, Tanja. To appear. The syntax of Dutch embedded fragment answers: On the PF-theory of islands and the WH/slucing correlation. *Natural Language and Linguistic Theory*.
- Thoms, Gary. 2010. 'Verb floating' and VP-ellipsis: Towards a movement account of ellipsis licensing. Ms., University of Strathclyde.
- Toosarvandani, Maziar. 2009. Ellipsis in Farsi complex predicates. *Syntax* 12:60–92.
- Vicente, Luis. 2006. Negative short replies in Spanish. In *Linguistics in the Netherlands 2006*, ed. by Jeroen van de Weijer and Kees Los, 199–211. Amsterdam: John Benjamins.
- Warner, Anthony. 1985. *The structure of English auxiliaries: A phrase structure grammar*. Bloomington: Indiana University Linguistics Club.
- Webber, Bonnie. 1978. A formal approach to discourse anaphora. Doctoral dissertation, Harvard University, Cambridge, MA.
- Williams, Edwin. 1977. Discourse and Logical Form. *Linguistic Inquiry* 8:101–139.
- Winkler, Susanne. 2005. *Ellipsis and focus in generative grammar*. Berlin: Mouton de Gruyter.
- Yoshida, Masaya. 2010. "Antecedent-contained" sluicing. *Linguistic Inquiry* 41:348–356.

*Department of Linguistics*  
*University of Chicago*  
*1115 East 58th Street*  
*Chicago, IL 60637*  
*merchant@uchicago.edu*