

# A Feature-Driven Movement Analysis of English Participle Preposing

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## 1. Introduction

Participle preposing is a non-canonical word order in which the complement of progressive or passive *be* appears to the left of *be*. The DP that would be the subject in the canonical word order—what I will refer to as the canonical subject—appears to the right of *be*. An example of participle preposing (1b) can be contrasted with the canonical word order in (1a).<sup>1</sup>

- (1) a. *His ever-present giant sideburns, each shaped like the state of Idaho, were jutting down from his long, graying locks.*  
b. Jutting down from his long, graying locks were *his ever-present giant sideburns, each shaped like the state of Idaho.*

Participle preposing is a theoretically interesting construction because its distribution is restricted by both syntax and information structure. Syntactically, it is possible only in root clauses and in complements of bridge verbs. But its distribution is also subject to discourse-familiarity restrictions on the preposed participle as compared to the canonical subject. In this paper, I use participle preposing to illuminate the relationship between syntax and information structure. I argue that discourse-sensitive features must be represented in the syntax in order to drive movement. Ultimately, it is hoped that the analysis will bring us closer to an understanding of how syntax interacts with the dynamics of discourse.

The argument proceeds as follows. In Section 2, I present a syntactic analysis of the construction, detailing the size and location of the moved constituent. Section 3 elaborates on the featural motivation for preposing, with a corpus study providing support for the involvement of a TOP(IC) feature. I conclude in Section 4.

## 2. A minimalist analysis of participle preposing

### 2.1. Syntactic properties of participle preposing

In this section, I argue that the first step in the derivation of participle preposing is A-movement of the highest available *vP* to SpecTP. Two pieces of evidence support the claim that the preposed phrase is the highest available *vP*. The first has to do with the behavior of participle preposing when the sentence contains instances of both progressive and passive *be*. Note first that passive participles can be preposed when they occur without a progressive:

- (2) Tried separately from Koike were *Nomura and three former executives.*

When passive and progressive *be* co-occur, however, only the larger, progressive participle may be preposed:

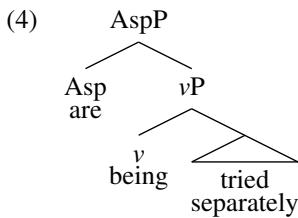
- (3) a. Being tried separately from Koike are *Nomura and three former executives.*

\* Thanks to Jim McCloskey, Amy Rose Deal, Pranav Anand, Line Mikkelsen, Nate Arnett, Anie Thompson, Matt Tucker, and LASC and S-Circle audiences at UCSC for their helpful discussion and advice. All errors remain my own.

<sup>1</sup> In the examples in this paper, the participle in question is underlined, and the canonical subject appears in italics. Unless otherwise noted, the examples are taken from the *New York Times* subcorpus of the English Gigaword corpus (Graff & Cieri, 2003), either directly or with modification.

- b. \* Tried separately from Koike are being *Nomura and three former executives*.  
 c. \* Tried separately from Koike are *Nomura and three former executives* being.

If we assume a structure like the one schematized in (4), the moved constituent is obligatorily the size of the *vP* that contains both *being* and *tried*.



Further evidence for the fact that the preposed constituent is a *vP* comes from the fact that *by*-phrases and verbal arguments—direct objects, indirect objects, and locative expressions—must be preposed along with the participial verb. This is illustrated for *by*-phrases in (5). The grammatical example in (a) shows that the *by*-phrase can be preposed along with the participial verb; the ungrammatical examples in (b–c) show that it must be included in the preposed constituent, as it cannot be stranded either before or after the canonical subject. This pattern suggests that the *by*-phrase is part of the *vP* in (4).

- (5) a. Being tried separately by prosecutors are *Nomura and three former executives*.  
 b. \* Being tried separately are by prosecutors *Nomura and three former executives*.  
 c. \* Being tried separately are *Nomura and three former executives* by prosecutors.

Three pieces of evidence support the view that this *vP*-sized constituent undergoes A-movement to SpecTP. First, note that a preposed participle cannot co-occur with a preverbal canonical subject. The participle cannot appear before the canonical subject (6a) or after it (6b). Intuitively, then, the two constituents “compete” for the same position, either directly or indirectly.

- (6) a. \* Undermining Abbey’s confidence *the decline in value of Lloyds’ shares* was.  
 b. \* *The decline in value of Lloyds’ shares* undermining Abbey’s confidence was.

Second, the preposed participle can appear in the matrix clause in the context of raising predicates, suggesting that the *vP* can undergo the same kind of raising from embedded nonfinite clauses as DP subjects do. An example of this participle raising is given in (7).

- (7) Undermining Abbey’s confidence seemed to be *the decline in value of Lloyds’ shares*.

Finally, the subject of tag questions is not sensitive to the definiteness of the canonical subject in participle preposing constructions as it is in the canonical word order. In (8a), for example, the tag containing the definite pronominal subject *they* is not grammatical despite the presence of a definite canonical subject for it to refer to. Instead, the subject of the tag question appears (for many speakers) in the default *there* form that appears when a non-DP (or non-CP) occupies SpecTP (8b).<sup>2</sup> Such default tags also appear in instances of locative inversion, where SpecTP is filled by a PP (9).

- (8) a. \* Surrounding the stricken president are *the power brokers*, aren’t they?  
 b. % Surrounding the stricken president are *some power brokers*, aren’t there?

- (9) Around the stricken president are some power brokers, aren’t there?

Taken together, this evidence leads to the conclusion that participle preposing involves A-movement of the highest available *vP* to SpecTP. A potential problem for this analysis, however, is that participle preposing is incompatible with A’-movements to the clause edge, including constituent questions (10a) and topicalization (10b). It is also incompatible with polar questions (10c).

<sup>2</sup> Some speakers do not accept *there*-tags attached to sentences containing participle preposing. The existence of this group of speakers should not detract from the general point that tags with definite pronominal subjects can never co-occur with participle preposing.

- (10) a. \* When<sub>i</sub> were leading the group down *Bombardier Inc. shares*  $t_i$ ?  
 b. \* *Jeff Maggert*, leading the way is.  
 c. \* Was softening the blow *the fact that Mirror Group's cable television account was one of the four pieces of business?*

While the ungrammaticality of the examples in (10) might lead one to the conclusion that participle preposing is itself an A'-construction in which the preposed participle moves directly to SpecCP, I will propose an analysis in which the preposed participle undergoes an initial A-movement to SpecTP, followed by a second, A'-movement to SpecCP. This types of movement from SpecTP to SpecCP has precedent in recent analyses of locative inversion (e.g., Rezac 2006).<sup>3</sup> The first movement accounts for the A-properties of participle preposing, including the facts from raising and tag questions. The second movement fills SpecCP and blocks A' processes.

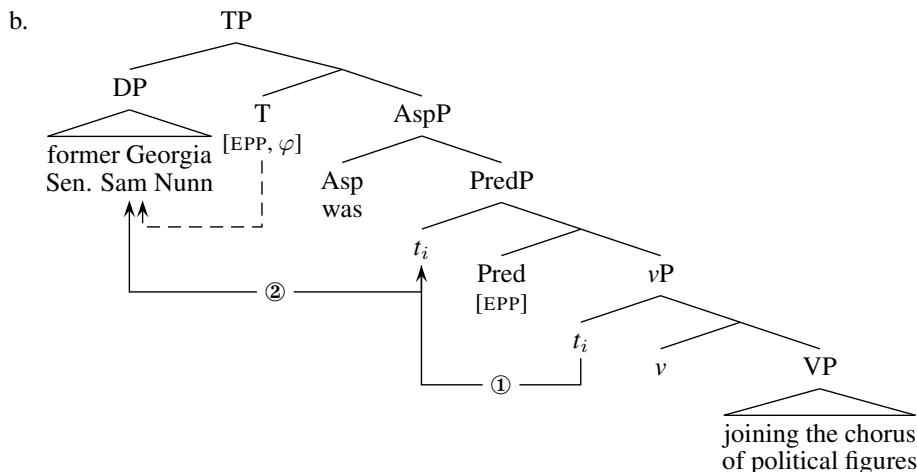
## 2.2. The derivation of participle preposing

In order to derive participle preposing, I assume that all instances of *be* take “small clause” complements. These are maximal projections whose head (Pred) has the EPP property.<sup>4</sup> The EPP property of this head accounts for partial raisings. For example, the subject, which is an underlying direct object, raises above its thematic position in passive expletive constructions, as in (11a–b).

- (11) a. There was *a top executive* examined today.<sup>5</sup>  
 b. There is *a long list of prospects* being discussed.  
 c. There are *younger and impressionable local kids* tagging along.

One consequence of the proposed structure is that there are two movement involved in deriving the canonical word order in (12). The *v*P-internal subject moves first to SpecPredP, then to SpecTP. Agreement, of course, is with the canonical subject in SpecTP.

- (12) a. *Former Georgia Sen. Sam Nunn* was joining the chorus of political figures.



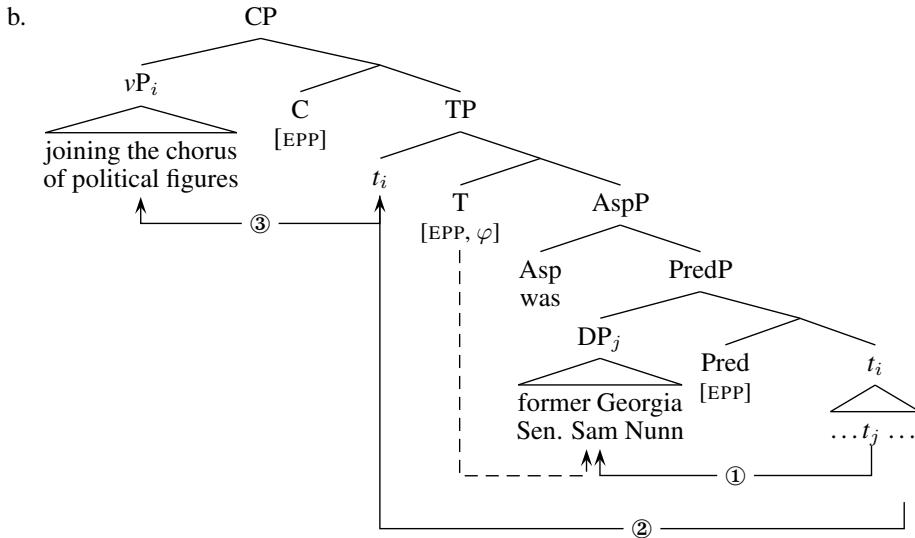
In the derivation of the participle preposing word order, the first movement is the same as in the derivation of the canonical word order: The canonical subject moves to SpecPredP. The second step, as illustrated in (13), is movement of the *v*P to SpecTP and then on to SpecCP.

- (13) a. Joining the chorus of political figures was *former Georgia Sen. Sam Nunn*.

<sup>3</sup> Rezac's analysis builds on work by Bresnan (1994) and Culicover & Levine (2001).

<sup>4</sup> The EPP property means that Pred acts as a probe, with the consequence that the element in its specifier has subject-like properties. I call this head Pred and its projection PredP, but I recognize that the properties I attribute to this head are different from those attributed by Bowers (1993) to the head of the same name.

<sup>5</sup> This example (and others involving preposing of passive participles) is adapted from Emonds (1976).

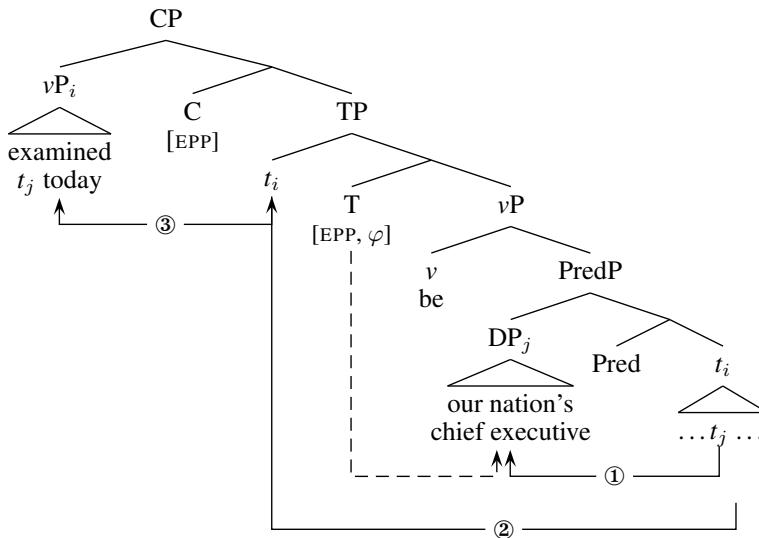


In the participle preposing word order, Agreement is with the canonical subject in SpecPredP. The Agreement is illustrated in (14), where it is reflected in obligatory plural agreement with a plural canonical subject.

- (14) a. Joining the chorus of political figures **were** five former Georgia senators.  
 b. \*Joining the chorus of political figures **was** five former Georgia senators.

The analysis presented here for progressive participles extends straightforwardly to the preposing of passive participles, as shown in (15).

- (15) a. Examined today was our nation's chief executive.  
 b.

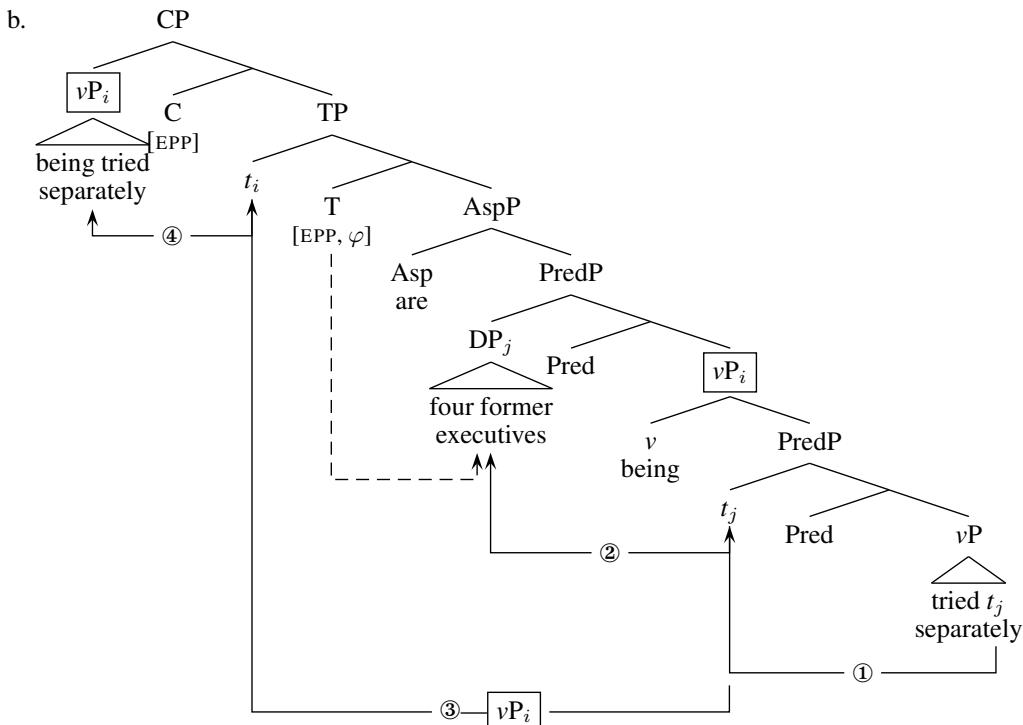


The analyses of passive and progressive participle preposing can be combined. This scenario is shown in (16), where each instance of *be* is associated with its own Pred projection. The object of the main verb moves first to the lower SpecPredP position, then to the higher SpecPredP. One that has happened, the *vP* complement of the higher Pred moves to SpecTP and then to SpecCP, as in the other cases of participle preposing. Again, agreement is with the canonical subject in SpecPredP.

Notice that only the higher *vP* can be targeted for movement. I assume that the phasal status of the progressive *vP* (Harwood, under review) allows it to move, while making its internal contents invisible to higher probes. Notice, too, that in all of these derivations, the participial phrase is structurally lower than the canonical subject but moves across it to SpecTP in apparent violation of the Minimal Link Condition

(Chomsky, 1995). In the next section, I discuss the featural motivation for this movement, arguing that it is motivated by the pragmatic properties of the construction.

- (16) a. Being tried separately are four former executives.



Finally, notice that the analysis explains the fact that participial complements of *have*, unlike participial complements of *be*, cannot be preposed (17bb). *Have* takes the wrong kind of complement to support the derivations sketched above. In particular, it does not select an EPP-bearing head.

- (17) a. *A report that the economy created 2,000 non-farm jobs* had offset those advances.  
 b. \*Offset those advances had *a report that the economy created 2,000 non-farm jobs*.

This difference between *have* and *be* is also reflected in the impossibility of partial raising with a high expletive in sentences containing *have* but not *be*:

- (18) \* *There has a report that the economy created 2,000 non-farm jobs* offset those advances.

The analysis, then, highlights the similarity between participle preposing and existential constructions. As a result, the sentences in (19) reflect different derivational paths from similar starting points.

- (19) a. *A new fund managed by James D. Oberweis* is sitting atop the list.  
 b. *There was a new fund managed by James D. Oberweis* sitting atop the list.  
 c. *Sitting atop the list is a new fund managed by James D. Oberweis*.

The differences between the three constructions in (19) center on the presence or absence of the expletive among the lexical resources used, and—as will become clear in the next section—different featural properties of the matrix T.

### 3. Featural motivation for participle preposing

#### 3.1. Discourse properties of participle preposing

Participle preposing is possible only when certain pragmatic conditions are met, an observation due to Birner (1992, 1994).

(20) *Birner's generalization*

The material in the preposed vP must be at least as familiar as the material in the canonical subject.<sup>6</sup>

The canonical subject, once it has moved out of vP, is treated as a separate constituent. We can see Birner's generalization at work in (21). The discourse in (a) is felicitous because the talks mentioned in the preposed participle have been mentioned while the canonical subject Cliff Fletcher is unfamiliar in the discourse. When the familiarity is reversed, as in (b), the discourse is infelicitous. Here, the negotiating sessions have not been mentioned in the discourse, but *Mr. Fletcher* represents new information, putting the discourse at odds with Birner's generalization.

- (21) a. **Negotiations** resumed in Boston Thursday between the two sides in the seven-week-old labor dispute.  
Joining the talks on behalf of management was *Cliff Fletcher, the president and general manager of the Toronto Maple Leafs*.
- b. **Cliff Fletcher** is the president and general manager of the Toronto Maple Leafs.  
#Joining a negotiating session Thursday was *Mr. Fletcher, who argued on behalf of management*.

In this section, I attempt to formalize this intuition and incorporate it into the syntactic analysis of participle preposing.

### 3.2. Marking topics in participle preposing: Evidence from a corpus study

The data in this section is based on a corpus study I conducted for the purpose of expanding upon Birner's work. A corpus of 3,577 examples of progressive participle preposing was collected from the 910-million-word *New York Times* subcorpus of the English Gigaword corpus. Of those 3,577 sentences, 100 were randomly sampled for further analysis. The 100 examples in the random sample were annotated for familiarity. Material was classified as familiar if the relevant phrase or a synonymous one was included in the preceding four sentences (22) or if the material in the phrase was recoverable from the preceding four sentences (23).

- (22) In a single stroke, **the site list** was narrowed to seven cities. Towns like Phoenix, Las Vegas, Albuquerque and more than a dozen others fell out of consideration due to Lindstrom-Foster's preference for seaside communities. [...]  
Remaining on the list were *Houston, Texas; Mobile, Ala.; Savannah, Ga.; Charlestown, S.C.; Brevard County, Fla.; Salisbury, Md.; and Norfolk, Va.*
- (23) Instead, **what has raised alarms here and abroad** is a plan by Attiko Metro that many feel could threaten one of the city's best-known and thoroughly excavated sites [...].  
Underlying the debate is *the inexorable logic and pressure of the \$3 billion, 11.4-mile subway itself, now well behind schedule.*

The results, which are compatible with Birner's generalization, are summarized in Table 1. In most cases—64 of 100—there was familiar material in the preposed participle but not in the canonical subject.<sup>7</sup> In only one case was there familiar material in the canonical subject but not in the preposed participle. There was familiar material in both constituents in 30 examples, one of which is given in (24). In most of these, the material in the preposed participle had been mentioned more recently (17 of 30), but the determination of recency of mention was impossible to make in 10 cases.<sup>8</sup>

<sup>6</sup> The notion of discourse-familiarity is taken from Prince (1981). In case of a tie, the more recently mentioned material is taken to be more salient and therefore more familiar.

<sup>7</sup> See Appendix A for examples of each of these combinations of familiarity and/or salience.

<sup>8</sup> These 10 cases include sentences where the same material was mentioned in both constituents and sentences in which the familiar material was inferrable from the previous discourse.

	Familiar subject	Unfamiliar subject
<b>Familiar vP</b>	30	64
<b>Unfamiliar vP</b>	1	5

vP more salient	Subject more salient
17	3

**Table 1:** Relative familiarity in 100 participle preposings

- (24) **The president** was clearly nervous about the opposition protest. Presidential staff and election officials were sent home early Tuesday, and soldiers circled the Parliament building. Up the street, hundreds of police officers and soldiers guarded the presidential palace as **more than 10,000 demonstrators** chanted in the street.

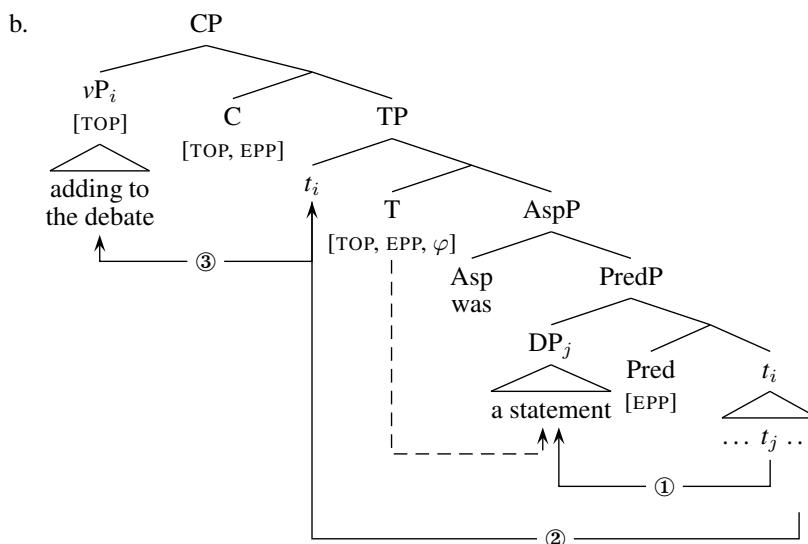
Surveying the crowd from the presidential palace was *Ter-Petrosian's* interior minister, Vano Sirideghyan [...].

The conclusion that emerges from this corpus investigation is that the possibility of participle preposing is intertwined with discourse factors. In the remainder of this paper, I argue that this interdependence can best be captured *via* formal features which play a role in the syntax but which have complex use conditions associated with them.

### 3.3. Implementation

Because the preposed participle undergoes an initial movement to SpecTP, it must be the properties of T that determine whether or not participle preposing is possible. But recent work ((Chomsky, 2008), *i.a.*) assumes that the uninterpretable features of T are inherited from C. In that vein, I propose that C bears an information-structurally distinguished TOP(IC) feature (Mikkelsen, 2012). C shares this TOP feature with T. When this happens, EPP and TOP are bundled (Zubizarreta, 1998) on T, and T attracts a TOP-marked phrase to its specifier. <sup>9</sup> The additional movement to SpecCP is motivated by the TOP feature that C retains and EPP. The full analysis is illustrated in (25), where it is the combination of C and T that conspires to induce the full raising.

- (25) a. Adding to the debate was a statement by a top Justice Department official.



<sup>9</sup> Here, I assume that the canonical subject is not an active, visible goal for the purposes of TOP-Agreement. This means that the canonical subject does not intervene (Chomsky, 2000) between T and the participial vP when it lacks a TOP feature (see Broekhuis (2007) for arguments against defective intervention).

The analysis provides a natural account of the impossibility of preposing in ECM contexts (26b):

- (26) a. I believe that anchoring their prizes were pictures of former dictators.<sup>10</sup>  
 b. \*I believe anchoring their prizes to be pictures of former dictators.

In the embedded clause, there is no C layer, meaning that it is impossible for T to inherit a TOP feature from C. Only the canonical subject, as the structurally highest available phrase, is eligible for movement to SpecTP. There is no possibility of participle preposing as a result of the Minimal Link Condition.

The possibility of participle preposing in raising constructions is accounted for similarly in that T cannot inherit a TOP feature from C in the embedded clause because the nonfinite clause has no C layer.<sup>11</sup> The matrix T, on the other hand, may inherit a TOP feature from C. Consequently, a TOP-marked  $\nu$ P may raise to SpecTP in a manner directly analogous to the raising of canonical subjects.

Importantly, the analysis presented here allows us to draw a distinction between topicalization on the one hand and participle preposing on the other. In topicalization, distinct phrases appear in SpecTP and SpecCP; in participle preposing, feature-sharing allows the same phrase to satisfy the EPP features associated with T and C in turn.

#### 4. Conclusion: Movement and information structure

Participle preposing shows us that discourse restrictions on the use of a construction must be encoded in the syntax. I have argued that information-structure-sensitive features drive movement of a structurally lower phrase across a higher one and cause participle movement to SpecCP to be preceded by movement to SpecTP. This representation of pragmatic features in the discourse runs counter to work by Chomsky (2008) and Fanselow & Lenertová (2011) but is necessary because there is a relationship between participle movement to SpecTP and SpecCP. It is the TOP feature that allows raising of the structurally lower participial  $\nu$ P, something that we would not expect if movement of topics to SpecCP were free. This pattern is evidence that  $\nu$ P movement to SpecTP must be motivated by information-structural properties, with information-structure-sensitive features visible to the syntactic derivation.

There is a sense in which these information-structure-sensitive features behave differently from other features like  $\varphi$ -features. Whenever a TOP feature is inherited by T, it is bundled with T's EPP property. It is not, however, bundled with  $\varphi$ -features, which function independently in that T Agrees with the post-verbal subject.

Information-structure-sensitive movement is not limited to participle preposing. Similar analyses can be presented for locative inversion and sentential subjects in English and for V2 word orders in Mainland Scandinavian languages.

Finally, while I have shown that discourse features play a role in driving derivations, it is clear that it is no trivial matter to say what the content of those features is. The fronted  $\nu$ P itself is not a topic in any straightforward or familiar sense of the term. Instead, preposing signals that the interpretation of the fronted  $\nu$ P must contain familiar material or material that is no less familiar than the postverbal subject. The correct way of looking at this may be that the formal syntactic feature has associated with it a use condition, analogous to that associated with the feature that licenses ellipsis (Merchant, 2001), one which, like the ellipsis-licensing feature, has sophisticated access to the dynamics of an unfolding discourse.

#### A. Corpus examples

- (27) *Familiar  $\nu$ P, unfamiliar subject*

“We came here to defend the right of our parliamentarians to enter their own house,” said **Guillermo Arocha**, 34, a lawyer and sympathizer of Accion Democratica, the more left-leaning of the two parties. “We elected them with our votes, and no one has the right to remove them through a coup.”

Standing next to Arocha was *Manuel Contreras* [...].

<sup>10</sup> See Appendix B for discussion of CP-recursion that accounts for the linear order of complementizer and participle.

<sup>11</sup> This analysis assumes that the embedded SpecTP position in raising constructions is not a stopping-off point for cyclic A-movement. See (Castillo et al. 1999; Boeckx & Grohmann 2007, *i.a.*).

- (28) *Familiar vP, familiar subject*  
 The **Peace Corps**, long synonymous with grass-roots volunteerism, is today placing greater emphasis on **business and economic development**.  
Promoting the **business agenda** is *Mark D. Gearan, director of the **Peace Corps**, [...]*.
- (29) *Unfamiliar vP, unfamiliar subject*  
 He hopes his showing can narrow the coaches' options some. Last week against the Lions, he had six carries for 60 yards. "I want them to think of me as the man behind the man," Murrell said. "I want them to know that when the first guy gets tired or has to come out that I'm ready to go in and pick up where he left off."  
Making his debut for the Jets was *Tony Meola, the goalkeeper for the U.S. soccer team in the World Cup, who handled the kickoffs in the second half*.
- (30) *Unfamiliar vP, familiar subject*  
 The deputy attorney general whom Salinas put in charge of **the case**, Ruiz Massieu's brother, Mario, said he put his strongest belief in the idea that the crime was motivated by politics. Some Mexicans speculated that Ruiz Massieu, a reform-minded official who was expected to be the PRI's next leader in the lower house of the Congress if not a key official in Zedillo's Cabinet, had been killed because he was a major proponent of steps to democratize the political system and an important negotiator with opposition parties. But other aspects of Ruiz Massieu's background pointed in different directions. He had earned a reputation for toughness during a term as the governor of the Pacific Coast state of Guerrero, where a handful of leftist activists were killed in struggles with the governing party or the police and drug trafficking interests entrenched themselves in the resort city of Acapulco.  
Adding to suspicions about a personal vendetta was *the fact that another main suspect in **the case**, Abraham Rubio Canales, was a onetime aide to Ruiz Massieu in Guerrero [...]*.
- (31) *vP more recently mentioned*  
 The time-tested flip side is that such setbacks often set up **Tim Lester**-like opportunities. In one room at the **Cowboys'** Valley Ranch headquarters, there sat the 10-year veteran Johnston, explaining the frustrations of another season-ending neck injury that possibly could end his career. Talking to **Cowboys** coaches in another room sat *the newly signed Lester [...]*.
- (32) *Subject more recently mentioned*  
 The advantage **Immelt** will have, as a chief executive in his mid-40s, is that he is much more familiar with the latest technological developments than older executives like Welch. "He grew up with a laptop on his desk," Gariano said. "**Jack** and I grew up with slide rules."  
Making **Immelt's** succession more complicated is *Welch's decision to stay until the end of next year*.

## B. Participle preposing in embedded contexts

Participle preposing has the same distribution as V2 word orders in Mainland Scandinavian languages in that both are possible in main clauses and in the complements of bridge verbs:

- (33) Pyt sei dat hy hie my sjoen.  
 P. said that he had me seen.  
 'Pyt said that he had seen me.' (Frisian; de Haan & Weerman 1985:p. 84)
- (34) Peter said that meeting to hammer out the details of the media issue were Larry Pressler, Ernest Hollings, Trent Lott, Jack Fields, Thomas Bliley, and John Dingell.

But neither construction is possible in irrealis or factive verbal complements (35–36).

- (35) a. \* John ville ønske at igår havde Peter snakket med chefen.  
 J. would wish that yesterday had P. talked with boss-the  
 ‘John wished that Peter had talked to the boss yesterday.’  
 (Danish; Iatridou & Kroch 1992:ex. 26b)
- b. \* Peter beklagede at den film havde Maria set.  
 P. regretted that this film had M. seen  
 ‘Peter regretted that Marie had seen this film.’  
 (*ibid.*:ex. 23c)
- (36) a. \* John wished that leading the group down were Bombardier Inc. Class B shares.  
 b. \* Peter regretted that adding to the dispute was a report last fall by two scientists at the U.S. Agriculture Department’s Agricultural Research Service.

The V2 facts—and, by extension, the word order of complementizer followed by preposed participle can be accounted for by combining Mikkelsen’s (2012) feature-driven movement analysis of (embedded) V2 with Iatridou & Kroch’s (1992) theory of CP-recursion: Only certain, semantically bleached verbs can select *that*-CPs that allow for recursion. Participle preposing is similar in that only certain, semantically bleached verbs can select Cs that themselves select Cs that bear a TOP feature. That feature is then shared with T, leading to participle preposing.

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# Proceedings of the 31st West Coast Conference on Formal Linguistics

edited by Robert E. Santana-LaBarge

Cascadilla Proceedings Project Somerville, MA 2014

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Samko, Bern. 2014. A Feature-Driven Movement Analysis of English Participle Preposing. In *Proceedings of the 31st West Coast Conference on Formal Linguistics*, ed. Robert E. Santana-LaBarge, 371-380. Somerville, MA: Cascadilla Proceedings Project. [www.lingref.com](http://www.lingref.com), document #3040.