

# The morpho-syntactic significance of the unextractability of English possessive pronouns\*

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## 1. Introduction

I use new facts about possessor extraction in colloquial English to analyze the morpho-syntax of English possession, and explore consequences about the syntax-morphology relationship. In previous work (Davis 2020, 2021), I have shown that many native English speakers allow A'-extraction of a possessor which strands the Saxon genitive morpheme ['s] and the rest of the possessed DP in a lower clause, as in (1):

- (1) *English possessor extraction* (Davis 2021, ex. 9)
- a. *Main clause question*  
Who<sub>1</sub> do you think [[t<sub>1</sub>'s kid] ate the most cake]?
  - b. *Embedded question*  
I can't remember [who<sub>1</sub> I said [[t<sub>1</sub>'s friend] is coming over]].
  - c. *Relative clause*  
This is the student [who<sub>1</sub> they suspect [[t<sub>1</sub>'s answers] were copied]].
  - d. *Free relative*  
I'll speak to [whoever<sub>1</sub> you suggest [[t<sub>1</sub>'s idea] is the best]].
  - e. *Cleft*  
It's Michelle [who<sub>1</sub> we heard [[t<sub>1</sub>'s cat] is the cutest]].

As we see in (1a-e), such extraction can be achieved by all forms of *wh*-movement. Many speakers also accept possessor extraction by topic/focus fronting, as (2) shows:

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- (2) *Possessor topic/focus fronting*
- I don't think John's cat is particularly cute, but **Mary**<sub>1</sub>, I've always said [*t*<sub>1</sub>'s cat] is really adorable.
  - My dog is always well behaved. But [**that guy**]<sub>1</sub>, I think [*t*<sub>1</sub>'s dumb noisy dog] should get kicked out of the park.
  - Your mom is, unfortunately, not a great cook. [**My mom**]<sub>1</sub>, however, I suspect [*t*<sub>1</sub>'s cooking] could win prizes.

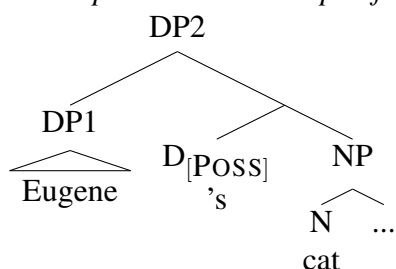
However, similar fronting is unavailable for possessive pronouns, as (3) shows.

- (3) *No extraction of possessive pronouns by topic/focus fronting*<sup>1</sup>
- \* Your cooking is, unfortunately, not great. **My**<sub>1</sub>, however, I suspect [*t*<sub>1</sub> cooking] could win prizes.
  - \* I don't think John's cat is particularly cute, but **our/your**<sub>1</sub>, I've always said [*t*<sub>1</sub> cat] is really adorable.
  - \* My dog is always well behaved. But **his/her/their**<sub>1</sub>, I think [*t*<sub>1</sub> dumb noisy dog] should get kicked out of the park.

The contrast between (2) and (3) above has been confirmed by 14 of 17 speakers whose judgments I have elicited. (The remaining 3 rejected all these examples, but reported the same contrast in cleft sentences, as discussed in footnote 13.)<sup>2</sup>

I argue that this fact clarifies the nature of English possessive pronouns. I assume that when a typical DP is a possessor, it sits in the specifier of a possessive D realized as ['s] (Abney 1987, Corver 1992, Chomsky 1995b, Munn 1995), as in (4):

- (4) *Usual possessor DP in specifier of ['s]*



<sup>1</sup>The possessive form *its* has been omitted from this initial example set. See footnote 4.

<sup>2</sup>The data analyzed here was acquired by eliciting judgments, via a questionnaire containing a list of pre-prepared sentences, from a set of 17 speakers who accept the baseline possessor extraction configuration reported in Davis (2020, 2021). The 14 speakers mentioned who accept the baseline configuration in (2) report the contrast between in (2) and (3), as well as between (2) and an additional relevant configuration in (16) below, discussed in section 4.

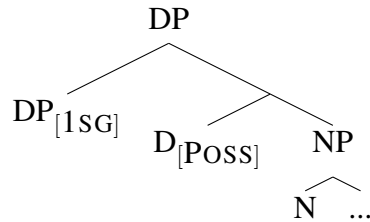
2 of the 14 speakers who corroborated the core contrast between (2) and (3) rated the configuration in (3) as marginally acceptable, though worse than (2). Since the majority of speakers do not have this judgment, I will not analyze this point of variation in detail here.

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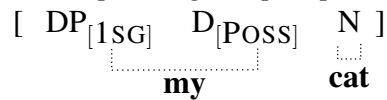
In contrast, I'll argue that English possessive pronouns are portmanteau morphemes, which simultaneously express both the possessive D and the possessor, as previewed in (5):

(5) *Possessive pronoun morpho-syntax*

a. *Structure*



b. *Corresponding morpho-phonological form*



Since a DP and a D whose specifier it is in are not a constituent, if possessive pronouns correspond to such a structure, they should be immobile. We saw in (3) that this is correct.

This finding has two general consequences. First, this analysis provides new evidence that a single morpheme can simultaneously express multiple syntactic nodes, in portmanteau fashion. I'll argue that the *spanning* hypothesis (Bye and Svenonius 2012, Merchant 2015, Haugen and Siddiqi 2016, Svenonius 2016) straightforwardly allows portmanteau formation in the needed way. I'll show that a *fusion* analysis (Halle and Marantz 1993, Harley and Noyer 1999, a.o.) also works. Second, this analysis has implications for phase theory (Chomsky 2000, 2001, a.o.) and questions about when a syntactic structure's morphology is decided. Specifically, I'll argue that DPs are phases (as many recent works assume), and that phases completely spell-out all at once (Fox and Pesetsky 2005a,b, a.o.).

## 2. Background on possessor syntax and extraction

As mentioned above, I adopt the proposal that a usual possessor DP sits in the specifier of a possessive D realized as ['s]. Under this analysis, the word *whose* is made up of the *wh*-phrase *who*, and the possessive D which it is in the specifier of. This account predicts the well-known fact that *whose* cannot be extracted. Since this word corresponds to two elements that do not form an exclusive constituent, it is immobile (Corver 1992):

(6) *No extraction of "whose"*

- a. \* Mary is the author [<sub>CP</sub> **whose**<sub>1</sub> they said [[<sub>t</sub><sub>1</sub> **new book**] is good]].
- b. \* **Whose**<sub>1</sub> did you say we should buy [<sub>t</sub><sub>1</sub> **cookies**]?

In contrast, since the possessor in spec-DP is itself a constituent, we predict the possibility of extracting it and stranding D below. We saw in (1) that in the colloquial register of some English speakers, this prediction is verified. In Davis (2020, 2021), I show that this is

indeed true extraction, and argue that what differentiates English grammars that do and do not allow such extraction is the evaluation timing of a phonological adjacency requirement of the clitic [’s].<sup>3</sup> There I also describe and analyze the fact that such extraction must cross a clause boundary, as in (1). I have controlled for this in the test sentences analyzed here.

We saw in (2) that topic/focus fronting can extract a possessor. But we also saw in (3) that this is impossible for possessive pronouns. There would be no puzzle here if English pronouns were generally incapable of topic/focus fronting, but (7) shows that this is not so:

(7) *Topic/focus fronting usually possible for English pronouns*

- a. I don’t like you, but **him/her/them**<sub>1</sub>, I like *t*<sub>1</sub>.
- b. I don’t care how you talk to other people, but **me**<sub>1</sub>, you gotta respect *t*<sub>1</sub>! I’m the boss!
- c. **You**<sub>1</sub>, I did not think *t*<sub>1</sub> would study syntax. You seem more like a phonologist.

### 3. Analysis: Possessive pronouns correspond to non-constituents

While a full DP possessor is immediately followed by [’s], most possessive pronouns clearly occur without this morpheme (though see footnote 4 on *his* and *its*).<sup>4</sup>

(8) *English possessive pronouns*  
my / our / your / his / her / its / their

Deal (2006) notes that this pattern could be the result of deletion of [’s], or morphological merger of [’s] with the pronoun. I discuss the predictions of both of these proposals.

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<sup>3</sup>Various works attribute the typical illicitness of possessor extraction in English to a requirement of PF which rejects movement that separates a possessor from the possessive D (Chomsky 1995b, Radford 1997, Gavruseva 2000, Gavruseva and Thornton 2001, a.o.). Indeed, Gavruseva & Thornton argue that PF adjacency requirements of this variety play an important role in constraining possessor extraction cross-linguistically. Davis (2020, 2021) builds on this general idea to account for the difference between English grammars with and without possessor extraction, as well as various details about such extraction’s distribution.

<sup>4</sup>The only possessive pronouns for which the absence of [’s] is unclear are *his* and *its*. It is conceivable that we might decompose these into *he* + ’s and *it* + ’s. If this is the case, then we should be able to extract *he* or *it*, stranding [’s] below. As (i) shows, this is in fact impossible:

- (i) a. \* I don’t think Mary’s cat is particularly cute, but take a look at John’s. **He**<sub>1</sub>, I’ve always said [*t*<sub>1</sub> ’s cat] is really adorable.
- b. \* Your computer is slow, but mine is fast. **It**<sub>1</sub>, I think [*t*<sub>1</sub> ’s processor] costs more than your car.

In the context of my analysis, this fact indicates that *his* and *its* are not synchronically decomposable, but rather are portmanteau forms just like the rest of the possessive pronouns under consideration here.

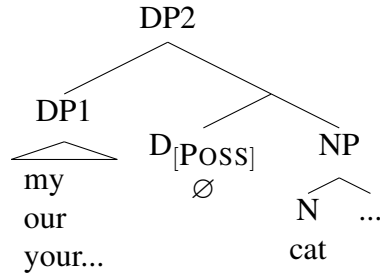
Consistent with this analysis is the fact that *his* and *its* cannot be fronted. For the first of these elements, we have seen this fact in (3c) above. For the latter, see (ii):

- (ii) \* Your computer is slow, but mine is fast. **Its**<sub>1</sub>, I think [*t*<sub>1</sub> processor] costs more than your car.

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An [’s] deletion analysis is effectively equivalent to one in which a rule of allomorphy requires possessive D to be silent when the possessor in its specifier is a (genitive) pronoun:

(9) *Hypothetical possessive pronoun and silent D*

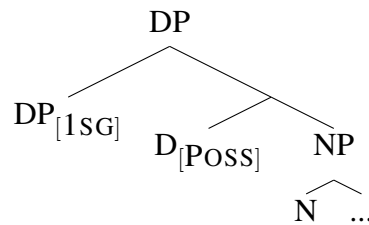


If possessive pronouns simply correspond to DP constituents in the specifier of a silent D, nothing should prevent their extraction. However, in reality we have seen that unlike other possessors (and unlike other English pronouns), possessive pronouns are immobile.

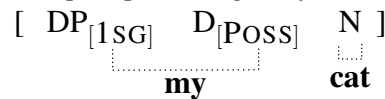
Instead, building on Deal’s suggestion that English possessive pronouns involve morphological merger of the pronoun and [’s], I argue that English possessive pronouns are portmanteau morphemes which simultaneously express D and the pronoun in its specifier:

(10) *Possessive pronoun portmanteau*

a. *Initial structure*



b. *Morpho-phonological form*



We will see that this analysis makes the right predictions.<sup>5</sup> I implement this analysis using the Distributed Morphology framework (Halle and Marantz 1993, Harley and Noyer 1999,

<sup>5</sup>Deal (2006) argues that analysis #1 best captures the fact that some speakers permit forms like *your all’s* / *your guys’*, which she suggests involve the pronoun being assigned genitive morphology, with the intervening element bleeding the rule that would normally delete [’s] (which by assumption requires adjacency). Deal notes that not all speakers allow such forms, and thus suggests that speakers’ vary between analysis #1 and analysis #2. If the extraction ban I focus on here also holds for speakers who are capable of possessor extraction and who allow forms like these, then this would suggest that analysis #2 is universally correct. This would entail that another factor is responsible for the morphological variation Deal observes.

Another possibility is that the forms Deal notes are exceptions that don’t stem from general principles. As this hypothesis might lead us to predict, in my judgment *your guys’* is marginal, but the use of the possessive pronoun in several other analogous contexts is clearly unacceptable (i). See also the facts in (12) below.

a.o.). According to this theory, syntactic structures begin as abstract representations that lack information about word order or morpho-phonological form. Rather, that information is assigned later on, when the structure in question is passed off to the PF component of the grammar (*spell-out*). To ensure an explicit implementation, it will also be useful to assume that word order assignment (linearization) precedes the determination of morpho-phonological form (Embick 2010, Arregi and Nevins 2012, Haugen and Siddiqi 2016, a.o.).

As stated above, I assume that usual possessive DPs sit in the specifier of a D realized by its default form [*'s*]. Since the morphology of these possessors straightforwardly corresponds to a phrase in spec-DP, the extractability of such possessors is accurately predicted. In contrast, under my analysis pronominal possessor morphology is the simultaneous realization of the possessor pronoun and D with one portmanteau morpheme. This analysis captures the fact that such possessive forms cannot be extracted: morphemes like *my* do not correspond to a syntactic constituent, and thus are immobile. This analysis also predicts the fact that the morpheme [*'s*] is absent from these possessive forms (though see footnote 4 above about *his* and *its*). If a given syntactic node can only be morphologically expressed once (Halle and Marantz 1993, Bobaljik 2000, Arregi and Nevins 2012, Coon and Keine 2020), when a portmanteau possessive form is used, D will not be expressed independently.

### 3.1 Implementation and more on portmanteau formation and pronoun structure

Distributed Morphology hypothesizes that each morpheme corresponds to one syntactic terminal node, never a non-terminal or a non-constituent. My analysis for English possessive pronouns contradicts both of these hypotheses, since I argue that these morphemes “stretch” across multiple syntactic elements: a head ( $D_{[POSS]}$ ) and a phrase (the possessor).

The hypothesis that morpho-phonological form can only be assigned to individual terminals has been challenged.<sup>6</sup> However, for this paper it will suffice to add to Distributed Morphology the hypothesis that one morpheme can express multiple adjacent nodes via *spanning* (Bye and Svenonius 2012, Merchant 2015, Haugen and Siddiqi 2016, Svenonius 2016), thus creating a “portmanteau”. As usually defined, spanning can only target adjacent terminals (ignoring specifiers/adjuncts). Thus if pronouns are fully-projected DPs, we expect it to be impossible for a portmanteau to *span* across the possessive D and a pronoun in its specifier. However, since pronouns are a closed class of functional items that plausibly lack a lexical core (NP), it may be that (English) pronouns are usually non-projecting determiners (following Postal 1969, Abney 1987, Baltin 2012).<sup>7</sup> If so, spanning can indeed express both a possessor pronoun and the adjacent possessive D via a single portmanteau morpheme. This is what I will assume here, as (11) illustrates:

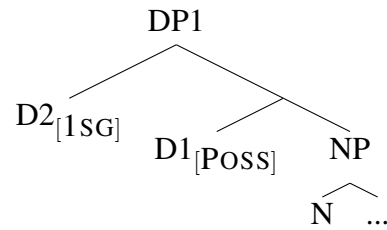
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- (i) a. [We/us/\*our students]' rights are being violated.  
 b. [You/\*your two]'s cake was the best one at the picnic.

<sup>6</sup>See for instance work in the *Nanosyntax* framework (Caha 2009, Starke 2009, a.o.). For *Nanosyntax*, it is possible to assign morpho-phonological form to non-terminal nodes and thus in effect use one morpheme to express multiple terminals. *Nanosyntax* is nevertheless capable of lexical insertion only at constituent nodes, and cannot permit one morpheme to “stretch” across multiple terminals in the way that I argue here.

<sup>7</sup>However, there is likely variation in the structure of pronouns (Déchaine and Wiltschko 2002).

(11) *Possessive portmanteau derivation: Revised*

a. *Build structure*



b. *Linearize*

[ D2<sub>[1SG]</sub> D1<sub>[POSS]</sub> N ]

c. *Insert portmanteau via spanning*

[ D2<sub>[1SG]</sub> D1<sub>[POSS]</sub> N ]  
└───┬───┘  
my            cat

The literature on spanning generally assumes that the elements expressed together by a portmanteau morpheme must be structurally adjacent. This hypothesis accurately predicts the fact that a pronoun which is linearly adjacent to a possessive D, but separated from it by additional structure, cannot trigger use of a portmanteau possessive form:

(12) *Linear adjacency is not sufficient for use of a possessive portmanteau*

- a. The picture of <sup>?</sup>**them's**/**\*their** frame is really ugly.
- b. You don't seem like yourself today. The real <sup>?</sup>**you's**/**\*your** baking skills are much better.
- c. Won't you submit little old <sup>?</sup>**me's**/**\*my** cake to the baking contest?

This concludes the core analysis. Next, I argue that this analysis has consequences for our understanding of the timing of the syntax-morphology mapping.

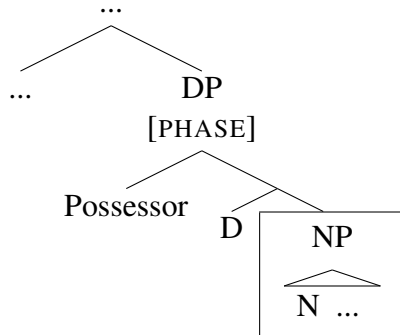
#### 4. DPs as phases and the timing of spell-out

Following Chomsky (2000, 2001) and much related work, a great deal of research has pursued the hypothesis that syntactic structures are evaluated by the morpho-phonological (and semantic) components of the grammar chunk-by-chunk.<sup>8</sup> In Chomsky's terms, these chunks are *phases*. Current research adopting phase theory most commonly assumes that vP and CP are phases. Many works take DP to be a phase as well (Heck and Zimmermann 2004, Bošković 2005, 2014, 2016, Newell 2008, Newell and Piggott 2014, Syed and Simpson 2017, Simpson and Park 2019). I argue that the English facts under examination indicate that DPs are phases, and also tell us something about the nature of phases more generally. In phase theories, when a phasal constituent is completely built, some part of it is *spelled-out* and consequently assigned morpho-phonological form. Let's consider two variants of this theory, assuming that DP is a phase.

<sup>8</sup>See Citko (2014) for an overview of many of the developments in phase theory.

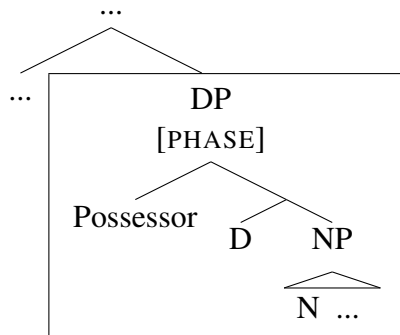
For Chomsky, when spell-out applies to a phasal phrase, only its complement is spelled-out. Therefore for this theory, when a DP is built, only NP is subject to spell-out. The rest of the material in DP will not be spelled-out until the next highest phase (vP, CP) spells-out:

- (13) *Phase theory #1: When DP is built, only NP spells-out*



Another phase hypothesis initiated by Fox and Pesetsky (2005a,b) is that when a phase is built, it is entirely spelled-out at once, entailing that all of DP and NP spell-out together:<sup>9</sup>

- (14) *Phase theory #2: Simultaneous spell-out of the entire DP*



My analysis of the immobility of possessive pronouns in English adjudicates between these two phase theories. I have proposed that the possessive pronominal forms under discussion are portmanteau morphemes which express both a possessor pronoun and possessive D. In phase theory, and Distributed Morphology more generally, it is argued that morpho-phonological form is not assigned to syntactic material until it spells-out. This means that the portmanteau morphology that expresses D and the possessive pronoun will not be assigned until the time that spell-out applies to them. Recall that under the first version of phase theory described above, when a DP is built, only NP spells out. If this is so, D and its specifier will remain un-spelled-out until the completion of a higher phase (vP, CP). Notice that under this analysis, we expect the possibility of extracting the possessor pronoun DP before portmanteau morphology is assigned. If movement separates the possessive D and possessor before they spell-out, we would expect them to both be realized with alternative morphology—presumably their default forms. For the possessive D, this

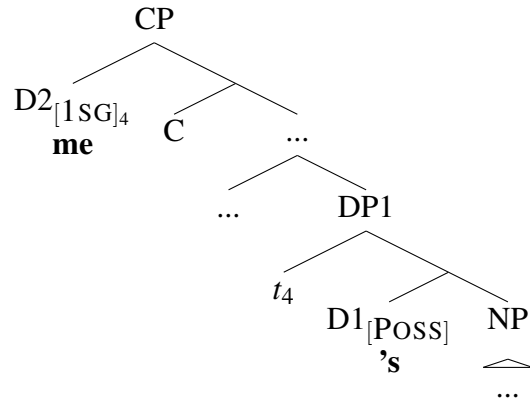
<sup>9</sup>See Davis (2020) for an in-depth discussion of this theory and relevant further literature.



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is ['s]. For the extracted pronoun, this would be accusative morphology, which has been argued to be the default form that English pronouns take when no other form is available (Marantz 1991, Schütze 2001, Preminger 2014). The schema in (15) shows this prediction:

(15) *Prediction: Separated pronoun and D will receive default morphology*



In reality, 12 of 14 speakers who accept extraction of full DP possessors (2) report that sentences matching the structure in (15) are unacceptable, as shown in (16) below.<sup>10</sup>

(16) *An alternative attempt at possessor pronoun fronting*

- a. \* Your cooking is, unfortunately, not great. **Me**<sub>1</sub>, however, I suspect [<sub>t</sub><sub>1</sub> ('s) cooking] could win prizes.
- b. \* I don't think John's cat is particularly cute, but **us/you**<sub>1</sub>, I've always said [<sub>t</sub><sub>1</sub> ('s) cat] is really adorable.
- c. \* My dog is always well behaved. But **him/her/them**<sub>1</sub>, I think [<sub>t</sub><sub>1</sub> ('s) dumb noisy dog] should get kicked out of the park.

Recall once more that typical possessive pronouns are immobile, as (17) shows again.

(17) *No extraction of possessive pronouns by topic/focus fronting*

- a. \* Your cooking is, unfortunately, not great. **My**<sub>1</sub>, however, I suspect [<sub>t</sub><sub>1</sub> ('s) cooking] could win prizes.
- b. \* I don't think John's cat is particularly cute, but **our/your**<sub>1</sub>, I've always said [<sub>t</sub><sub>1</sub> ('s) cat] is really adorable.

<sup>10</sup>Above, I adopted the proposal that pronouns are non-projecting determiners, as diagrammed again in (15) above, where the pronoun moves. As I've shown, such movement is unacceptable in reality. If movement of heads is usually strictly local (Travis 1984), then we might expect the movement in (15) to be independently ruled out. However, if pronouns are in general bare D heads, this cannot be correct: We've seen in (7) above that English pronouns are usually mobile. Under a *bare phrase structure* approach to labeling (Chomsky 1995a,b, a.o.) a non-projecting head is its own maximal projection, and thus should be capable of phrasal movement. I assume that for this reason pronouns are in general capable of phrasal movement, and argue that the configuration in (15) is illicit due to a morphological problem, not a syntactic one, as described here.

- c. \* My dog is always well behaved. But **his/her/their**<sub>1</sub>, I think [*t*<sub>1</sub> ('s) dumb noisy dog] should get kicked out of the park.

Several speakers note that the configuration in (16) is less degraded than that in (17), though still unacceptable.<sup>11 12</sup> While the sentences in (17) should indeed be illicit due to involving impossible non-constituent movement, this issue should not apply to the sentences in (16).<sup>13</sup> I argue that the sentences in (16) are unacceptable due to a morphological problem.

Recall that, under the second version of phase theory mentioned above, when a DP is constructed it is immediately and entirely spelled-out. Under this theory, we predict that there will be no chance for the possessor pronoun to extract alone into a higher part of the clause before being spelled-out. Rather, the possessor pronoun and possessive D will be assigned their combined portmanteau form immediately, before any movement from the possessed DP can occur. Since after spell-out the pronominal DP does not correspond to an independent free morpheme, there is no morpho-phonologically legal way to extract it. Extraction of an entire portmanteau possessive form would be morpho-phonologically legal, since these are free morphemes (*my*, *your*, etc.). However, they do not correspond to an exclusive constituent, so the syntax cannot extract them. Thus we accurately predict that the attempts at possessive pronoun fronting in (16) and (17) above both will fail.<sup>14</sup>

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<sup>11</sup>In both (16) and (17), ['s] is placed in parentheses to show for the sake of completeness that such sentences remain unacceptable whether this morpheme is included, or omitted.

<sup>12</sup>While 12 of 14 speakers rated the sentences in (16) as unacceptable, 6 of those 12 suggested that the violation in (16) is slightly less severe than that in the examples of (17). The remaining 2 of those 12 speakers judged that the examples in (16) are marginally acceptable. See footnote 14 below for further discussion.

<sup>13</sup>Gary Thoms (p.c.) points out that though for him possessor topic/focus fronting is somewhat degraded in the first place, possessor extraction via clefting is not (ia). He also points out that while clefting a full DP possessor as in (ia) is not degraded, it is impossible to cleft either a typical possessive pronoun (ib) or an accusative possessor pronoun (ic):

- (i) a. It's [my MOTHER]<sub>1</sub> that I suspect [[*t*<sub>1</sub>'s cooking] could win prizes].  
 b. \* It's MY<sub>1</sub> that I suspect [[*t*<sub>1</sub>('s) cooking] could win prizes].  
 c. \* It's ME<sub>1</sub> that I suspect [[*t*<sub>1</sub>('s) cooking] could win prizes].

Of the 3 speakers mentioned in the introduction who do not accept topic/focus fronting for full DP possessors, 2 of them share the contrasts shown in (i) above, while the third accepts the contrast between (ia) and (ib), but states that (ic) is acceptable. This speaker thus patterns like the 2 speakers mentioned in footnote 12 who marginally accept extraction of the form in (16). This general pattern of judgments for possessor extraction in clefts has the same distribution as the judgments for sentences involving non-clefting topic/focus extraction. These clefting facts can therefore be taken as additional evidence for the proposals laid out in this section.

<sup>14</sup>Recall that, as stated in footnote 12 above, 2 of 14 relevant speakers find the extraction configuration in (16) to be marginally acceptable. The fact that this configuration is less severely degraded for many speakers, and accepted by 2 of them, suggests that the morphological problem in (16) is less severe than the constituency problem in (17). The movement in (17) should be genuinely impossible due to the nature of Merge, which unavoidably operates only on constituents. However, the sentences in (16) could be generated by choosing a sub-optimal morphological derivation—either by suspending the usual portmanteau insertion, or by overriding the portmanteau form with default morphology after extraction occurs.

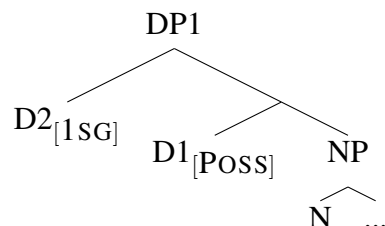
In summary, if phases fully spell-out immediately, and DP is a phase, the portmanteau expressing both D and the possessor pronoun in English is assigned before extraction can occur. Thus English possessive pronouns are immobile.<sup>15</sup>

## 5. An alternative analysis using fusion

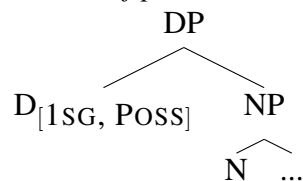
To achieve portmanteau formation, much literature assuming Distributed Morphology appeals to a mechanism of *fusion*, which unites multiple terminal nodes into one at spell-out before rules of morphological assignment apply. Since fusion operates on terminal nodes, a fusion analysis would require adopting some version of the view that pronouns are non-projecting heads, as discussed above. In the context of this analysis, it would be necessary to assume fusion of the possessor pronoun and the possessive D, as shown below:

(18) *Possessive portmanteau formation via fusion*

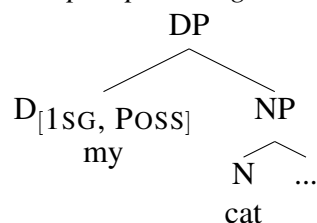
a. *Initial structure*



b. *Fusion of pronoun and possessive D*



c. *Morpho-phonological assignment*



<sup>15</sup>In Chomsky's phase theory, once spell-out applies the content of the phase's complement is inaccessible for any later syntactic operations (as defined by the Phase Impenetrability Condition) in such a way that motivates phenomena like successive-cyclic movement. In contrast, since for the Cyclic Linearization theory spell-out applies to the entire phase, this theory cannot posit a Phase Impenetrability Condition, or else it would predict the impossibility of movement from phases. Instead, Cyclic Linearization derives effects like successive-cyclic movement from considerations of word order assignment. Note that since Cyclic Linearization lacks a Phase Impenetrability Condition, it does not by itself ban extraction of a possessive pronoun in a configuration like (17) above. Therefore even in this theory, it is necessary to identify another reason for the illicitness of such extraction. The arguments of this paper fill this gap.

Assuming that the constituent in question continues to be labeled DP post-fusion, it is the case that this DP is headed by a D that is the result of fusion of multiple elements as we see above, where this fused D is realized as *my*. Since this fused D is the head of the DP, this head should be incapable of phrasal movement, which is typically unavailable for heads (Travis 1984, a.o.). Since this fused D is immobile, the possessive pronominal morpheme that realizes it is correctly predicted to be unextractable. Also, if following the arguments of the previous section this fusion process applies as soon as DP spells-out, post-syntactic fusion will always occur before there is any chance for extraction to occur.<sup>16</sup>

## 6. Conclusion

This analysis provides new evidence that one morpheme can express adjacent terminals via mechanisms like *spanning* or *fusion*. The impossibility of bleeding portmanteau formation by possessive pronoun extraction (presumably resulting in default non-portmanteau morphology) provides evidence that phases spell-out all at once, and that DPs are phases.<sup>17</sup>

Various questions remain. For example, the post-nominal possessive construction in (19a) below, which also arises in ellipsis contexts (19b) may involve (in some instances) the co-occurrence of [’s] and a possessive pronoun. Since I’ve argued that such pronouns express possessive D, this is a puzzle (as is the nature of *mine*), which I leave unsolved.

- (19) *Potential combination of possessive pronoun and [’s] post-nominally*
- a. a cat of mine / ours / yours / his / hers / theirs
  - b. Q: Is that a cat? A: Yes, mine / ours / yours / his / hers / theirs

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<sup>16</sup>Under a *bare phrase structure* approach to labeling (Chomsky 1995a,b, a.o.) a non-projecting head is its own maximal projection, and therefore should be capable of phrasal movement. Thus if pronouns are generally non-projecting determiners as discussed in section 3.1 above, those pronouns that are not formed via fusion are correctly predicted to still be capable of movement, as in (7) above.

<sup>17</sup>The analysis of English possessor extraction in Davis (2021) argues against the phasehood of DP. Davis (2020) criticizes this proposal, and attempts to revise that account to allow for DP phasehood. The analysis of possessive pronoun immobility that I have proposed here works straightforwardly if we assume that DPs are phases, though these results might also emerge as desired assuming just the phasehood of vP and CP.

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