1 Introduction

In British English (BrE), the objects of certain prepositions may surface as a gap (null), as in (1).

• These Prepositional-Object Gaps (POGs) are apparently unique to varieties spoken in the UK.¹

• They are unattested in e.g. American English (AmE), which instead require overt pronominals in P-object position.

(1) a. This film₁ has monsters in _i.
   b. The film₁ with monsters in _i was scary.
   c. Those tables₁ have stools beneath _i.
   d. Those tables₁ with stools beneath _i are dirty.
   e. Canals₁ always have bridges across _i in the Netherlands.
   f. Canals₁ with bridges across _i are common here.

• POGs are only licensed in an incredibly narrow set of contexts. Namely: POGs only show up as:
  ▸ ...complements of spatial prepositions...
  ▸ ...which are themselves embedded under HAVE/WITH possessives...
  ▸ ...whose possessor is coreferential with the gap. (?!)

Goals for today’s talk:

• Job one: provide a description of POGs, a phenomenon that has not been described previously.

• Job two: furnish an analysis of POGs that makes sense of its unusually constrained licensing environment.
  ▸ POGs end up revealing a fair bit about possessives and PP structure that their overt-pronominal counterparts can’t.
  ▸ Bonus: the variation between POG vs. non-POG dialects reduces to featural variation on a single head.

Roadmap for the talk:

• First, provide background on HAVE/WITH possessives, as they play a crucial role;

• Second, identify the nature of the gap in POG sentences:
  ▸ After eliminating all other possibilities (e.g. topic drop, A-bar movement), we conclude POGs = A-movement traces.

• Finally, give a formal account in which POGs are treated on par with raising-to-subject across an experiencer (John

¹We would like to thank Neil Myler, Masha Polinsky, and the audiences of TIN-Dag 2015 and LAGB 2015 for helpful feedback. An early version of this work appeared as Griffiths and Sailor (2015), though the analysis here differs significantly.

²Investigation into the precise dialectal distribution of POGs is ongoing. Early results reveal that, for example, Scottish consultants find that POGs “sound English”, while North American, Australian, and South African consultants reject them outright.
seems to me to be nice).

- The possessor in POGs raises across the possessum for Case, which accounts for its unusual licensing.

2 HAVE/WITH possessives

2.1 POGs are only licensed in HAVE/WITH possessives

POGs only arise within possessive environments:

(2) a. Don't watch that film—there's a monster in *(it)!
   b. I won't watch that film because a monster is in *(it).
   c. See that table? Look at the cute dog beneath *it!
   d. I won't deliver to that house because of the spooky graveyard behind *(it).
   e. My car's number plate happens to be in *(it) at the moment.
   f. A church's graveyard can usually be found behind *(it).

- In particular, a POG must be interpreted as coreferential with a higher possessor.
- However, POGs are not licensed in canonical (Saxon Genitive) possessive structures in BrE:

(3) a. The film's production crew are all in *(it).
   b. This table's stools are beneath *(it).
   c. A church's graveyard is usually behind *(it).
   d. That car's number plate is in *(it).

- What's required is a HAVE/WITH possessive superstructure, as in (1) above.²

From this, we can make two inferences:

- First, the syntax of HAVE possessives and the syntax of WITH possessives must be maximally similar;
- Second, the derivation of POGs crucially relies on some component of their shared syntax.

2.2 Unifying HAVE and WITH possessives: Levinson (2011)

Levinson (2011) looks at the shared properties of simplex HAVE and WITH possessives such as:

(4) I met a man with grey hair.
(5) John has grey hair.

Using comparative Germanic data (from Icelandic, German, and English), Levinson argues:

- Germanic-style HAVE vs. WITH possessives are two sides of the same coin, where
  - WITH possessives are attributive, and
  - HAVE possessives are predicative.
- Each involves a possessive preposition, which we will call \( P_{\text{poss}} \) (which is non-locative, contra Freeze 1992 a.o.).
  - \( P_{\text{poss}} \) is defective: it has no Case feature.
  - Merging a higher Case-bearing functional head is required to properly license the possessum.
    - The choice of head (and attendant structure) leads to the WITH vs. HAVE distinction.

²POGs are also licensed in the HAVE GOT possessive as well, e.g. *This book has got weird pictures in_. We take this to reveal that HAVE GOT possessives (an otherwise ill-understood phenomenon) share fundamental properties with HAVE/WITH possessives (see below).
In an attributive-possessive structure, the requisite Case feature is borne by a higher functional $p$.

- This $p$ serves to properly Case-license the possessum.
- The $p + P_{pos}$ complex is spelled out as WITH.
  - Levinson implements this using incorporation of $P_{pos}$ into $p$.
  - We will instead use an in-situ, Svenonian spanning approach (collective spelling out of head sequences: Svenoni\-nius 2012), though nothing crucially relies on this (but see Appendix).\(^3\)

(6) **Attributive WITH possessives (adapted from Levinson 2011:384)\(^4\)**

```
    DP
   / \  \\
  D   pP
     / \\
  NP   p'
        / \\
       the men     p
          /   \\
         PP   P_{pos}
            /   \\
           with   DP
                  / \\
                 a book
```

- This DP can then be merged as an argument of a predicate, as in *[The men with a book] left.*

Predicative-possessive structures share the same $P_{pos}$ core, but with verbal superstructure.

- Here, it's little-$v$ that Case-licenses the possessum.
- HAVE decomposes into $P_{pos}$ + verbal material (Levinson assumes BE+$v$), yielding predicative status.

(7) **Predicative HAVE possessives (adapted from Levinson 2011:388)**

```
    vP
   /  \\
  DP   v'
     /   \\
  They   v
       /   \\
      VP   PP
        /   \\
       V_{BE}   P_{pos}
          /   \\
         have   DP
                 / \\
                a book
```

- The possessor here still requires Case, and undergoes the usual steps (e.g. movement to [Spec, TP]) to find it.

So what unifies these two possessive types is the lexical semantics and argument structure of $P_{pos}$ (see also Myler 2014 for relevant discussion).

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\(^3\)We represent *spans* – head sequences spelled out collectively – with dotted lines, because we couldn't work out how to do squiggly ones in \LaTeX.

\(^4\)Levinson assumes a Kaynean promotion-like configuration (i.e. a discontinuous "DP": an external D plus a bare NP in Spec of its complement $pP$). For various reasons, we assume a regular full DP occupies [Spec, $pP$], with the external D serving solely to nominalize the $pP$. 

3


2.3 Complex HAVe/WITH possessives with overt pronominal P-objects

Before moving on to POGs:

- How would Levinson’s (2011) analysis extend to cases where a full (non-POG) PP is embedded under HAVe/WITH?
- These are of course available in BrE (and the only strategy available to non-BrE varieties):

\[(8) \quad \begin{align*}
\text{a. } & \text{This film has monsters in it}_i. \\
\text{b. } & \text{The film with monsters in it}_i was scary. \\
\text{c. } & \text{Those tables have stools beneath them}_i. \\
\text{d. } & \text{Those tables with stools beneath them}_i are dirty. \\
\text{e. } & \text{Canals always have bridges across them}_i in the Netherlands. \\
\text{f. } & \text{Canals with bridges across them}_i are common here. \\
\end{align*}\]

Levinson doesn’t discuss such structures at all, but we can see how they might work.

- We assume that the pairs in (8) simply involve a P\text{poss} that selects a pP small clause complement, rather than a DP\textsuperscript{5}.
  - We claim: everything above P\text{poss} is unchanged from (6) and (7) above.
- The head of this pP small clause:
  - Takes the possessum as its specifier;
  - Bears a Case feature (K), which licenses the pronominal P-object in its complement.

\[(9) \quad \begin{align*}
&\text{P\text{poss} with a pP small clause complement} \\
&\quad \text{PP} \\
&\quad \text{P\text{poss}} \\
&\quad \text{pP} \\
&\quad \text{DP} \\
&\quad \text{monsters} \\
&\quad \text{p} \\
&\quad \text{PP} \\
&\quad \text{P} \\
&\quad \text{DP} \\
&\quad \text{i} \\
&\quad \text{in} \\
&\quad \text{it}_i \\
\end{align*}\]

- As above, the possessive PP structure in (9) will be realized as:
  - A WITH possessive if it is selected by p\text{p}, or,
  - A HAVe possessive if it is selected by a V\text{+}v.
- Either way, the pronominal P-object receives its interpretation from the higher possessor.

We take this structure as the jumping-off point for our analysis of POGs.

\textsuperscript{5}At least two arguments militate against a possible alternative in which the lower PP is treated as an adjunct on the possessum DP (see also the conventional arguments for small clauses). The first is thematic/semantic: the PP serves to define a possession relation between the possessor and a region in space relative to the possessor and the possessum, which is unexplained if the PP is simply adjoined to the possessum DP (cf. I want you out of the house ⇒ I want you). Secondly, a true PP adjunct cannot intervene between the possessum and the PP containing the pronominal (??This park has a fair [on Saturdays] behind it.), which would be surprising if the pronominal’s PP were itself an adjunct.
3 The nature of the gap in POGs

What is it? Two fundamental possibilities (familiar from the typology of empty categories):

- POGs are dropped topics or similar null pronominal;
- POGs are the residue of movement (i.e. a trace/unpronounced copy).
  - If POGs are created by movement, what type? (i.e. A vs. A')

We consider each possibility in turn.

- Having eliminated all other possibilities, we will conclude that POGs are the result of A-movement.

3.1 POGs aren't null pronominals

One simple possibility: POGs are just silent versions of their overt pronominal counterparts in (8).

- In this scenario, the possessor is base-generated at the left edge of the extended PP structure associated with HAVE/WITH possessives; it does not undergo movement within this domain.
- From this position, it (somehow) licenses the use of pro (or similar) in P-object position in BrE.

(10) The box, with/has a skunk in pro, ...

This looks reasonable at a glance, as English is known to permit null elements within the PP domain (Fraser 1965).

- E.g., null directive and genitive PPs are easily licensed when they contain pronouns whose antecedents are discourse-salient (11);
- And, an unproductive class of null-pronouns are observed in idiomatic collocations ((12), see Svenonius 2010).

(11) a. I'm lost. I'm standing by a hairdressers. There's a bus-stop opposite (to it/me).
   b. I drank at the pub with the most people inside (of it).
(12) a. We're going on to the next pub now, but John is staying behind (#us).
   b. There are olive trees growing in the valley below (us/here).

However, these are available in all varieties of English, whereas POGs are exclusive to BrE.

- They also don't require a possessive superstructure, which POGs do (see §2.1 and below).
- Thus, (11) and (12) seem fundamentally different from POGs.

Problem: English doesn't have productive null pronominals.\(^6\)

- If one is involved in POGs, why can't it be used anywhere else in English (BrE or beyond)?
- Reminder: POGs are restricted to BrE, only arise as complements of particular Ps, and must be anaphoric to an inanimate possessor subject of a higher HAVE/WITH possessive PP.
  - It would highly undesirable to write these complex licensing requirements into the lexical entry of a special null pronominal.
    - Indeed, it may not even be formalizable (depending on theoretical commitments).
  - A restrictive analysis of POGs wouldn't just stipulate this special distribution.

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\(^6\)Setting side non-standard registers, e.g. recipes, diary contexts, etc.
3.2 **POGs are derived by movement**

Crucially, POGs exhibit certain characteristic properties of movement. For example, complex possessors in * HAVE / WITH possessives are islands when a POG is present, but not when the P-object position is filled with an overt pronominal.⁷

- That is, speakers report a contrast within the pairs in (13)-(15) below, with the (a) sentences deemed consistently more acceptable than the (b) sentences.⁸

(13) (Remind me again...)
   a. Which president did you read [a book about \( t \)] with a bunch of torn pages in it?
   b. *Which president did you read [a book about \( t \)] with a bunch of torn pages in _?

(14) (Remind me again...)
   a. Which city did Mary give you [pictures of \( t \)] with coffee stains on them?
   b. *Which city did Mary give you [pictures of \( t \)] with coffee stains on _?

(15) (Remind me again...)
   a. Which church did Mary show you [a website for \( t \)] with that creepy graveyard behind it?
   b. *Which church did Mary show you [a website for \( t \)] with that creepy graveyard behind _?

If POGs were simply null pronominals:

- Subextraction from possessors in POG sentences should behave the same as their overt-pronominal counterparts.

But if POGs were derived by movement:

- Subextraction from possessors should yield a freezing effect (Wexler and Culicover 1980, Corver 2006a).
- The badness of these examples suggest that POG possessors are derived islands, consistent with movement.
  - When the P-object position is filled with a pronominal, possessor movement evidently does not take place, and subextraction is possible.

(16) a. Which president\( t \) did you read [a book about \( t \)] with a bunch of torn pages in it?
   b. *Which president\( t \) did you read [a book about \( t \)] with a bunch of torn pages in \( t \)?

Conclusion: the syntax of POGs is quite different from their overt-pronominal counterparts.

- POGs are derived by possessor movement (across the possessum: see below);
- Their overt-pronominal counterparts simply involve two separate (but coreferential) DPs:
  - One base-generated in the possessor position of the * HAVE / WITH structure;
  - One base-generated (realized as a pronominal) in the low P-object position.

So the evidence favors a movement analysis, but movement of what type?

### 3.2.1 POGs aren't derived by \( \Lambda' \)-movement

Possibility: POGs are be the result of \( \Lambda' \)-movement (qua traces, or unpronounced copies), akin to relativization:

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⁷ Of course, extraction from canonical possessors in English is impossible due to a ban on left-branch extraction; however, under Levinson’s (2011) analysis (see §2.1), * HAVE / WITH possessors are not in canonical left-branch configurations (Corver 2006b). Such possessors should therefore not resist extraction, as the (a) examples in (13)-(15) confirm.

⁸ We thank Masha Polinsky for suggesting this diagnostic. Note that the judgment marks here are somewhat idealized: some speakers differ in the extent to which they find the (a) examples perfect and the (b) examples fully out. What matters for our purposes is that speakers consistently report a contrast, with a preference for the (a) examples to the (b) examples.
Problem 1: the possessor in a HAVE-possessive POG comes to occupy subject position, [Spec, TP] (and can undergo successive A-movement into higher clauses: see below).

- If POGs are the traces of possessor A'-movement, then its subsequent movement into [Spec, TP] would violate the Improper Movement Condition.

Problem 2: if possessors in POGs undergo A'-movement, they ought to exhibit weak crossover effects.

- Run-of-the-mill A'-movement (e.g. relativization) triggers WCO, as in (18b).
- Yet moving the possessor across a coreferential possessum is grammatical, as in (18a):

  (18) a. The car [with/has] its own number plate in ...
  b. *The car that its own number plate was in ...

Problem 3: POGs fail to license parasitic gaps, again contrary to expectation if A'-movement is involved:

(19) a. John filed the papers with doodles on without having read *(them).
  b. I heard the party bus with all the drunk people on before actually seeing *(it).

It would seem that an A'-movement analysis is not the correct one for POGs.

3.2.2 Remaining conclusion: POGs are derived by A-movement

Having eliminated the other possibilities, we are left with A-movement as the only remaining culprit.

- Consistent with this: the possessor can freely undergo successive instances of raising-to-subject:

(20) This box seems (to appear (to be likely)) to have a skunk in ...

- Also: as we just saw in (18), possessors in POGs can bind into the lower possessum.
  - A-movement is independently known to create new binding possibilities.

(21) John seems to himself to be a genius.

So POGs = A-movement traces.

- But why move? And why do dialects vary?

4 Analysis

Proposal: the differences between POGs (1) and their overt-pronominal counterparts (8) reduces to featural microvariation on Pposs.

- Specifically, the selectional features on Pposs dictate whether a POG arises or not.
  - Flavors of Pposs vary according to whether they select a Case-deficient complement or not.
    - The presence or absence of POG-deriving A-movement reflects the presence or absence of a Case feature for the lower P-object to satisfy.
    - This is a property determined solely by the selectional properties of the Pposs type drawn from the lexicon.
Concretely:

- In overt-pronominal sentences, $P_{poss}$ selects a $pP$ small clause whose head bears a Case feature.
  - This allows the lower $P$-object to receive Case locally, surfacing in-situ as a pronominal.
- In POG sentences, $P_{poss}$ selects a defective $pP$ small clause, i.e. one whose head lacks a Case feature.
  - This means the lower $P$-object cannot get Case locally, necessitating A-movement into a Case position to receive Case externally. This leaves behind a POG.

Formalizing this, we adopt an articulated representation of morphosyntactic (sub)features along the lines of Adger (2003:ch. 2), Aelbrecht (2010:§3.1.4), and others:

(22) **Lexical entry for canonical (overt-pronominal)** $P_{poss-1}$

\[
\begin{array}{c}
\text{CAT} \; P_{[poss]} \\
\text{INFL} \; \ldots \\
\text{SEL} \; pP_{-[+K]} \\
\end{array}
\]

(23) **Lexical entry for POG-generating** $P_{poss-2}$

\[
\begin{array}{c}
\text{CAT} \; P_{[poss]} \\
\text{INFL} \; \ldots \\
\text{SEL} \; pP_{-[K]} \\
\end{array}
\]

The dialectal distribution of these two different flavors of $P_{poss}$ is not equal:

- To our knowledge, the $P_{poss}$ that selects for a Case domain is available in all varieties of English, including (optionally) BrE.
- The $P_{poss}$ that selects a Case-deficient domain is only in the BrE lexicon.
  - Optionality in BrE between POGs vs. their overt pronominal counterparts reflects the choice between these two $P_{poss}$ types (evidently without any semantic effects).

(24) **Dialectal distribution of flavors of** $P_{poss}$

<table>
<thead>
<tr>
<th></th>
<th>British English</th>
<th>Other Englishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_{poss-1}$</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[SEL: $pP_{+[+K]}$]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$P_{poss-2}$</td>
<td>✓</td>
<td>—</td>
</tr>
<tr>
<td>[SEL: $pP_{[-K]}$]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- This is microvariation of a very familiar sort, namely at the level of selectional features.
  - (See e.g. *We agreed a price*: ✓BrE, *AmE.)

Here's how each $P_{poss}$ type yields the patterns we've seen (obscuring higher, external Case assigners (e.g. T))

- Complex with possessives with overt $P$-objects (25) and POGs (26):\(^{10}\)

---

\(^{9}\)CAT = categorial; INFL = inflectional; SEL = selectional; [K] = Case.

\(^{10}\)We depart slightly from Levinson’s (2011) analysis of attributive $P_{poss}$ structures: see fn. 4.
A question that immediately arises: why is there no intervention effect in the derivation of POGs?

- The syntax of POGs bears obvious similarities to that of raising-to-subject across an experiencer:

(29)  
   a. This film_i {with/has} monsters_j in t_i ...
   b. This film_i seems to John_j t_i to be scary.

- Various stories for why raising of this sort doesn't lead to intervention (Chomsky 2000, Collins 2005, Hartman 2011, Bruening 2014, among others)
  
  - The simplest explanation: the experiencer DP is not in competition with the raised DP in the relevant sense (i.e. as goals for Agree for Case licensing)
  
  - For example, if the experiencer is Case-licensed by an element below the matrix T (e.g. to), then it will be inactive when T probes the structure for a DP in need of Case.

- We assume just the same holds of the POG derivations, above.
5 Further support: POGs’ sensitivity to their selecting P

Observation: not all Ps tolerate POGs in their P-object position.

- This is true even when all other POG-licensing requirements are satisfied:

(30) a. I drank at the pub with the most people inside of *(it).

   Genitive

b. This barrel has radiation leaking from *(it).

   Ablative

c. This computer game has add-ons for *(it).

   Benefactive

d. A kangaroo with a joey with *(it) just hopped through the park.

   Comitative

e. A film with no others like *(it) is coming out next week.

   Semblative

f. This film has an intermission during *(it).

   Perlative

g. That university has a conference at *(it).

   Hospitative

h. A car with newer models than *(it) can’t be sold.

   Comparative

- The crucial difference: the bad POGs in (30) are all complements of non-spatial Ps.


  ▶ Deriving these more complex prepositional meanings require additional structure;

  ▶ This necessarily includes a Case-bearing head, precluding a POG. (See Appendix for more.)

Thus, the fact that POGs can only be complements of spatial P – the simplest (i.e. smallest, from a nanosyntactic perspective) PP – is consistent with our analysis:

- Inclusion of more structure to derive more complex meanings will bring along with it a Case feature, blocking a POG.

- Only when the PP structure is simplex can a Case domain be avoided via selection.

  ▶ See Appendix for further discussion.

6 Conclusion

Prepositional-Object Gaps in British English...

- ...Offer strong evidence in favor of a unified syntax of HAVE and WITH possessives (Levinson 2011).

- ...Are derived by A-movement, implicating a Case-based account.

  ▶ We provided such an account, equating POGs to raising-to-subject across an experiencer.

  ▶ This syntax arises due to the selectional features of the possessive preposition P_{poss}.

  ▶ British English has a P_{poss} with slightly different selectional properties than other Englishes, accounting for the dialectal variation we see.

    ▶ This point of microvariation leads to significant syntactic differences.

- ...Tell us that a nanosyntactic approach to the adpositional domain may well be the right one:

  ▶ POGs only arise in just those PPs that a nanosyntactic approach predicts to be small enough to lack a Case-licenser.

- ...Provide an intriguing diagnostic into the structure of phenomena related to HAVE/WITH, namely:

  ▶ HAVE GOT possessives, which also license POGs (but are not well-understood); and,

  ▶ GET/NEED phenomena, which partially license POGs, consistent with Harves and Kayne (2012).

    ▶ Work on these is ongoing.
References


Fraser, Bruce. 1965. An examination of the verb-particle construction in English. Doctoral Dissertation, MIT.


0 Appendix: Why POGs can’t occur as the complements of certain Ps

The analysis advanced in §4 states that British English dialects that permit POGs exhibit a version of $P_{\text{poss}}$ that may select a PP small clause, which is a non-case domain.

- This would seem to prediction that POGs are licensed regardless of the nature of the P they are sister to.
  - This prediction is incorrect, as we saw in (30).
- To understand this, we assume a highly articulated syntax of $p$Ps, along the lines of Caha (2011), den Dikken (2010), Koopman (2010), Svenonius (2010), and many others.

0.1 Background: the nanosyntax of PPs

The functional heads in the prepositional domain do much more than just assign Case.

- Like verbs, they encode relations between arguments (static location, static possession, direction of possession and motion, etc.).
- English spatial Ps can only encode static location (Koopman 2010, Svenonius 2010).
- $p$ does not assign Case (contrary to assumptions made above, which were a simplification).
  - Instead, it functions solely to introduce external arguments.
- Case is assigned by a functional head (call it K) that selects for PP.
  - K bears an interpretable Case feature, $[\text{iK}]$.
- Any relation more complicated than static location (including non-spatial relations) must be encoded in a sequence of functional heads (an $fseq$ in Nanosyntax) in the region between $p$ and P.
- Complex semantic relations are built from simple ones (Caha 2011, Svenonius 2010, among others).
  - Importantly, all $fseq$s that encode complex relations must include the Case-assigning projection $KP$.

(31) General schematic for the articulated (complex) prepositional domain

\[
\text{\ldots}[pP \text{ (DP)}]_p \frac{p}{FP1 F1 [FP2 F2 \ldots [FPn FN [KP K_{[iK]} [PP P DP ]]]]]}{fseq}\\
\]

- Our traditional notions of Case (genitive, locative, ablative, etc.) are actually descriptions of $fseq$s of varying size.

0.2 Precluding POGs: Semantically complex PPs are Case domains

Because POGs arise due to $P_{\text{poss}}$ selecting a prepositional small clause (see §4), only prepositions that morphologically realize P are licit in POG constructions.

- These prepositions are semantically simplex: they encode static location, which is the most basic prepositional meaning (Koopman 2010, Svenonius 2010).

All other prepositions either morphologically realize, or require for semantic reasons, the presence of one or more functional projections from the $fseq$ that dominates PP.

- Because this $fseq$ will necessary include KP, the P-object’s Case is checked locally, precluding the A-movement that derives POGs.

(32) A POG-precluding prepositional domain

This city has $p$ many famous people $p_{FP1 F1 [FP2 F2 \ldots [FPn FN [KP K_{[iK]} [PP P DP ]]]]]$