PPs with gaps in*

Craig Sailor University of Cambridge cwsailor@gmail.com James Griffiths

University of Konstanz jamesegriffiths@gmail.com

LSA Annual Meeting – Austin, TX

5 January 2017

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 film_i has monsters in $_{i}$.
 - b. The film_i with monsters in $__i$ was scary.
 - c. Those tables i have stools beneath $__i$.
 - d. Those tables_i with stools beneath $_{i}$ are dirty.
 - e. Canals_i always have bridges across _i in the Netherlands.
 - f. Canals_i 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

^{*}We 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.

¹Investigation 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_i's production crew are all in $*(it_i)$.
 - b. This table_i's stools are beneath *(it_i).
 - c. A church_i's graveyard is usually behind $*(it_i)$.
 - d. That car_i 's number plate is in $*(it_i)$.
 - 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**_{poss} (which is non-locative, contra Freeze 1992 a.o.).
 - P_{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 $p + P_{poss}$ complex is spelled out as WITH.
 - Levinson implements this using incorporation of P_{poss} into *p*;
 - ▶ We will instead use an in-situ, Svenonian spanning approach (collective spelling out of head sequences: Svenonius 2012), though nothing crucially relies on this (but see Appendix).³
- (6) Attributive WITH possessives (adapted from Levinson 2011:384)⁴



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_{poss} core, but with verbal superstructure.

- Here, it's little-*v* that Case-licenses the possessum.
- HAVE decomposes into P_{poss} + verbal material (Levinson assumes BE+v), yielding predicative status.
- (7) Predicative HAVE possessives (adapted from Levinson 2011:388)



• 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_{poss} (see also Myler 2014 for relevant discussion).

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

⁴Levinson 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.

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) a. This film_i has monsters in it_i .
 - b. The film $_i$ with monsters in it $_i$ was scary.
 - $c. \quad Those \ tables_i \ have \ stools \ beneath \ them_i.$
 - d. Those tables_i with stools beneath them_i are dirty.
 - e. Canals_i always have bridges across them_i in the Netherlands.
 - f. Canals_i with bridges across them_i are common here.

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_{poss} that selects a <u>*p*P small clause</u> complement, rather than a DP.⁵
 - ▶ We claim: everything above P_{poss} is unchanged from (6) and (7) above.
- The head of this *p*P small clause:
 - Takes the possessum as its specifier;
 - Bears a Case feature (K), which licenses the pronominal P-object in its complement.
- (9) P_{poss} with a *p*P small clause complement



- As above, the possessive PP structure in (9) will be realized as:
 - A WITH possessive if it is selected by *p*; or,
 - A HAVE possessive if it is selected by a V+*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.

⁵At 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_i {with/has} a skunk in pro_i ...

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.

⁶Setting 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 <u>not</u> 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.
- a. Which president_j did you read [a book about t_j] with a bunch of torn pages in it?
 b. *Which president_i did you read [a book about t_i]; with a bunch of torn pages in t_i?

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 A'-movement

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

⁷Of 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.

⁸We 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.

(17) $[_{vP/pP}$ The box_i {with/has} a skunk in t_i] ... A'-movement?

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_i {with/has} its_i (own) number plate in _i ... b. *The car_i that its_i (own) number plate was in t_i ...

_____ A'-movement _____

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

- (19) a. John filed the papers_i with doodles on $__i$ without having read *(them).
 - b. I heard the party bus_i with all the drunk people on $_{-i}$ 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_i seems (to appear (to be likely)) to have a skunk in $__i$.
 - 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_i seems to himself_i t_{John} 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 P_{poss} .

- Specifically, the selectional features on P_{poss} dictate whether a POG arises or not.
 - ▶ Flavors of P_{poss} vary according to whether they select a <u>Case-deficient complement</u> 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 P_{poss} type drawn from the lexicon.

Concretely:

- In overt-pronominal sentences, P_{poss} selects a *p*P 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 *p*P 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:⁹

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

 $\begin{bmatrix} CAT & P_{[poss]} \\ INFL & \dots \\ SEL & \boldsymbol{pP}_{[+K]} \end{bmatrix}$

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

CAT P_[poss] INFL ... SEL **pP**_[-K]

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}

	British English	Other Englishes
$P_{\text{poss-1}}$ [SEL: $pP_{[+K]}$]	\checkmark	\checkmark
P_{poss-2} [SEL: $pP_{[-K]}$]	\checkmark	_

- 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

⁹CAT = categorial; INFL = inflectional; SEL = selectional; [K] = Case.

¹⁰We 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?

p

[+K]

pP

DP

monsters

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

n

Р

in

PP

 DP_i

them

(29) a. This film_i {with/has} monsters_i in t_i ...

ο

have

P_{poss-1}

- b. This film_i seems to John_i 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)

ο

have

P_{poss-2}

pP

p

[**-**K]

PP

Р

in

DP

monsters

- 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 <u>non-spatial</u> Ps.
 - What distinguishes spatial and non-spatial Ps? <u>Case</u> (Svenonius 2010, Koopman 2010, Caha 2011).
 - 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 Caselicenser.
- ...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

Adger, David. 2003. Core syntax: A minimalist approach. Oxford University Press.

Aelbrecht, Lobke. 2010. The syntactic licensing of ellipsis. Amsterdam/New York: John Benjamins.

Bruening, Benjamin. 2014. Defects of defective intervention. Linguistic Inquiry 45:707–719.

Caha, Pavel. 2009. The nanosyntax of case. Doctoral Dissertation, University of Tromsø.

Caha, Pavel. 2011. Case in adpositional phrases. Lingbuzz/001325.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. MIT Press.

Collins, Chris. 2005. A smuggling approach to raising in English. *Linguistic Inquiry* 36:289–298.

Corver, Norbert. 2006a. Freezing effects. In *The Blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk, volume 2, chapter 28. Blackwell Publishing.

Corver, Norbert. 2006b. Subextraction. In *The Blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk, volume 4, chapter 66. Blackwell Publishing.

den Dikken, Marcel. 2010. On the functional structure of locative and directional PPs. In *Mapping spatial PPs*, ed. Guglielmo Cinque and Luigi Rizzi, chapter 3, 74–126. Oxford University Press.

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

Freeze, Ray. 1992. Existentials and other locatives. *Language* 68:553–595.

Griffiths, James, and Craig Sailor. 2015. Prepositional object gaps in British English. In *Linguistics in the Netherlands*, ed. Björn Köhnlein and Jenny Audring, volume 32, 63–74. John Benjamins.

Hartman, Jeremy. 2011. (Non-)intervention in A-movement: Some cross-constructional and cross-linguistic considerations. *Linguistic Variation* 11:121–148.

Harves, Stephanie, and Richard Kayne. 2012. Having 'need' and needing 'have'. *Linguistic Inquiry* 43:120–132.

Koopman, Hilda. 2010. Prepositions, postpositions, circumpositions, and particles. In *Mapping spatial PPs*, ed. Guglielmo Cinque and Luigi Rizzi, volume 6 of *The Cartography of Syntactic Structures*, chapter 2, 26–73. Oxford University Press.

Levinson, Lisa. 2011. Possessive WITH in Germanic: HAVE and the role of P. Syntax 14:355–393.

Myler, Neil. 2014. Building and interpreting possession sentences. Doctoral Dissertation, NYU.

Svenonius, Peter. 2010. Spatial P in English. In *Mapping spatial PPs*, ed. Guglielmo Cinque and Luigi Rizzi, volume 6 of *The Cartography of Syntactic Structures*, chapter 4, 127–160. Oxford University Press.

Svenonius, Peter. 2012. Spanning. Lingbuzz/001501.

Wexler, Kenneth, and Peter Culicover. 1980. Formal principles of language acquisition. Cambridge, MA: MIT Press.

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_{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 <u>highly articulated syntax of *p*Ps</u>, 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, [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 fseqs that encode complex relations must include the Case-assigning projection KP.
- (31) General schematic for the articulated (complex) prepositional domain $\left[r_{\rm P}({\rm DP})\right] = r_{\rm F} \left[r_{\rm F} \Gamma_{\rm F}\right] = \left[r_{\rm F} \Gamma_{\rm F}\right$
 - $\dots [pP (DP) [_{p'} p [_{FP1} F1 [_{FP2} F2 \dots [_{FPn} Fn [_{KP} K_{[iK]}]_{PP} P DP]]]]]]$

fseq

- Our traditional notions of Case (genitive, locative, ablative, etc.) are actually descriptions of fseqs of varying size.
 - See Caha (2009, 2011) for extensive discussion.

0.2 Precluding POGs: Semantically complex PPs are Case domains

Because POGs arise due to P_{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 $[_{pP}$ many famous people $[_{p'} p [_{FP1} F1 [_{FP2} F2 \dots [_{FPn} Fn [_{KP} K_{[iK]}]_{PP} P DP]]]]]]$

from