A-movement out of PP diagnoses Voice[Pass]

1. Claim: A-movement out of PP in English is highly restricted. This restriction is accounted for if A-movement out of PP must be licensed by a lexically specified head: Voice[Pass]. I propose that PP is an opaque domain—specifically, a *horizon* (Keine 2020)—for all [∗A∗]-probes except that on Voice[Pass]. This analysis is compatible with an independent diagnostic for non-active Voice—Perlmutter's Generalization—and has consequences for the sequence of heads in the verbal domain, the structural position of *by*-phrases, and the internal syntax of derived words. **2. A-movement out of PP.** English A-movement that does ((1)–(3)) and does not ((4)–(6)) exit PP is attested in verbal passives, adjectival passives, and 'concealed' passives.

(1) *Verbal passive* (*be/get*):
The patient was/got treated (by a specialist).

(4) *Verbal pseudopassive* (*be/get*):
The patient was/got operated on (by a specialist).

(2) *Adjectival passive*:
That patient appears treated (by a specialist).

(5) *Adjectival pseudopassive* (Wasow 1977):
That patient appears operated on (by a specialist).

(3) *Concealed passive*:
That patient needs/wants treating immediately (by a specialist).

(6) *Concealed pseudopassive* (Huddleston 2002):
That patient needs/wants operating on immediately (by a specialist).

This parallelism breaks down, however, in certain other domains. Although DP internal arguments of transitive verbs can undergo A-movement in middles, 'passive' nominalizations, object shift, and unaccusatives ((7)–(10)), there are no comparable variants evacuating PP ((11)–(14)) (though see Keyser & Roeper 1984, Newman 2020, and Wilson 2021 on some speakers' marginal or full acceptance of certain pseudomiddles).

(7) *Middle*:
That kind of patient treats easily (with chemotherapy).

(11) **Pseudomiddles* (Fagan 1988, Postal 2004, 2010):
*That kind of patient operates (on) easily (with the right kind of surgical tools).

(8) *Nominal 'passive'*:
the patient's treatment by a specialist

(12) **Nominal 'pseudopassives'* (Emonds 1970, Postal 2004):
*the patient's operation (on) by a specialist

(9) *Object shift*:
I caught the patient$_i$ up ___$_i$.

(13) **Pseudo-object shift*:
*I caught the patient$_i$ up with ___$_i$.

(10) *Unaccusative*
She$_i$ vanished ___$_i$.

(14) **Pseudounaccusative* (McGinnis 1998, Wilson 2021):
*She$_i$ seemed [to ___$_i$] then [that surgery was needed].

For many speakers, there are also no 'pseudopassive' *-able* adjectives evacuating PP (cf. Kayne 1984):

(15) *'Passive' -able*:
Such patients are treatable by specialists.

(16) %*'Pseudopassive' -able*:
%Such patients are operatable on only by specialists.

3. A-movement out of PP diagnoses Voice[Pass]. A-movement out of PP, then, is more restrictive than A-movement which does not exit a PP. I propose that the relevant generalization is the following:

(17)   A-movement out of PP is possible if and only if P is locally c-commanded by Voice[Pass].

By hypothesis, (1)–(6) contain Voice[Pass], whereas (7)–(16) do not. The licensing of A-movement out of PP must be tied to Voice[Pass] and not simply attributed to an optional feature of P (*pace* Abels 2003, Truswell 2008), since such optionality would fail to predict the ungrammaticality of A-movement leaving PP beyond the passive, as in (11)–(14) and (16), *ceteris paribus*. Importantly, the availability of A-movement out of PP diagnoses the presence of Voice[Pass] even without passive morphology ((3), (6)). **4. PP is a horizon for all A-probes except Voice[Pass].** The possibility for A-movement out of PP must be tied to lexical properties of the probe in order to capture the selective opacity of PPs under A-movement. To account for this selective opacity, I adopt the *horizons* framework of Keine (2020). Horizons are nodes, defined in terms of *category features* (i.e. C, P, etc.), which delimit the search domain of a probe [∗F∗] on a head X^0. I assume that the set of heads which bear [∗A∗]-probes (i.e. probes triggering A-movement) in English includes T^0, Voice[Pass]^0, Voice[Mid]^0 A$_{-able}^0$, A$_{-en}^0$, D$_{'s}$, and μ^0, among others, and that P is a default horizon for these heads, *ceteris paribus*. I stipulate that Voice[Pass] is distinguished by virtue of its [∗A∗]-probe not having P as a horizon. Thus, PP will be selectively opaque to [∗A∗]-probes on all heads in English except Voice[Pass]^0. **5. Deriving P-stranding A-movement.** Let us now consider how P-stranding A-movement

is derived. In <u>verbal pseudopassives</u>, Voice[Pass]^0 will subextract DP out of PP since P is not a horizon for Voice[Pass]^0's [∗A∗]-probe. The extracted DP then gets assigned structural nominative case (I assume that case-stacking is possible in English, see Richards 2017) and moves to Spec, TP. Voice[Pass]^0 is likewise present in <u>adjectival (pseudo)passives</u> and in <u>concealed (pseudo)passives</u>, predicting the availability of A-movement out of PP in these cases too. (7)–(16) lack Voice[Pass] by hypothesis, and hence A-movement out of PP will be impossible since all other [∗A∗]-probes have P as a horizon by default. Such structures will only be licit if the complement of P can remain in situ. <u>Middles</u> plausibly contain a dedicated Voice[Mid] head, so A-movement out of PP is impossible ((11)). Since English lacks middles which leave the internal argument(s) in situ and fill Spec, TP with an expletive (*_There operates on that kind of patient easily (with the right kind of surgical tools)_), nothing satisfies the EPP and the derivation crashes. <u>Deverbal *-ation* nominals</u> must contain *v*P, since they permit *by*-phrases (Bruening 2013), but must not contain Voice[Pass] (*pace* Borer 2013, 2020) since they ban A-movement out of PP ((12); contrast POSS-*ing* nominals which contain additional clausal structure (including Voice[Pass]) and *do* permit A-movement out of PP with an overt passive auxiliary: *the patient's **being** operated on by a specialist*). However, the complement of P can remain in situ in nominals:

(18) a. the operation on the patient (by a specialist)

   b. [$_{DP}$ *the* [$_{NP}$ *-ion* [$_{vP}$ *v* [$_{VP}$ *-at* [$_{\sqrt{P}}$ √OPER [$_{onP}$ *on* [$_{DP}$ *the patient*]]]] ([$_{byP}$ *by a specialist*])]]]]

The <u>object shift</u> ((13)) and <u>unaccusative</u> ((14)) examples contain Voice[Act], so A-movement out of PP is barred. The complement of P cannot remain in situ under object shift (*_I caught there/it up with the patient_) presumably because of the restricted distribution of expletives in object positions in English. By contrast, the complement of P can remain in situ with certain unaccusatives when an expletive fills [Spec, TP]: *It seemed [to her] then [that surgery was needed].* Finally, for those speakers for whom there are no 'pseudopassive' <u>*-able* adjectives</u>, the adjectivalizing head A$_{-able}^0$ never embeds VoiceP, but maximally embeds *v*P (*pace* McGinnis 2010, Oltra-Massuet 2013), explaining the availability of *by*-phrases with *-able* adjectives embedding transitive verbs ((15)). I assume with Bruening (2014) that *-able* adjectives contain a null operator that undergoes A-movement to Spec, AP, inducing λ-abstraction, which creates a predicate of individuals. If the null operator cannot be extracted out of PP and move to Spec, AP, there will be an interpretive crash.

6. Perlmutter's Generalization diagnoses Voice[Pass]/[Mid]. Additional evidence that the structures that permit A-movement out of PP embed Voice[Pass] comes from the fact that these structures are incompatible with unaccusative verbs, illustrated here with verbal (pseudo)passives (see Perlmutter 1978):

(19) *Door de lijken werd al   gerot.   (20) *The bridge was existed under (by trolls).
      by   the corpses was already rotted (Dutch)   (Perlmutter & Postal 1984)

Adjectival passives permit unaccusatives, but only because A can attach low, below the head that introduces the external argument (Bruening 2014). Conversely, *-able* adjectives and nominalizations ban A-movement out of PP and *can* embed unaccusatives:

(21) Those tomatoes are perishable.   (22) The train's arrival alarmed us.

Thus, Perlmutter's Generalization by and large diagnoses the same two types of A-movement: A-movement with Voice[Pass] can exit PP and bans unaccusatives, while A-movement without Voice[Pass] cannot exit PP and permits unaccusatives. It turns out, however, that Perlmutter's Generalization also extends to middles: there are no middles of unaccusatives in Dutch and German (Zwart 1998; Ackema & Schoorlemmer 2017). My analysis of Voice accounts for this observation if Perlmutter's Generalization isn't about Voice[Pass] *per se*, but rather about heads which prevent the projection of the external argument DP$_{ext}$: since both Voice[Pass] and Voice[Mid] prevent DP$_{ext}$ from projecting, neither is compatible with unaccusatives. **Conclusion.** A-movement out of PP in English is possible if and only if Voice[Pass] is projected in the syntax. This is due to a lexical property of the [∗A∗]-probe on Voice[Pass]^0—namely, it does not have P as a horizon. This proposal thus departs from Case-theoretic accounts of pseudopassives. Several structures uniformly bar Voice[Pass], despite some permitting *by*-phrases; the latter, then, must not diagnose Voice, but a separate, lower head *v* responsible for introducing the external argument. Finally, the link between passive voice and A-movement out of PP is largely supported by an independent diagnostic for non-active Voice: Perlmutter's Generalization.