

Nominalizing Verbal Passive: PROs and Cons¹

Hagit Borer
QMUL

1 Introduction

1.1 General

Argument Structure Nominals (ASNs), Grimshaw's (1990) Complex Event Nominals, come in two varieties – one in which the external argument is pre-nominal and is marked as genitive, henceforth Long Argument Structure Nominals (LASN), and the other in which it is not, henceforth Short Argument Structure Nominals (SASN). The Short variety comes, itself, in two flavours – one in which the external argument is expressed as a *by*-phrase, and the other, in which it goes unmarked, overtly. These varieties are in (1)-(2):²

1. *LASNs*:
The dean's formation/forming of the committee
2. *SASNs, optional by-phrase*:
 - a. the formation/forming of the committee (by the new dean)

Relative to the diagnostics originally proposed in Grimshaw (1990) and subsequent to distinguish ASNs from derived nominals without argument structure (RNs), we note that SASNs, as in (3)-(4), are definitely ASNs (and in fact, some of Grimshaw's tests such as implicit argument properties and the availability of an argumental *by*-phrase single out the short variety):

¹ I would like to thank audiences in São Paulo, Leiden, Newcastle and Solang for valuable comments. Special thanks to Andrew McIntyre for his extensive input.

² A third option for SASN involves the logical object occupying the prenominal position, with or without a *by*-phrase, as in (i). As is well-known, that variant is excluded with *-ing* nominals.

- i. a. the committee's formation (by the dean)
- b. *the committee's forming (by the dean)

The contrast in (i) is largely tangential to the narrative about to unfold. For some discussion see Borer (2013).

3. a. The (organized) reaction to the Muslim Ban (by the courts/in few hours)
b. The (deliberate) refusal to pass the bill (by the Republicans/for 10 months)
4. The forming/formation of the committee in order to improve faculty-student contact

This article focuses on SASNs. In particular, I will provide evidence that they embed passive structure, with the latter showing most of the syntactic properties of clausal verbal passive, including the promotion of the internal argument. Nominalization, in turn, emerges as an operation which can combine a passivized verbal extended projection (Exp[V]) with a higher nominal head. The logic, once articulated, mandates that LASNs are nominalizations which bring together a nominalizer with an *active* Exp[V], complete with all its arguments, including the external.

There are two take-home messages here. The first, in (5), concerns derived nominals. The second, in (6), concerns the modeling of the syntax-word formation interface:

5. *Derived Nominals:*

- a. ASNs (de-verbal/de-adjectival) must contain a verbal/adjectival Exp.
- b. The argument array in ASNs is that which is associated with Exp[V] and Exp[A] respectively, and not with the noun.
- c. Passive, specifically, may apply within the Exp[V] embedded under the nominalizing affix.
- d. LASNs are nominalizations of 'active' verbal projections.
- e. SASNs are nominalizations of 'passive' verbal projections.

6. *Morphosyntax:*

- a. The morphological operation *Nominalization*, which brings together a verbal/adjectival stem with a nominalizing affix, may apply to the output of syntactic operations which involve complex syntactic phrases, including passive and movement.
- b. Therefore *Nominalization*, and by extension many other morphological processes, must be *syntactic*.

1.2 The issues

Relative to the distinction between SASNs and LASNs, the most common theoretical

claims made in the literature are summarized in (7)-(8). Boxed letters refer to the positions I will endorse.

7. a. The prenominal possessor in ASNs is never a true event argument, i.e. it never corresponds to a Grammatical Subject (GS), whether external or internal. 'Agent' pre-nominal DPs are, rather, free interpretation possessors with an agentive construal.³
- b. The prenominal position in ASNs *is* a GS, and even more strongly, it is the logical ('external') subject. When null, as in SASNs, the pre-nominal position, as GS, is occupied by a silent nominal of some kind).⁴

c. The prenominal position in ASNs is GS when it is overt and thus an argument. In LASNs it corresponds to the external argument. SASNs, in turn, are cases of passive in which the internal argument is the GS, but has failed to be promoted to the prenominal position, and where the external argument, on a par with external argument in clausal verbal passives is a null indefinite pronoun (or, possibly, optionally expressible through a *by*-phrase).⁵

8. a. Passive, in SASNs, involves the arguments of the noun itself (possibly lexically inherited from an embedded verb)

b. Passive, in SASNs, involves arguments which are licensed within a syntactic ExP[V] that is embedded under N (see fn. 5 for references).

The organization of this article is as follows. In section 2 I provide an argument for (7c), showing that the silent external argument (SEA) in SASNs has properties which differ from those of both PRO and *pro* when they occur as GSs. This argument is based on what I term *The Lebeaux Effect*. Section 3 strengthens (7c) by providing evidence that

³ Chomsky, 1970; Williams, 1987; Grimshaw, 1990; Marantz, 1997; Alexiadou, 2001, 2017a ; Harley, 2009b, i.a. By extension, expressions such as *the city's destruction* cannot be ASNs, a position explicitly endorsed in Grimshaw, 1990. For some criticism, see Doron and Rappaport Hovav. (1991), Borer (1991/3) i.a.

⁴ Roeper, 1987; Safir, 1987; Sichel, 2009 i.a.

⁵ Borer, 1991/3, 1999, 2003, 2013; with some differences, Bruening, 2013 i.a.

the properties of SEA in SASNs correspond directly to those of SEAs in short (clausal) passives, thereby further supporting (8b).

In section 4 I provide a direct argument for a passivized ExP[V] within SASNs (i.e. (8b)), by contrasting deverbal ASNs with de-adjectival ASNs. That very same argument supports the existence of a full adjectival ExP within de-adjectival ASNs (ExP[A]). A further argument for (8b) is provided in section 5, based on the scope effects reported in van Hout, Kamiya & Roeper (2013). That argument serves not only to bolster (8b), but to also strongly support the displacement of the internal argument, within the passivized ExP[V], to the position of the GS, thereby refuting (7b). Section 6 provides schematic syntactic structures for ASNs, both verbal and adjectival, and for verbal passive, such that it can occur identically within sentences and within SASNs.

Finally, in section 7 I turn to cases of de-adjectival and deverbal ASNs which *do* allow a silent nominal as a GS. In these cases, I shall show, the behavior of these silent nominals mirrors exactly their behavior in gerunds and infinitives, but differs from the behavior of SEAs in passives and in SASN, thereby lending further support to the absence of a silent GS in SASNs.

Section 8 provides a conclusion, focusing on the consequences for the investigation of derived nominals, and for morphosyntax in general.

2 SEA is not PRO

The argument in this section centers on the fact that SEA, regardless of its presumed syntactic position, does not exhibit *The Lebeaux Effect*, given in (9):

9. *The Lebeaux Effect*:

Within an appropriately defined local domain, all occurrences of uncontrolled silent subject need to have a universal interpretation (=PRO-arb), and are hence identified (Lebeaux 1984)

The *Lebeaux Effect* as originally proposed targets cases in which the relevant silent subjects do not co-command each other, nor is there an obvious antecedent that could control both of them. To exemplify, consider (10)-(11), with gerunds and infinitives. These examples were chosen to *favor* a distinct construal for the silent subjects, and yet, such distinct construal is not possible, in spite of being, by far, the most plausible one:

10. ✗*DS* (*Distinct Subject construal excluded*)
- a. [PRO to organize the labour force] entails/is [PRO to fire workers]
 - b. [PRO to organize the labour force] entails/means [PRO firing workers]
11. ✗*DS*
- a. [PRO organizing the labour force] entails/means [PRO firing workers]
 - b. [PRO destroying the work environment] entailed/meant/was [PRO reorganizing the labour force]
 - c. #[PRO beating the bicycle rider] while [PRO filming him] made the headlines
(and compare with replacing *while* with *after*, where Same-Subject construal is plausible)

In contrast, distinct subject construal is entirely licit for SASNs, at times contrasting directly with the correlating gerunds:⁶

12. ✓*DS*
- a. The organizing of the labour force entails the raising of salaries.
 - b. The destruction of the work environment entailed the reorganization of the labour force.

At the very least, then, proponents of SEA as GS would need to provide reasons for why the *Lebeaux Effect* is inert in such cases. In particular, if gerunds are DPs which share with nominals the syntactic position in which genitive is assigned, say [Spec,DP], defining the relevant domain for the applicability of the *Lebeaux Effect* while maintaining the claim that SEA is a GS in SASNs may be a tricky matter.

3 SEA in SASNs behaves like SEA in short passives

On a par with the SEA in SASNs and as already observed in Borer (1998), the *Lebeaux Effect* does not apply to the SEA of verbal passives, aka the implicit external argument, as shown in (13a-b):

⁶ The arguments advanced here exclude PRO as the GS of SASN regardless of its putative position, or, indeed, the presence of an embedded Exp[V] within it. For the explicit structures proposed, see section 6.

13. ✓*DS*

- a. That the workers were organized meant that salaries were raised.
- b. The bicycle rider was beaten while he was filmed

Nor does it hold for SEA in passivized infinitives or gerunds, as shown in (10)-(11):

- 14. a. The workers being organized meant that salaries were being cut
- b. The bicycle rider being beaten while the documentary was being filmed

The *Lebeaux Effect* does not hold in (14) between the GSs of the two infinitival clauses, which are not SEAs, but rather are the promoted logical objects. It does, of course, hold for the subjects in (15). These GSs are not external, but the distribution of PRO is not sensitive to argumental roles, but rather to grammatical functions, and in (15) we have GSs, by assumption PROs, which adhere to the *Lebeaux Effect* as expected:

15. To be organized entails/means to be fired/hired

Note, finally, that the implicit argument in verbal passive may receive both existential and generic construal, as depending on context:

- 16. a. It was decided this morning that Dina should travel to New York on her own. →*by some*
- b. Committee work was successfully avoided →*by some*
- 17. a. In the Middle Ages it was believed that if you travel west you would get to India. →*by all*
- b. Committee work is despised. →(possibly) *by all*
- 18. a. Old people were once appreciated →*by all; (by some)*
- b. In some countries, girls are still excluded from school →*by all; by some*

In its generic construal, the implicit argument does entail a Same-Subject construal, which is to be expected. In its existential construal, however, such construal is strongly dis-preferred:

- 19. Mail was collected before tea was prepared (*favours distinct perpetrators*)
- 20. Committee work is despised while administrative titles are adored (→*by all*)

The very same properties are attested in SASNs, with Same-Subject construal attested when genericity is implicated, but strongly disfavoured where existential

interpretation is contextually more plausible:

- 21. a. the appreciation of old people → *by all; (by some)*
- b. the exclusion of girls from school (→ *by all; by some*) entails the denial of education (→ *by all; by some*)

- 22. a. The decision that Dina should travel to New York → *by some*
- b. the exclusion of girls from school entails the imposition of the new law → *distinct perpetrators*

(23) summarizes the conclusions of sections 2-3

<p>23. <i>Gerunds, Infinitives (uncontrolled contexts):</i></p> <p>Exhibits the <i>Lebeaux Effect</i></p> <p>SEA is universal only (PRO);</p>	<p><i>SASN, Passive</i></p> <p>Do not exhibit the <i>Lebeaux Effect</i></p> <p>SEA normally existential, but could have generic force in specific syntactico-semantic contexts</p>
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This identity of interpretational properties between implicit arguments in verbal passive and the properties of SEA in SASNs finds a natural explanation in the claim that the latter are nominalizations of verbal passive structure. It also has a couple of other consequences.

First, it means that contrary to much discussion in the literature (and beginning with Chomsky 1970), external arguments are no more optional in ASNs than they are in (clausal) passives. The syntactic parallel for SASNs is thus not (24a), as is sometimes claimed, but (24b):⁷

- 24. a. *organized the union
- b. The union (was) organized.

Second, if a unified account is available for the properties of SEA in ASNs and in

⁷ See, i.a. Hazout, 1991, 1995; Borer, 1991/3, 2003, 2013; Engelhardt, 2000; Alexiadou 2009; van Hout, Kamiya and Roeper, 2013; and Bruening, 2013 for positions for and against passive analyses for SASNs.

verbal passive, SEA must be equally syntactically (and semantically) (un)real in both. In turn, the context-dependent ambiguity between generic and indefinite readings attested for the SEA in both clausal passives and ASNs is difficult to reconcile with an existentially closed semantic argument devoid of syntactic realization (e.g. as in Bruening, 2013). Rather, it suggests the presence of a silent syntactic element, call it *pro*_{indef}, possibly with the properties of German *man* or those of indefinite plural null subjects in Italian, Spanish, and Hebrew (Cinque 1988; Jaeggli 1986; Borer, 1998), and which at the very least in verbal passives and SASNs must occupy a position which is distinct from that of the GS.^{8,9}

This latter conclusion might suggest another potential analysis. Could it be that GS in SASNs is *pro*_{indef} with PRO, in turn, excluded for some reasons that hold for ASNs, but not for gerunds and infinitives (cf. Sichel 2009)? But as we shall see in the following sections, there is direct evidence for passive in SASNs that goes well beyond the

⁸ To exemplify from Italian:

- i. a. Prima, hanno telefonato: mi pareva tua sorella
 earlier, have-pl telephoned: me seems your sister
 'There was a phone call earlier. I think it was your sister'
- b. Lo hanno cercato: era un signore anziano
 him have-pl searched: was a man old
 'Somebody was looking for him. It was an old man'
- ii. a. Lì, odiano gli sranieri
 there, hate-pl-m strangers
 'They hate strangers there'
- b. Qui, lavorano anche di sabato
 'Here, they work even on Saturday' Cinque (1988)

In Borer (1998) I show that where c-command relations hold, Same-Subject construals with existential meaning are entirely excluded, e.g. as in (i), due to the impossibility of binding/coreference between two (existentially closed) instances of *pro*_{indef}. As such, that account lends additional support to the syntactic existence of *pro*_{indef} (but see Sichel 2009 for some refinements):

- i. it was announced that the city was bombed (*announcer* ≠ *bomber*)

⁹ See Condoravdi (1989) and Borer (1998) for the claim that *pro*_{indef} is the null equivalent of the English bare plural.

properties of SEAs. Furthermore, in section 7 I show that in well-defined contexts, SEA can be a GS even in (apparent) SASNs, but when that is the case, it exhibits the *Lebeaux Effect*, thereby supporting the claim that when it doesn't, SEA is not GS.

4 Passivized clauses within ASNs 1: De-adjectival vs. De-verbal nominals

In line with Roy (2010) I assume the existence of adjectival ASNs, with the properties in (25):

25. *De-adjectival ASNs, AASNs (Roy's S-Nominals)*

- a. stative reading
- b. subjects are obligatory
- c. *constant, rapide* (and English equivalents) are possible modifiers
- d. *de*-phrase in French is an argument; *of*-phrase in English is an argument
- e. aspectual modification (duration) possible within the nominal
- f. affect only predicational adjectives

Note, in particular, (25f). As is well known, a wide range of adjectives which are available in attributive positions are not possible predicates (*former, alleged* among others) and others which are ambiguous in attributive contexts between an intersective and a subjective reading are only available with an intersective reading in predicative position. As Roy (2010) shows, the availability of AASNs tallies exactly with that of predicative adjectives, and not with that of attributive adjectives:

26. a. nasal voice

- b. nasal cavity
- c. close friend (ambiguous)

27. a. his voice is nasal

- b. #this cavity is nasal
- c. this friend is close (intersective only)

28. a. the nasality of his voice

- b. #the nasality of this cavity
- c. the closeness of this friend (intersective only)

29. a. *une peinture abstraite*

- a. painting abstract

- 'an abstract painting'
- b. *un peintre abstraite*
a painter abstract
'an abstract painter'
30. a. *cette peinture est abstraite*
this painting is abstract
b. **ce peintre est abstraite*
this painter is abstract
31. a. *l'abstraction de cette peinture*
the abstractness of this painting
b. **l'abstraction de ce peintre*
the abstractness of this painter

While an account for the difference between attributive and predicative adjectives is clearly outside the scope of this article, the correlation between the distribution of predicative adjectives and AASNs strongly supports the derivation of AASNs not from bare adjectives, but rather from a predicative adjectival structure, complete with arguments and eventuality information. If we assume that such predicative structures include the subject of the adjective, deriving AASNs from predicative adjectival structures yields not only their obligatory intersectivity, but also the obligatoriness of the subject, Roy's diagnostic (25b).

While the thrust of Roy's discussion concerns the nominalized intransitive adjectives, adjectives with complements do nominalize to give rise to the long variants in (32):

32. a. the court's (constant) awareness of the problem
b. Pat's (frequent) consciousness of my presence

The external argument may occur post-nominally as well, providing the internal argument is not itself marked with *of*:¹⁰

¹⁰ A. McIntyre (p.c.) notes his acceptance of (i) and similar:

- i. The awareness of the court of the problem

- 33. a. Robin's readiness to leave ⇔ the readiness of Robin to leave
- b. the courtier's closeness to the throne ⇔ the closeness of the courtier to the king
- c. the house's proximity to the road ⇔ the proximity of the house to the road
- d. the party's eagerness for change ⇔ the eagerness of the party for change

What is striking now is that the AASN equivalents of SASNs are ungrammatical:¹¹

- 34. a. *The awareness of the constitutional problem (by the court)
- b. *The consciousness of my presence (by Pat)
- c. *The fondness of/for classical music (by Jill)¹²
- d. *The readiness to leave (by Robin)
- e. *The proximity to the road (by the house/Kim)
- f. *The eagerness for change (by the party)

The ungrammaticality of (34a-f), now, would be extremely puzzling if the GSs in *deverbal* SASNs were SEA. However, if SASNs embed a passivized Exp[V], the ungrammaticality of (34a-f) reduces directly to the fact that adjectives do not passivize. The ungrammaticality of (34a-f), therefore, is exactly on a par with that of (35a-d) and similar:

- 35. a. *The problem is aware (of) (by the court)
- b. *My presence is conscious (of) (by Pat)
- c. *Classical music is fond (of/for) (by Jill)
- d. *The change is eager for (by the leadership)

The conclusion here is straightforward enough: *deverbal* ASNs contain an Exp[V], while AASNs contain an Exp[A]. In consequence, *deverbal* LASNs are nominalization of

Given the acceptability of e.g. (33b) with a post-nominal subject, the obvious move would be to assume that in some dialects of English, *of* is homophonous between a 'structural' marker available in some nominal specifier, and a preposition available to complements.

¹¹ (34a-f) are much improved if the definite article is omitted. I address the contrast at some length in section 7.

¹² While *fondness for* is preferred (approximately 4.5 million Google hits), *fondness of* is licit (approximately 0.5 million Google hits). I will take the optional occurrence of *for* to be a spellout effect.

active verbal structures, in which all arguments must be realized. On the other hand deverbal SASNs, (with or without *by*-phrases) are nominalizations of passivized ExP[V], which, in the standard manner, allow for an implicit external argument which is *not* the GS. Short versions are excluded for AASNs quite simply because adjectives do not passivize.

If this conclusion is correct, it follows that in LASNs as well as in AASNs the pre-nominal DP must be the external verbal or adjectival argument. Such an external argument merges below the N, and in the very same position that it would merge in the clausal correlates of ExP[V] or ExP[A]. Its occurrence prenominally, in turn, is the result of movement to some nominal functional specifier (say [Spec,DP]), triggered by Case considerations. In section 6 I return to this matter in the context of more fully articulated structures for ASNs, both verbal and adjectival, and for passive.

Adjectival structures are not the only syntactic constructions which prohibit passivization. Unaccusatives as well bar passivization even in languages which do allow monadic predicates to passivize. We thus predict that ASNs corresponding to unaccusatives would pattern with (34) in barring a silent GS, giving rise to an obligatory overt subjects. This prediction is borne out, as the rather surprising contrasts between (36) and (37) show:¹³

36. a. the departure of the guests in three hours (is/was unrealistic)
b. the arrival of the guests in three minutes
c. the disappearance of the symptom in three hours
d. the emergence of the magician in three seconds
37. a. *the departure in three hours
b. *the arrival in three minutes
c. *the disappearance in three hours
d. *the emergence in three seconds

Crucially, no such effects are attested in RNs, as shown in (38), thus indicating that the ungrammaticality of (37a-d) is linked to the obligatoriness of an argument and cannot be attributed to any anomaly of the derived nominals themselves:

¹³ Here as well bare nominals show improvement. See section 7 for treatment.

38. a. the departure)
 b. the arrival } (was delayed)
 c. the disappearance)

Note again that the ungrammaticality of (37a-d) cannot be accounted for if the GS, either pre-nominally or post-nominally, can be occupied by a silent referring expression. Such a putative silent expression, were it allowed in (37a-d), would be interpreted as an internal argument, but infinitives and gerunds most certainly allow null GS for unaccusatives, thereby showing that there is no independent restrictions on such occurrence:

39. [PRO departing/to depart before dawn] is our best option
 [PRO disappearing/to disappear so suddenly] is rude

That such an option is not available in (37a-d) thus clearly indicates that the GS in ASNs cannot be silent, regardless of its interpretation, and that the only cases in which an argument can be silent are cases of passive. As passive is not available for unaccusatives, (37a-d) are ungrammatical.

By way of final evidence for the claims in this section, consider the contrast between the ungrammaticality of (34a-f) and the grammaticality of the AASNs in (40a-b):

40. a. the likelihood that Roger will be on time
 b. the possibility/probability that the boat would be released

In the absence of passive in adjectival constructions, I argued, (34a-f) are ungrammatical because the external argument of the embedded adjectives cannot be silent. In contrast, the nominals in (40) are derived from 'ergative adjectives' in the sense of Cinque (1990) and most importantly, they lack an external argument altogether. Here, we find, the absence of an overt GS is licit, precisely because such GS would not correspond to an argument.¹⁴

¹⁴Most ergative adjectives, including *tough* adjectives, do not have licit nominalized forms, regardless of *Raising* or *Tough* movement. Whatever the reason, it may go some ways towards accounting for the absence/scarcity of both *Raising* and *Tough* in derived nominals observed in Chomsky

Before moving on, note that deverbal SASNs are attested not only with 'objects', but with PP and CP complements as well, as the small sample in (41) shows:

41. a. the objection to gun control (in order to gain NRA support)
- b. the decision/proposal to bomb the hospitals (in order to demoralized the civil population)
- c. the (desperate) grasping for power (in order to gain control)

I return to these cases in section 6, where I suggest that these are cases of impersonal passive.

5 Passivized VP within ASNs 2 – Scope and Movement

The contrast in (42) is discussed in some detail in Roeper & van Hout (2009) and van Hout, Kamiya & Roeper (2013):

42. The electability of *nobody* surprised me
- a. ??I am surprised that nobody was electable (??narrow scope)
- b. Nobody is such that his electability surprised me (√wide scope)

As van Hout, Kamiya & Roeper (2013) note, *nobody* in (42) must receive a matrix scope, and cannot scope under *surprise*. The same effect holds for LASNs and for unergative ASNs. In all these cases, GS is an external argument:

43. Nobody's rejection of the offer surprised me (*narrow /√wide)
44. The disobedience/rebellion of *nobody* surprised me (*narrow/√wide)

The converse effects hold for objects in LASNs. Here, only narrow scope is licit:

45. The council's election/electing of *nobody* surprised me (√narrow/*wide)

(1970) (and contrast with the non-ergative instantiations, at times of the same adjectives, in (iii)):

- i. *the obviousness/clarity that Roger will be late (it is obvious/clear that...)
- ii. a. *the easiness/difficulty/toughness/niceness/attractiveness to settle the conflict
- b. *the easiness/difficulty/toughness/niceness of settling the conflict
- iii. a. the clarity of the water
- b. the toughness/attractiveness of the leather
- c. the difficulty of the problem

Strikingly, in SASNs, and in these constructions alone, we get an ambiguity:

46. The election/electing of *nobody* surprised me (√_{narrow}/√_{wide})

As noted in van Hout, Kamiya & Roeper (2013), the ambiguity of (46) follows directly if we assume that the sole overt argument in (46) has moved from the object position to the GS position. The wide scope reading is computed on the basis of its post-movement position, while the narrow scope reading results from reconstruction. Otherwise put, this scope configuration emerges if, and only if, we assume a passive-like movement of the object to a higher position, presumed GS.

We now predict, correctly, that unaccusative ASNs behave like (46), displaying scope ambiguity, thereby providing further support for the passive/movement analysis of SASNs:

47. The arrival of *nobody* surprised me (√_{narrow} /√_{wide})

The account is finally directly supported by two additional observations. Note, first, that only narrow scope is available in PRO-gerunds, as in (48a), and in the context of pre-nominal expressions such as *yesterday's* in (48b):

48. Electing *nobody* surprises me (√_{narrow}/*_{wide})

49. *Yesterday's* election of *nobody* surprised me (√_{narrow}/*_{wide})

If, indeed, [Spec,DP] is occupied by PRO in gerunds, and *yesterday's* occupies the [Spec,DP] position in the SASN in (49) where it effectively functions as GS, the availability of exclusively narrow scope follows immediately for both. In turn, it follows that there could not be a silent external GS in [Spec,DP] of SASN where wide scope is available for the (logical) object.¹⁵

¹⁵ I am particularly grateful to the reviewer for pointing out the cases in (48)-(49). On the flip side, the reviewer also points out a number of cases where narrow scope is available for *-ability* nominals:

- i. a. The electability of only two candidates surprised anyone/me too (wide/narrow)
- b. The {visibility of no stars/availability of no good candidates} worried me too. (narrow only)

The reviewer further postulates wide scope only for the SASN in (ii), thereby contrasting *few* with *nobody* in the same context, but the judgements in this case appear less clear cut:

- ii. the election of *few* candidates surprised anyone/*me too (wide only)

6 Architecture

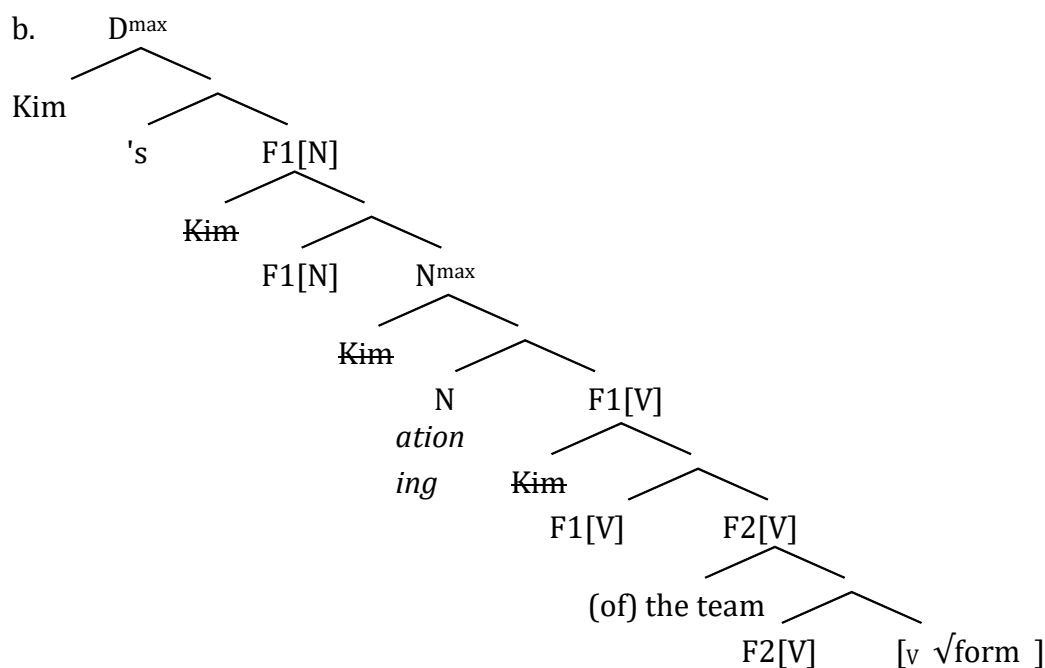
The primary purpose of this article is to provide evidence for the presence of a passivized Exp[V] within SASNs, and by extension, for an adjectival or verbal Exp in all ASNs. This result, I believe, holds regardless of the precise set of functional labels that are proposed for verbal, adjectival, and nominal ExPs. It does, however, require a particular architecture. To ensure an appropriate architectural focus, suffice it to grant that the external argument merges as the specifier of some member of Exp[V] call it F1[V], and that the complement merges as the specifier of some lower member of Exp[V], call it F2[V]. For similar reasons, functional nodes within the nominal sequence remain unlabelled.¹⁶ Finally, I set aside here the on-going debate on the existence, or lack thereof, of head movement.

With these considerations in mind, (50) is the proposed (schematic) structure of LASNs:

50. a. Kim's formation/forming of the team

A better understanding of scope within ASN is thus clearly required, a matter not pursued here. Note, however, that (i-ii) have little impact on the main claims here. What appears to be at stake for (i) is the external status of the arguments of *-able* adjectives. Regarding (ii), the judgment as indicated in fact requires movement of the internal argument, but shows that reconstruction construal for some NPI is blocked.

¹⁶By extension, the external argument of Exp[A] is the specifier of F1[A], while the complement is the specifier of F2[A]. As the focus here is on passive, the structure in (50) centres on Exp[V]. The translation to Exp[A] should be straightforward. For some comments on the distribution of *of* in AASN, see fn. 10. For the author's position on what the actual labels might be see Borer (2005a,b, 2013).



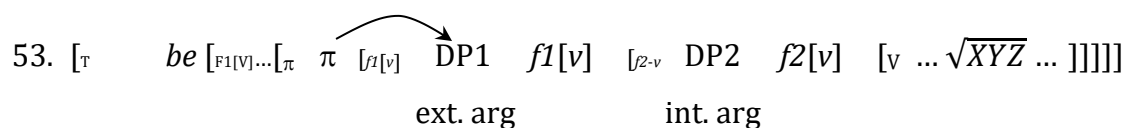
I assume that (among its other roles) *of* spells out Case assigned to DP in some nominal specifier which is below the ultimate realization site for N (e.g. [Spec,NP] or some higher [Spec,F[N]]). In (51), the external argument of *form* has moved to [Spec,NP] from [Spec,F1[V]]. That very same nominal specifier is available for *of* complements of underived nominals, such as (52a), with the structure in (52b):

51. a. the repeated objection of the candidates to the proposed bill
 b. [_{DP} the [_{F1[N]} F1[N] [_{NP} of the candidates N [_{F1[V]} the candidates...]]]]
52. a. the name/dress of the girl
 b. [_{DP}the [_{F1[N]} F1[N] [_{NP} of the girl N]]]

Finally, in (50), where *Kim* has moved to [Spec,DP] through [Spec,NP], the '*of*' associated with the object, *the team*, represents the realization of objective Case in the absence of T, making 'accusative' in English contingent on propositional structure in a manner somewhat reminiscent of Pesetsky & Torrego (2004).

Turning now to SASNs, it would be prudent to start by proposing a (schematic) structure for verbal passive, such that it can be embedded under nominalization. Concretely, I propose that the analytic form of passive in English and similar signifies the existence of an embedded, dependent (sub-)event. If we take F1[V] in (50) to stand for the embedding event, the embedded sub-event, call it *f1[v]*, may be implicated not only in the emergence of passive, but possibly in the emergence of other participial constructions. According to this approach, there exists, at the core of passive

constructions, an *active* sub-event, which is further embedded under some operator π (for passive). π C-commands and locally binds the external argument of $f1[v]$, thus barring it from moving. The emerging structure is as in (53):



As Case is not available in $f1[v]$, the external argument in (53) may only be realized as Caseless pro_{indef} . In turn, the object, if present, must enter Agree relations with T, thereby (potentially) undergoing movement to receive nominative Case. Finally, pro_{indef} is interpreted either through existential closure, or through the existence of a generic operator as discussed in section 3.¹⁷

Analyticity in passive now emerges because $f1[v]$ and $F1[V]$ are realized separately. As a result, an auxiliary is required to support T, and the main verb itself is realized in whatever morphological form is required in the context of an auxiliary. From this perspective, neither *be* nor participial marking are, in and of themselves, markers of ‘passive’ as such, but are collateral effects of the presence of π and $f1[v]$.

Severing both *be* and participial morphology from the passive function receives independent support from the existence of passive constructions without dedicated morphology. At least one case frequently discussed is Romance causatives, where a clause embedded under a causative verb may display the diagnostics of passive, but is missing both auxiliary and participial morphology, as is illustrated in (54) (see Kayne 1975 and Postal 1992, i.a.):

¹⁷ The execution broadly follows the version of Agree and a view of dependent Case/Nominative obligatoriness articulated in Borer (1986/2017). Other executions which achieve the same end are easy to imagine.

I side-step here the question of why existential closure/generic interpretation should be available for pro_{indef} in $[Spec, f1[v]]$ but not for a pro_{indef} merging in some lower position, or the specific nature of π as an operator which may give rise to both generic and existential interpretation. These puzzles, note, extend well beyond passive, at the very least to the cases indefinite *pro* subjects briefly touched upon in section 3, and possibly to bare plurals and German-type *man* as well.

54. a. *Marie fera laver le chien à Jean.* French
Marie make.FUT wash the dog to Jean
'Marie will cause Jean to wash the dog.'
- b. *Marie fera laver le chien (par Jean).*
Marie make.FUT wash the dog (by Jean)
'Marie will cause the dog to be washed (by Jean).'

That *faire-par* constructions are passives is strongly supported by their interaction with non-passivizable idioms, possible in (active) *faire-à* constructions, but not in *faire-par* constructions (Kayne 1975):

55. a. *Sa famille a cassé la crôte.*
his family has broken the crust
'His family had a snack.'
- b. *Jean a fait cassé la croute à sa famille*
Jean has made break the crust to his family
'Jean made his family have a snack'
56. a. **La crôte a été cassé (par sa famille).*
the crust has been broken by his family
- b. **Jean a fait casser la crôte (par sa famille).*

Note finally that the passive structure in (53) accounts for impersonal passives straightforwardly, and in fact, impersonal passives emerge from it as simpler, structurally, than canonical passive, in requiring no additional object movement. Transitive passive such as (57) has, post-phrasal movement, the structure in (59a), while impersonal passives (58a-b) have the structures in (59b), with expletives inserted in [Spec,TP] for EPP reasons, or due to the obligatoriness of nominative Case in finite contexts. For reasons of expediency, PP and CP complements are assumed to merge in [Spec,*f*₂[v]], but not to require Case:

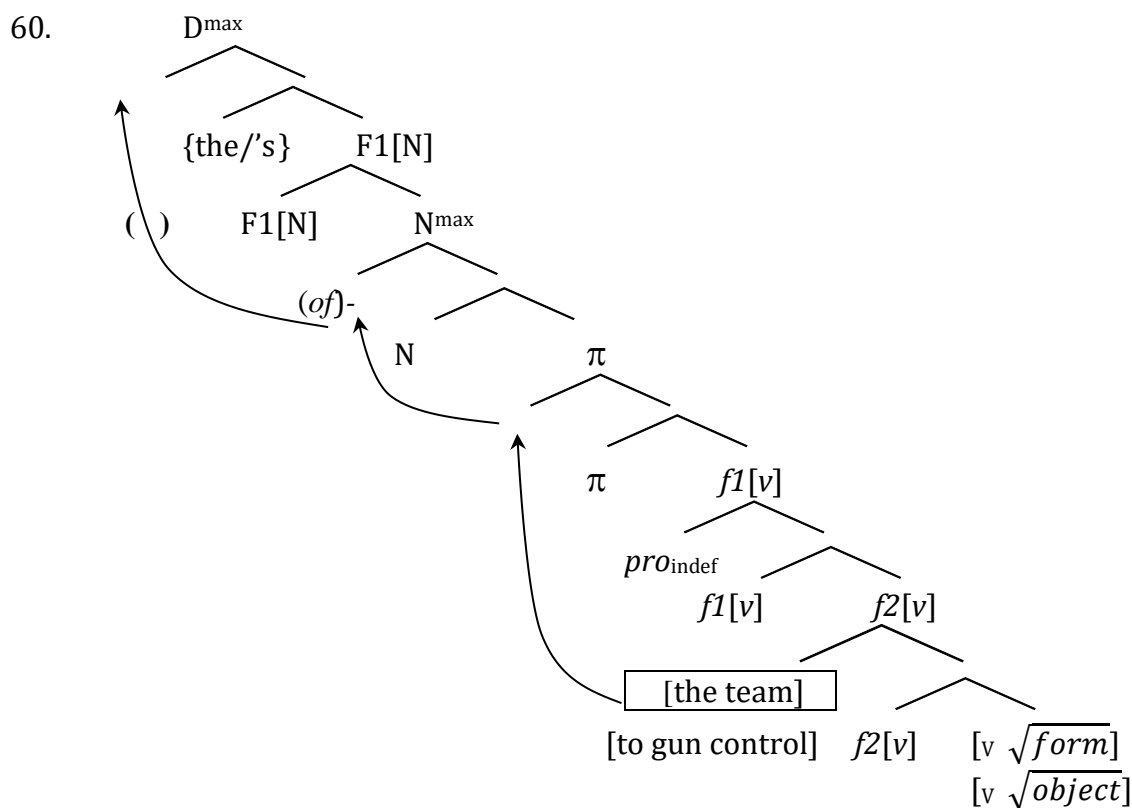
57. The window was shuttered (to bring in the piano)

58. a. Er wordt (door de jongens) gefloten Dutch
 expl. become (by the boys) whistled
 'There is whistling (by the boys)'
 b. *Xe stà telefonà a Marco.*
 expl. was telephoned to Marco (Venetian, Schoof, 2003)

59. a. [_T DP2 aux [_{F1[V]...} [_π DP2 π [_{I[V]} pro_{indef} f1[v] [_{J2[V]} DP2 f2[v] [_V √ ...]]]]]
 NOM ext. arg int. arg

b. [_T [there] aux [_{F1-V...} [_π π [_{I[V]} pro_{indef} f1[v] ([_{J2[V]} PP/CP f2[v])[_V √ ...]]]]]
 NOM ext. arg complement

Armed now with an approach to passive which requires neither participial morphology nor an auxiliary, we return to SASNs, which are derived by embedding π in (59a-b) under a nominalizer. The result is as in (60). (61a-b) now emerge as a result of movement for Case (to [Spec,NP] or [Spec,DP]). When no movement for Case is required, (62a-c) emerge:



61. a. the formation/forming of the team (in order to win the race)
 b. the team's formation (in order to win the race)

62. a. the objection to gun control (in order to gain NRA support)
- b. the decision to bomb the hospitals (in order to demoralized the population)
- c. the frequent sleeping in unmade beds (by tired adolescents)

A final comment is in order concerning the cases in (41) and (62c). Given the structures in (59)-(60), these now emerge as cases of embedded impersonal passive, i.e. cases in which the external argument is realized as *pro*_{indef} in the context of π , but the complement fails to move, as it does not require structural Case (or possibly altogether missing). While *decide*, *announce*, *believe* and a few others do, arguably, allow impersonal passive in English (cf. 16a), the reader may, at this point, object on the grounds that many of the specific verbs which underlie SASNs without a direct object, as in (41) and (62c), do not otherwise allow sentential impersonal passive in English. While that is certainly correct, we note that the problem could not reside with the structures in (59)-(60), as these do allow impersonal passive in a straightforward way, and along a derivational route that is minimally different from that of direct passive. (This, in fact, is the case for most passive accounts within Generative Grammar in the past 30 years, all of which require a particular stipulation to block impersonal passive in English). Nor could it reside with the verbs under consideration, as most of them do allow pseudo-passive, suggesting that little which is either semantic or morphological could block impersonal passive:

63. a. Gun control was objected to (in order to gain NRA support)
- b. Unmade beds are all too frequently slept in (by tired adolescents)

The mystery, then, is not why SASNs allow an impersonal passive derivation, but why impersonal passive should be otherwise so limited in English. From our perspective, then, it is SASNs which are straightforward, and the scarcity of propositional (impersonal) passives, which remain, at present, unexplained.

7. PRO, after All

Sections 2 and 3 were devoted to arguments against the existence of a silent external argument (SEA), as the grammatical subject (GS) of SASNs. Specifically, I showed that a putative GS-SEA in such nominals does not behave like the definite GS-SEAs in infinitives and gerunds, call it PRO. The empirical conclusion is compelling, but the account for it is not obvious. Why should PRO be barred in SASNs? The puzzle is

enhanced if we assume, following Abney (1987) and much subsequent literature, that both gerunds and nominals are DPs, and that PRO is in [Spec,DP] in gerunds.

The purpose of this section is to convince the reader that PRO (or some other species of null pronominal with the properties of uncontrolled PRO) is, in principle, licit as the GS of nominals, but is excluded, nonetheless, in the SASNs in (2) and (34), as a filled [Spec,DP], or indeed [Spec,DP] itself, is incompatible with the English definite article.¹⁸

To observe the crucial role played by the definite article, note the contrast between the ungrammatical cases in (34a-f) and their minimal licit correlates without the definite article:

64. a. awareness of the constitutional problem
- b. consciousness of my presence
- c. fondness of/for classical music
- d. readiness to leave
- e. eagerness for change

Let us suppose, then, that (64a-e), but not (34a-f), *allow* GS-SEA. But if that is, indeed, the case, we expect these cases to exhibit the *Lebeaux Effect*. Specifically, recall, the *Lebeaux Effect* is suspended in SASNs (65) (cf. (12)), which, as such, contrast with e.g. verbal gerunds (66) (cf. 11):

65. ✓ *Different Subject (DS)*
 - a. The organizing of the labour force entails the raising of salaries.
 - b. The destruction of the work environment entailed the reorganization of the labour force.

¹⁸ See Roeper (1987) for this claim in the context of cases such as (i) (attributed to D. Charney, p.c.):

- i. a. John₂ is in [PRO₂ control of the ship]
- b. John is in [the control of the ship] *no control consrual*

66. ✗DS

- a. [PRO organizing the labour force] entails/means [PRO firing workers]
- b. [PRO destroying the work environment] entailed/meant/was [PRO reorganizing the labour force]

This prediction, as it turns out, is directly borne out by the impossibility of DS-construal for (67a-b). Once again, examples were chosen to encourage DS-construal thus creating an anomalous reading precisely because such a construal is barred. For completeness sake, note no such anomaly when the subjects are overt and distinct, as in (68):

67. ✗DS

- a. #openness to liberal ideas entails eagerness to suppress them.
- b. #closeness to mafia figures entails willingness to condemn them in public

68. ✓DS

- a. The Democrats' openness to liberal ideas entailed the Republicans' eagerness to suppress them.
- b. The president's closeness to mafia figures entailed our willingness to condemn them in public.

The *Lebeaux Effect* is further attested when the nominal is preceded by an indefinite article (where otherwise licit), *some, little/much* or *no*:

69. ✗DS

- a. #an openness to liberal ideas entailed much eagerness to suppress them
- b. #no/little fondness of classical music entails some readiness to attend concerts

The direct conclusion, now, is that in the absence of a definite article, AASNs may contain PRO-GS. This conclusion, in turn, immediately raises the possibility that the very same must hold for deverbal ASNs, a matter to which I turn shortly, exploring first the incompatibility of PRO and the definite article.

Recall that in principle the GS in ASNs could occupy either the pre-nominal position, which it shares with possessors and the GS of gerunds, or, absent *of* complement, GS in both deverbal and de-adjectival ASNs can occupy a position below the final realization site of the head N. I will assume without further discussion that the latter position, for

structural reasons, cannot host PRO. The former position, plausibly [Spec,DP], clearly *does* allow PRO, e.g. in gerunds. Gerunds, however, independently do not occur in the context of a definite article, thus providing an unsuitable environment for corroborating the incompatibility of PRO and *the*.

A suitable corroboration is, however, available from Saxon Genitives, where prenominal possessors are in complementary distribution with the [_D*the*] of the possessum:

- 70. a. *[the boy]'s the hat
- b. *the [boy's hat]
- c. [the boy]'s hat

Setting aside the precise explanation for the effects in (70) (but see Borer 2005a pp. 38-43 for a suggestion), note that the very same restriction applies to derived nominals, ruling out cases such as (71a-b) and similar:

- 71. a. *the court's the awareness of the problem.
- b. *Melisa's the proximity to British royals

If indeed PRO is in [Spec,DP], we can now proceed to derive the grammaticality of (72a) but the ungrammaticality of (72b), thereby yielding the contrast between (64a-f) and (34a-g):¹⁹

- 72. a. [_{DP-1}[_{DP-2}PRO/Melisa's] e_D ... [_{NP}(*awareness*)]]
- b. * [_{DP-1}[_{DP-2} PRO/Melisa] THE_D ... [_{NP} (*awareness*)]]

With this in mind, suppose we consider again the ungrammaticality of (34a-f). These derivations, we now claim, are not ruled out because SEA can never be a GS within ASNs, nor are they ungrammatical due to the fact that passive is somehow obligatory. To the contrary, GS can, and sometimes must be SEA (=PRO) in ASNs (e.g. in (64)). (34a-f) are ruled out, rather, because [Spec,DP] cannot host both an argument

¹⁹ As is clear from (69), least some AASNs are felicitous with the indefinite article as well as with *some*, *much/little* or *no*. If the complementarity observed here between PRO and *the* is to be extended to all filled instances of D (with the exception of 's), the logic here dictates that *a*, *some*, *much/little* or *no* must be lower than D, thereby allowing PRO to be in [Spec,DP]. See Borer (2005a, chapter 5) for the placement of at least some determiners in #P (NumP).

and a definite article. Because AASNs do not have recourse to a passive derivation as an alternative way to license the external argument, ungrammaticality results. In other words, in AASNs the external argument is obligatorily GS, whether overt or covert. When blocked in [Spec,DP] by the presence of *the*, it might still occur, *overtly*, post-nominally, if otherwise licit, as in (73), but if such occurrence is blocked, e.g. in the presence of an independent *of* complement, ungrammaticality results, again, regardless of whether GS is overt or covert (but see fn. 10):

73. a. the readiness of Robin to leave immediately
 b. the proximity of the house to the road
 c. the happiness of the party with the polls
74. a. *the awareness of the court of the problems
 b. *the fondness of Kim of classical music

Consider, however, SASNs. Here, even with a definite article, the derivation can be saved if it incorporates a passivized structure, thereby allowing SEA to occupy a position which is not [Spec,DP]. This SEA, crucially, is neither PRO nor GS, but *pro*_{indef}, and as noted already, subject to distinct interpretational and structural conditions.

It now emerges that when a deverbal ASN is missing both an overt subject and a definite article, as in (75), the derivation is, in principle, ambiguous. It could be a case of nominalized passive, as outlined in some detail in sections 4-6 (cf. (76a)), or alternatively, it could involve the presence of a SEA-PRO in [Spec,DP], as in (76b).

75. (ongoing) deprivation of entire populations
76. a. [_D N ... [_π π...[_{f1}[_v] *pro*_{indef} ... deprive]]]
 b. [_D PRO N [_{F1}[_v] ...~~PRO~~ [... deprive]]]

Recall now that the implicit argument of passives, *pro*_{indef} corresponding broadly to the English bare plural, may receive either an existential or a generic interpretation. Uncontrolled PRO, on the other hand, is always universal or generic. As a consequence, the range of interpretations for PRO is a subset of the range of interpretations available for *pro*_{indef}, and we expect these nominals, as is indeed the case, to freely allow both Same-Subject and Different-Subject construals:

77. ✓DS; ✓SS:

- a. Destruction/construction of nature reserves entailed enacting of progressive legislation.
- b. (Organized) reaction to the austerity measures entailed harassment/empowerment of political activists.

Recall, however, that not all deverbal ASNs are amenable to a passive derivation – specifically, for the unaccusative nominalizations in (37), repeated here as (78), the derivation in (76a), with π and pro_{indef} , is not available. However, the derivation in (76b), where no passive took place and the definite article is absent, should be licit with PRO-GS. The predicted contrast, rather surprising in itself, is directly verified by the full grammaticality of (79):

78. a. *the departure/arrival in three minutes (was/is unrealistic)
- b. *the emergence/disappearance in three seconds
79. a. departure/arrival in three minutes (is unrealistic)
- b. disappearance/emergence in three seconds (is doable)

Finally, and precisely because pro_{def} is not available in (79), but PRO-GS is, we expect the cases in (79) to exhibit the *Lebeaux Effect*. They do (and compare again with the DS-construal available with overt subjects):

80. PRO-GS in unaccusative ASN → *DS:

- a. #Departure in an hour entails/means arrival in ten minutes
- b. #Reappearance in three seconds entailed/meant disappearance in seven hours

81. And compare with

- a. Departure of (the) guests in an hour entails arrival of (the) cabbies in ten minutes
- b. My reappearance in three seconds entailed your/my disappearance in seven hours

8. Conclusion

At the core of Constructivist approaches there lies the conviction that contrary to Chomsky (1970), there is only one computational component that gives rise both to

classical constituent structure, and to word-internal hierarchies. Within such approaches it goes without saying that e.g. *destruction* and *formation* are syntactically derived, but on the other hand, so are the verbs *destroy* and *form*, each consisting, at the very least, of some a-categorial root and some syntactic structure which is responsible for the emergence of the verbal category. It is rather ironic, therefore, that within many Constructivist approaches the refusal to allow for the syntactic derivational relationship between e.g. [_V *form*] and [_N *formation*] does persist, in the guise of the claim, harking back directly to Chomsky (1970), that while [_V *form*] and [_N *formation*] are derived, per force syntactically, from the same root $\sqrt{\text{form}}$, nonetheless, and very much in line with the non-syntactic views in Chomsky (1970), there is no direct derivational relationship between [_V *form*] and [_N *formation*], and as a consequence, [_V *form*] and [_N *formation*] are equally complex and arguments, when occurring, are effectively arguments of the noun (Marantz, 1997; Harley, 2009b i.a.).

To be sure, the claim that a verbal constituent of variable complexity *is* syntactically embedded within all derived nominals has been made repeatedly and amply supported during the past 30 some years, with many of the central protagonists noted in the previous pages.²⁰ The original Remarks tenet, denying syntactic derivational relationship between verbs and deverbal nominals, remains, nonetheless, the default hypothesis, recently reinforced by Lieber (2016), and with burden of proof lying entirely with the 'syntactic' camp. To the extent that the present article establishes, I believe conclusively, that deverbal SASNs emerge from the nominalization of a specifically *verbal* syntactic passive structure, and AASN from syntactic adjectival structure, it contributes additional building blocks to what is presently an already impressive body of evidence necessitating, at the very least, a re-evaluation of where, exactly, the burden of proof lies at present.

Beyond the specific properties of deverbal and de-adjectival nominals outlined here, the significance of the analysis proposed resides in establishing that what is realized as a single phonological word, e.g. *bombardment* or *awareness*, at times realizes

²⁰ Noteworthy (post-Remarks) early claims are Roeper (1987) and subsequent work; Hazout, (1991, 1995); Valois (1991); Borer, (1991/3) and subsequent work; Rozwadowska, (1997) and subsequent work; Engelhardt, (2000); Fu, Roeper and Borer (2001); and Alexiadou (2001) and subsequent work.

a considerably larger constituent containing syntactic phrases, which in themselves may have undergone some syntactic operations, including phrasal movement. A non-syntactic account for the piecing together of the verb and the nominalizer, so as to give rise to a SASN with all its pertinent properties, is extremely hard to imagine. Complex words, then, are per force syntactic constituents, formed and manipulated by the very same combinatorial mechanism that gives us phrasal syntax.

References

- Abney, Steve. 1987. *The English Noun Phrase and its Sentential Aspect*. Ph.D. dissertation, MIT.
- Alexiadou, Artemis. 2001. *Functional Structure in Nominals: Nominalizations and Ergativity*. Amsterdam: John Benjamins.
- Alexiadou, Artemis. 2009. 'On the role of syntactic locality in morphological processes: the case of Greek derived nominals', in *Quantification, Definiteness, and Nominalization*, eds. Giannakidou, A. and M. Rathert. Oxford: Oxford University Press. pp
- Alexiadou, Artemis. 2017. 'Nominalization structures across languages.' Paper presented at Queen Mary University of London, May 17, 2017.
- Borer, Hagit. 1986/2018 "I-Subjects," *Linguistic Inquiry* xxx
- Borer, Hagit. 1991/1993. *Parallel Morphology*. Ms. University of Massachusetts, Amherst.
- Borer, Hagit. 1998. 'Passive without theta grids', in *Morphology and its Relations to Phonology and Syntax*. eds. Lapointe, S. G., D. K. Brentari, and P. Farrell, 60–99. Stanford: CSLI Publications,
- Borer, Hagit. 1999. 'The form, the forming and the formation of nominals', paper presented at the 2nd Mediterranean Morphology Meeting, September 1999.
- Borer, Hagit. 2003. 'Exo-skeletal vs. Endo-skeletal explanations: syntactic projections and the lexicon', *The Nature of Explanation*, eds Polinsky, M. and J. Moore. Chicago: Chicago University Press, (CSLI).
- Borer, Hagit. 2005a. In *Name Only: Structuring Sense, Vol. I*. Oxford: Oxford University Press.
- Borer, Hagit. 2005b. *The Normal Course of Events: Structuring Sense, Vol. II*. Oxford: Oxford University Press.
- Borer, Hagit. 2013. *Taking Form. Structuring Sense Vol. III* Oxford: Oxford University Press
- Bruening, Benjamin. 2013. *By-Phrases in passives and nominals*. *Syntax* 16: 1--41.
- Chomsky, Noam. 1970. 'Remarks on nominalization', in *Readings in English Transformational Grammar*, Eds. Jacobs, R. A. and P.S. Rosenbaum Waltham, 184–221. MA: Ginn,.
- Cinque, Guglielmo. 1988. *On si constructions and the theory of ARB*, *Linguistic Inquiry* 19: 521-582
- Cinque, Guglielmo. 1990. 'Ergative adjectives and the Lexicalist Hypothesis', *Natural Language & Linguistic Theory* 8:1–39.

H. Borer Nominalizing Verbal Passive: PROs and Cons

- Condoravdi, Cleo. 1989. 'Indefinite and generic pronouns'. In *West Coast Conference on Formal Linguistics (WCCFL) 8*, ed. By E. Jane Fee and Katherine Hunt, 71–84. Stanford, CA: CSLI Publications.
- Doron, Edit and Malka Rappaport Hovav. 1991. 'Affectedness and externalization', *Proceedings of NELS 21*: 81–94.
- Engelhardt, Miriam. 2000. The projection of argument-taking nominals, *Natural Language & Linguistic Theory 18*: 41–88.
- Fu, Jingqi, Thomas Roeper and Hagit Borer. 2001. 'The VP within nominalizations: evidence from adverbs and the VP anaphor do-so', *Natural Language & Linguistic Theory 19*: 549–582.
- Grimshaw, Jane. 1990. *Argument Structure*. Cambridge, MA: MIT Press.
- Harley, Heidi. 2009. 'The morphology of nominalizations and the syntax of vP', in *DP, QP and Nominalizations*, eds. Rathert, M. and A. Giannakidou. Oxford: Oxford University Press.
- Hazout, Ilan. 1991. *Verbal nouns: Theta Theoretic Studies in Hebrew and Arabic*. Ph.D. dissertation. University of Massachusetts, Amherst.
- Hazout, Ilan. 1995. Action nominalization and the Lexicalist Hypothesis, *Natural Language & Linguistic Theory 13*:355–404.
- Hout, Angeliek van, Masaaki Kamiya, and Thomas Roeper. 2013. *Passivization, Reconstruction and Edge Phenomena: Connecting English and Japanese Nominalizations*. *Natural Language & Linguistic Theory 31*: 137-159.
- Jaeggli, Osvaldo. 1986. Arbitrary pro and pronominals, *Natural Language & Linguistic Theory 4*:43-76.
- Kayne, Richard. 1975. *French Syntax*. Cambridge, MA: MIT Press.
- Lebeaux, David. 1984. 'Anaphoric Binding and the Definition of PRO', *Proceedings of NELS 14*:253–274.
- Lieber, Rochelle. (2016). *English Nouns. The Ecology of Nominalization*. Cambridge, UK: Cambridge University Press.
- Marantz, Alec. 1997. No escape from Syntax: Don't try morphological analysis in the privacy of your own lexicon, in *UPenn Working Papers in Linguistics*, eds. Dimitriadis, A., L. Siegel, C. Surek-Clark, and A. Williams 4.2: 201–225.
- Pesetsky, David and Esther Torrego. 2004. 'Tense, Case and the nature of syntactic categories', in *The Syntax of Time*, eds. Guéron, J., and J. Lecarme 495–537. Cambridge, MA: MIT Press.
- Postal, Paul. 1992. 'Un passif sans morphologie spécifique' in *Hommages à Nicolas Ruwet*, eds. Tasmowski, L. and A. Zribi-Hertz. Ghent, Belgium: Communication and Cognition.
- Roeper, Thomas and Angeliek van Hout. 2009. 'The representation of movement in –ability nominalizations: Evidence for covert category movement, edge phenomena, and local LF', in *Quantification, Definiteness, and Nominalization*, eds. Giannakidou, A. and M. Rathert. Oxford: Oxford University Press, 344–364.
- Roeper, Thomas. 1987. Implicit Arguments and the Head-Complement Relation, *Linguistic Inquiry 18*:267–310.

H. Borer Nominalizing Verbal Passive: PROs and Cons

- Roy, Isabelle. 2010. 'Deadjectival nominalizations and the structure of adjectives', in *The Syntax of Nominalizations Across Languages and Frameworks*, eds. Alexiadou, A. and M. Rather. 129-158. de Gruyter Mouton.
- Rozwadowska, Bozena. 1997. *Toward a Unified Theory of Nominalizations*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Safir, Ken. 1987. The syntactic projection of lexical thematic structure, *Natural Language & Linguistic Theory* 5: 561-601.
- Schoof, Suzanna. 2003. Impersonal and personal passivization in Latin infinitive constructions: a scrutiny of the structures called *AcI*, in Kim, J.-B. & S. Wechsler, eds. *Proceedings of the 9th International Conference on HPSG*. Stanford: CSLI publications 293-312.
- Sichel, Ivy. 2009. New evidence for the structural realization of the implicit external argument in nominalization, *Linguistic Inquiry* 40.4: 712-723.
- Valois, Daniel. (1991). 'The internal structure of DP'. Ph.D. dissertation, University of California, Los Angeles.
- Williams, Edwin. 1987. 'The theta structure of derived nouns', in *Proceedings of the Chicago Linguistic Society*, eds. Need, B., E. Schiller and A. Bosch. 366-76