

The parallel formation of verbal nouns in Scottish Gaelic*

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1 The puzzle

Scottish Gaelic uses what seems to be a nominalization of a verb (traditionally called the verbal noun) in a range of contexts where other Indo-European languages use participles and infinitives. Verbal nouns are typically, though not exclusively, formed by suffixation to the root (see below). For example, the verb *leugh*, ‘read’ has the verbal noun *leughadh*, where *-adh* is a common verbal noun suffix. Verbal nouns are used in a range of constructions, including aspectual constructions with auxiliaries, where the object of a transitive verbal noun appears either following it in genitive case (e.g. in progressives as in (1a)) or preceding it in direct¹ case (e.g. in perfects (1b) and prospectives (1c)).

*I visited UMass, Amherst for a semester, while I was a PhD student, and took a class with Hagit Borer that turned around my ideas of what syntax was. The class was a shock to the system (I’d never done such intense reading) and a joy. Many years later, whenever Hagit and I are in joint supervision sessions with one of our PhD students, I notice just how profound an effect that class had on me, how closely aligned my way of thinking through syntax problems is to Hagit’s. The topic of this paper is actually one of the phenomena I was exploring while I was in Amherst all those decades ago (some of which appeared in Adger 1993). I’m still nowhere near a solution, but it’s impossible not to take account of Hagit’s influential ideas about the relationship of syntax and morphology when thinking about the issue of nominalizations, so here’s a brief meditation on verbal nouns in Scottish Gaelic in that spirit. Many thanks to Daniel Harbour for a helpful conversation about this data and to Gillian Ramchand for useful comments on a previous version. This paper was written while I was in receipt of a Leverhulme Major Research fellowship, which I gratefully acknowledge.

¹Scottish Gaelic lacks a nominative/accusative distinction, and there is no obvious syntactic evidence for the role of distinct nominative and accusative cases, so I call the relevant form ‘direct’ case, following a precedent established by Gillian Ramchand.

- (1) a. Bha na h-oileanaich a' leughadh an leabhair
 be.PAST the.M.PL.DIR students PROG read.VN the.M.SG.GEN book.GEN
 'The students were reading the book.'
- b. Bha na h-oileanaich air an leabhar a leughadh
 be.PAST the.M.PL.DIR students PERF the.M.SG.DIR book PRT read.VN
 'The students had read the book.'
- c. Bha na h-oileanaich gus an leabhar a leughadh
 be.PAST the.M.PL.DIR students PROSP the.M.SG.DIR book PRT read.VN
 'The students were about to read the book.'

Verbal nouns with preceding objects in direct case are also found as the complements of modal verbs and in modal noun constructions, which involve subject raising (see Adger (to appear) and section 3):

- (2) a. Feumaidh na h-oileanaich an leabhar a leughadh
 must the.M.PL.DIR students the.M.SG.DIR book PRT read.VN
 'The students must read the book.'
- b. Bu chòir dha na h-oileanaich an leabhar a
 COP.PAST obligation to the.M.PL.DAT students the.M.SG.DIR book PRT
 leughadh
 read.VN
 'The students should read the book.'

Verbal nouns with preceding objects are also used in control contexts, as the complement of psych-adjective predicates, which are also a kind of control construction (Adger to appear), and in a range of other syntactic contexts such as temporal adjuncts:

- (3) a. Dh'iarr i orm an leabhar a leughadh
 ask.PAST she on.1.SG the.M.SG.DIR book PRT read.VN
 'She asked me to read the book.'
- b. Bu toil leum an leabhar a leughadh
 COP.PAST pleasant with.1.SG the.M.SG.DIR book PRT read.VN
 'I'd like to read the book.'
- c. An dèidh do Mhàiri an leabhar a leughadh, dh'fhalbh i.
 after to Màiri the.M.SG.DIR book PRT read.VN, leave.PAST she
 'After Màiri read the book, she left.'

Almost every verb in Gaelic has an associated verbal noun (the exceptions being the copula and modals, which are feasibly functional items, not verbs). However, the form of the verbal noun is

idiosyncratic to the root: different roots select different kinds of morphology. Most roots occur with a suffix, $-(e)adh^2$ (4a)-(4b), which idiosyncratically occurs with depalatalization (4c) of the root's final consonant, or syncope of the root's final unstressed vowel (4d)-(4f); other roots select other suffixes, such as $-t$ (4g), $-sinn$ (4h), $-tinn$, (4i), $-(e)amh$ (4j), $-ad$ (4k), $-ail/eil$ (4l), $-e$ (4m), $(e)achd$ (4n), $(a)ich$ (4o), and some roots select one-off suffixes such as $-eam$ (4p); others are identical in their verbal noun form (4q), or depalatalize the root (4r); yet others change the final syllable of the root from $-(a)ich$ to $-(e)achd$ (4s)-(4t), and finally there are a number of suppletive verbal noun forms (4u)-(4v). Further, some of the forms are variable within speakers, and some across dialects.

- (4)
- a. *sguab*, sweep, *sguabadh*
 - b. *bris*, break, *briseadh*
 - c. *loisg*, burn, *losgadh*
 - d. *mosgail*, awake, *mosgladh*
 - e. *cobhair*, help, *cobhradh*
 - f. *seachain*, avoid, *seachnadh*
 - g. *freagair*, answer, *freagairt*
 - h. *creid*, believe, *creidsinn*
 - i. *cluinn*, head, *cluinntinn*
 - j. *feith*, wait, *feitheamh*
 - k. *greas*, hurry, *greasad*
 - l. *cum*, keep, *cumail*
 - m. *ith*, eat, *ithe*
 - n. *èist*, listen, *èisteachd*
 - o. *ràn*, roar, *rànaich*
 - p. *tuit*, fall, *tuiteam*
 - q. *crac*, chat, *crac*
 - r. *cuir*, put, *cur*
 - s. *cleasaich*, play, *cleasachd*
 - t. *coisich*, walk, *coseachd*

²The optional e (sometimes a) here is an orthographic signal of whether the final consonant of the root has secondary palatal articulation or not.

- u. *abair*, say, *ràdh*
- v. *rach*, go, *dol*

I have given the full range of morphological possibilities here to make the point that there is no morphologically regular relation between the root and the verbal noun. Verbal nouns are, then, more similar morphologically to derived nominalizations in English of the sort discussed by Chomsky (1970) than they are to inflectional or gerundive forms: the root in some sense selects its verbal noun form, similarly to *destroy* ~ *destruction*, or *refuse* ~ *refusal*, etc.

Further, the verbal noun can appear in fully nominal syntactic contexts, and, in such contexts, it behaves like a noun morphologically, being specified for grammatical gender, inflecting for case and number, and taking nominal modifiers, as can be seen in the various contrasts between *losgadh*, ‘burning’, which is masculine, and *cleasachd*, ‘play/sport/recreation’, which is feminine, in (5) and (6). The verbal nouns project a phrase that appears in a DP position (subject position), inflects for number, and the associated adjective agrees with it in number and gender:

- (5) a. Bha losgadh mòr nan leabhar aig an àm sin
 PAST burning large.M.SG.DIR the.M.PL.GEN book.M.PL.GEN at the time that
 ‘There was a major burning of the books at that time.’
- b. Bha losgaidhean mòra nan leabhar aig an
 PAST burnings.M.PL.DIR large.M.PL.DIR the.M.PL.GEN books.M.PL.GEN at the
 àm sin
 time that
 ‘There were major burnings of the books at that time.’
- (6) a. Bha cleasachd mhòr aig an àm sin
 PAST play large.F.SG.DIR at the time that
 ‘There was a major play at that time.’
- b. Bha cleasachdan mòra aig an àm sin
 PAST play.F.PL.DIR large.F.PL.DIR at the time that
 ‘There were major plays at that time.’

The gender of the verbal noun depends on the suffix/mode of formation. In general, if the suffix ends in a consonant with a palatal articulation, it is feminine, otherwise it is masculine. However, there are particular affixes that force feminine, even though they are non-palatal (e.g. *(e)achd*). This is a general property of nominalizing affixes in Gaelic. For example, the adjective *luath*, ‘fast’, has a masculine abstract noun *luathas*, ‘speed’, while the masculine noun *draoidh*, ‘wizard’ or ‘druid’, has a feminine abstract derived nominal *draoidheachd*, ‘magic’. This suggests that

the gender feature is a property of the affix, which further suggests that nominalizing affixes, including those that derive verbal nouns, are inherently nominal.

Verbal nouns, at least in some contexts, also look similar to non-derived nouns in how they combine with other nominal phrases in their projection. For example, in possessive constructions, the head noun is followed by a DP in genitive case (Adger 2013 for discussion and analysis):

- (7) Bha morair a' bhaile uamhasach
 be.PAST lord the.MS.GEN town terrible
 'The lord of the town was terrible.'

We find what looks like the same structure with verbal nouns, and we find it in both nominal contexts (8) and in the verbal ones mentioned above (the example in (9a) is the progressive case discussed above, while (9b) shows the same structure in the complement of verbs of motion³):

- (8) Bha sgrìosadh a' bhaile uamhasach
 be.PAST destroy.VN the.MS.GEN town terrible
 'The destruction of the town was terrible.'
- (9) a. Bha na saighdearan a' sgrìosadh a' bhaile
 be.PAST the.M.PL.DIR soldiers PROG destroy.VN the.M.SG.GEN town
 'The soldiers were destroying the town.'
- b. Chaidh iad a dh'fhosgladh an dorais
 go.PAST they PRT open.VN the.M.SG.GEN door.GEN
 'They went to open the door.'

This kind of data might lead one to the conclusion that verbal nouns are simply nominals, and that the morphology associated with the verbal noun form is category changing nominal morphology selected by the root, much like English deverbal nominalizations in *-tion*, *-al*, etc.

However, I want to raise two problems for this conclusion. The first is that there are verbal noun structures, those where the object precedes the verbal noun, which seem to have no counterpart in nominal structures. It is impossible to have an argument of a simple noun, or its possessor, in pre-nominal position; there is no (10b) analogous to (10a):

- (10) a. Bha na saighdearan air am baile a sgrìosadh
 be.PAST the.M.PL.DIR soldiers PERF the.M.SG.DIR town PRT destroy.VN

³The initial particle that precedes the verbal noun in (9b) is specialized to the complement of verbs of motion and is morphophonologically distinct from the progressive marker (see Schreiner and Carnie 2016 for discussion).

‘The soldiers had destroyed the town.’

- b. *Bha am baile a mhorair uamhasach
be. PAST the.M.SG.DIR PRT lord terrible
for: ‘The lord of the town is terrible.’

I will refer to the structures where an object in direct case precedes the verbal noun as Fronted Object Phrases (FOPs) for convenience, following nomenclature introduced in Adger (1993), where I argued that the initial object in these structures is fronted from a low position. We’ll see below that it may well be the case that objects in genitive case are also moved, though they end up following the verbal noun rather than preceding it, but the term FOP is nonetheless useful in picking out this particular surface form.

The second problem for treating verbal nouns as purely nominal structures is an unremarked upon difference in modification possibilities when a verbal noun is in a nominal context, such as (11), and adjectival modification is possible, and when a verbal noun appears in a verbal context, where it is impossible (12):

- (11) Bha sgriosadh iomlan a’ bhaile uamhasach
be.PAST destroy.VN complete the.MS.GEN town terrible
‘The complete destruction of the town was terrible.’

- (12) *Bha na saighdearan a’ sgriosadh iomlan a’ bhaile
be.PAST the.M.PL.DIR soldiers PROG destroy.VN complete the.M.SG.GEN town
for: ‘The soldiers were completely destroying the town.’

The adjective in (11) is in the normal position for nominal modification. If the verbal noun in (12) is also simply a nominal, as the genitive object would suggest, why is adjectival modification impossible?

Unsurprisingly, perhaps, adjectival modification is also impossible in FOPs:

- (13) *Bha na saighdearan air am baile sgriosadh iomlan
be.PAST the.M.PL.DIR soldiers PERF the.M.SG.DIR town destroy.VN
for: ‘The soldiers had completely destroyed the town.’

In verbal contexts, both in the case where the object of the verbal noun is genitive and in FOPs, only adverbial modification is available, and the adverbs appear rightmost in the clause, as is usual in Gaelic.

- (14) a. Bha na saighdearan a' sgrìosadh a' bhaile gu
 be.PAST the.M.PL.DIR soldiers PROG destroy.VN the.M.SG.GEN town ADV
 h-iomlan
 completely
 'The soldiers were completely destroying the town.'
- b. Bha na saighdearan air am baile sgrìosadh gu
 be.PAST the.M.PL.DIR soldiers PERF the.M.SG.DIR town destroy.VN ADV
 h-iomlan
 completely
 'The soldiers had completely destroyed the town.'

The impossibility of adjectival modification of verbal nouns in verbal contexts suggests that the morphology associated with verbal nouns does not actually nominalize the root in these contexts. The puzzle then is to reconcile the verbal behaviour of verbal nouns with their nominal morphology.

2 A Borerian Suggestion

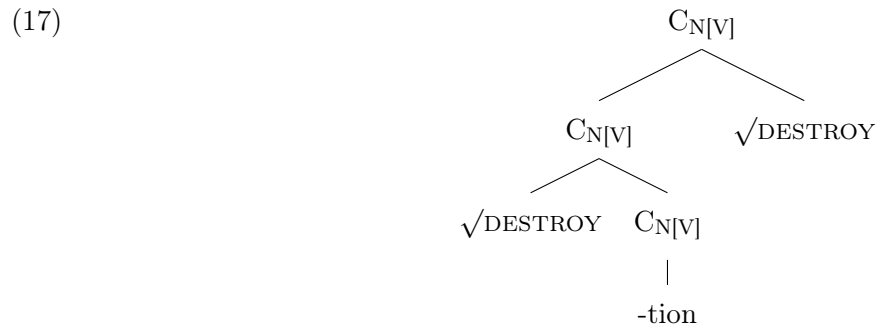
One might suggest, following Borer (2014)'s analysis of certain nominalizations in English, that the nominalizing morphology is associated with a syntactic element that is high in the structure, and that material below the position of that nominalizer the structure is verbal, and thus rejects adjectival modification.

Pushing this a little deeper, Borer's proposal seeks to explain why we find both nominal and verbal behaviour in English derived nominalizations like *destruction* and *refusal*, following the observations of Grimshaw (1990). Grimshaw showed that such nominalizations were systematically ambiguous between an interpretation where they maintain verbal argument structure (Grimshaw's complex event nominals) and one where they do not (Grimshaw's result nominals). She showed that when an eventive interpretation is forced, for example by the use of a modifier that is only compatible with event reading, such as *frequent* or *continual*, presence of the internal argument of the predicate is required, otherwise the argument is optional:

- (15) a. Frequent destruction *(of important documents) took place during Johnston's prime-ministership.
- b. The destruction (of important documents) took place during Johnston's prime-ministership.

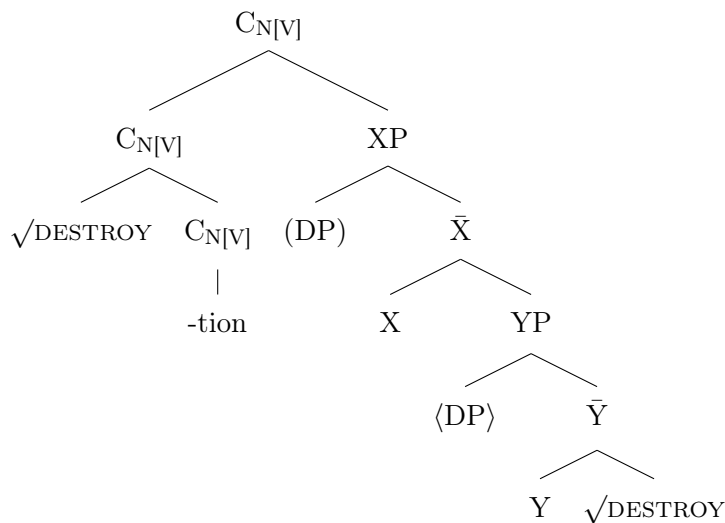
- (16) a. The tennis player's continual refusal *(of the vaccine) led to his visa being rejected by the Australians.
- b. The tennis player's refusal (of the vaccine) led to his visa being rejected by the Australians.

Borer's analysis takes result nominals (like the b examples in (15) and (16)) to be derived by direct incorporation of a root into a nominalizing categorial head (a C-functor in her terms) which she represents as $C_{N[V]}$, signifying that it combines with a structure that is equivalent to a verbal category and itself projects a nominal category. In this analysis, result nominals are syntactically formed, but structurally simple, and $C_{N[V]}$ is realized phonologically as *-tion*, *-al*, *-ment*, etc., depending on the root it is local to:



Borer proposes that complex event nominals, where verbal argument structure is obligatory (like the a examples in (15) and (16)), are derived by the same kind of incorporation but, in this situation, incorporation takes place only once argument introducing functional structure has been added:

(18)



Here, Y introduces the internal argument while X introduces the external one. Like Borer, I label the argument introducing heads just as X and Y here, as the details of their category are not relevant beyond the requirement that they are members of the verbal extended projection. The root raises through Y and X to $C_{N[V]}$, where it is nominalized. $C_{N[V]}$ can combine either with a root directly, or with a verbal projection, as both are potentially equivalent to verbal categories.

This analysis would straightforwardly capture the structures where the verbal noun precedes a genitive object, which would then look very much like (18). For the FOP cases, we would have to say that the morphology of the verbal noun in some way lowers to the root so that the object precedes the verbal noun, or that the root raises as in (18), but that the object then raises yet further; neither analysis is outside the bounds of possibility. Since the material below $C_{N[V]}$ is verbal, the appearance of verbal modifiers and impossibility of adjectives is captured.

However this is not, I think, the correct approach to Gaelic verbal nouns in verbal contexts, even though treating verbal nouns like English complex event nominalizations is tempting, given their similar morphological properties. There are three reasons that militate against thinking of verbal nouns in this way. First, Gaelic verbal nouns in verbal contexts are incompatible with *any* nominal modification, unlike English deverbal nominalizations, so this approach does not explain the contrast between (11) and (12), since nothing would block either an adjective attaching after nominalization, or the addition of higher nominal functional structure, incorrectly allowing examples like (10b). Second, Gaelic verbal nouns appear as the complement of aspectual heads and of modals, which is perplexing if they are nominals. Third, as I will argue immediately below, Gaelic verbal nouns allow subject raising, and subject raising from nominal categories is

usually considered to be impossible.

3 A gerundive suggestion

One might take Gaelic verbal nouns to be more like English verbal gerunds, in either the incarnation where the subject is accusative (the Acc-Ing construction in (19a)) or where it is genitive (the Poss-Ing construction in (19b)). Verbal gerunds have accusative objects and allow adverbial, but reject adjectival, modification, much like Gaelic FOPs:

- (19) a. Lucy continually/*continual singing Flower of Scotland upset her cat.
b. Lucy's continually/*continual singing Flower of Scotland upset her cat.

However, though English verbal gerunds of both sorts have the internal syntax of clauses, they have the external syntax of DPs. For example, they appear in subject position without complementizers, which clauses cannot do (20), and they can appear in the complement position of prepositions that otherwise reject clausal complements (21):

- (20) a. *(For) him to continually cite himself would be embarrassing.
b. (*For) His/him continually citing himself irritates me.
- (21) a. *I am irritated by that he cites himself
b. I am irritated by his/him citing himself.

Abney (1987), as is well known, argued that verbal gerunds were fundamentally verbal, only being nominalized at the very top of the structure, rendering them DPs⁴, and the data in (21) supports this for both Acc-Ing and Poss-Ing variants. Given that Gaelic verbal nouns appear in non-DP positions, such as the complement of aspectual heads and modals, this makes them quite distinct from English verbal gerunds, in their external distribution at least.

Pires (2006) has proposed, however, that Acc-Ing constructions lack a DP layer entirely, and

⁴Abney's analysis of the Poss-Ing construction involved a lower (VP-adjoined) position for the nominalizing *-ing* affix, but that is incompatible with the range of adverbial modifications available, as is the slightly higher level nominalization at AspP proposed by Panagiotidis (2014). It seems more plausible that both Poss-Ing and Acc-Ing constructions involve high nominalization, at the T level, perhaps with movement of the subject to Spec DP from Spec TP; see Iordăchioaia (2020) for discussion.

are simply TPs. I think that this is probably incorrect for English, as (22) shows that non-finite TPs are impossible as demoted subjects, while Acc-Ing constructions are not:

- (22) a. To draw vampires would frighten the children.
 b. *The children would be frightened by to draw vampires
 c. You drawing vampires would frighten the children.
 d. The children would be frightened by you drawing vampires.

However, even if Pires is correct that English verbal gerunds with accusative subjects are TPs, Gaelic verbal nouns behave quite differently. As Pires notes, Acc-Ing constructions in English disallow raising of their subject:

- (23) a. Muriel prefers Susana walking the dog.
 b. *Susana is preferred walking the dog.

- (24) *Muriel seems liking Susana.

Gaelic verbal nouns in verbal contexts, in contrast, allow raising of their subject. We see this clearly in modal constructions. Adger (to appear) gives the following examples:

- (25) a. Bu chòir do Dhaibhidh gu cinnteach Lunnainn fhàgail
 COP.PAST duty to Daibhidh ADV certain London leave.VN
 ‘David certainly should leave London.’
 b. Cha b’ urrainn do Mhàiri gu cinnteach an leabhar ud a leughadh
 NEG COP.PAST ability to Màiri ADV certain the book that PRT read.VN
 ‘Mary certainly could not read that book.’

These examples show that the subject appears to the left of the matrix adverb *gu cinnteach*, though it is the thematic subject of the verbal noun, entailing that it has raised from the lower constituent headed by the verbal noun. Given that raising does not typically happen from DPs, or from Acc-Ing gerunds, an analysis that analogizes Gaelic verbal nouns to English gerunds is unsatisfactory.

4 Parallel Morphology redux?

The problem that faces us is that verbal nouns seem to have nominal morphology, but, in verbal contexts, they behave as though they are verbs. How do we rid ourselves of the nominality of the morphology so that the verbal noun can behave verbally? My suggestion here draws inspiration from the model sketched in Borer (1988)—Parallel Morphology—though the implementation is rather different. In Parallel Morphology, the word formation component constrains how words can look, irrespective of whether the word is formed by the syntax, or in some non-syntactic way.

Updating this idea somewhat, I suggest that the morphology associated with verbal nouns, which I will just notate as μ , is always categorially nominal (it bears the feature N). μ may act as a host for incorporation of the root in the syntax, in which case we find nominal syntactic behaviour, much as in Borer’s analysis of result nominals. For the verbal contexts, however, I suggest that μ is attached to the root as part of spellout (that is, non-syntactically), because of a general constraint on roots in Gaelic. In verbal contexts, then, verbal nouns are syntactically just roots, the functional structure above which is verbal, which is why they are incompatible with adjectival modification. The verbal noun morphology is not syntactically present, so the general constraint is met by a spellout rule that adds μ .

In this approach, a verbal noun always has the following morphological structure:



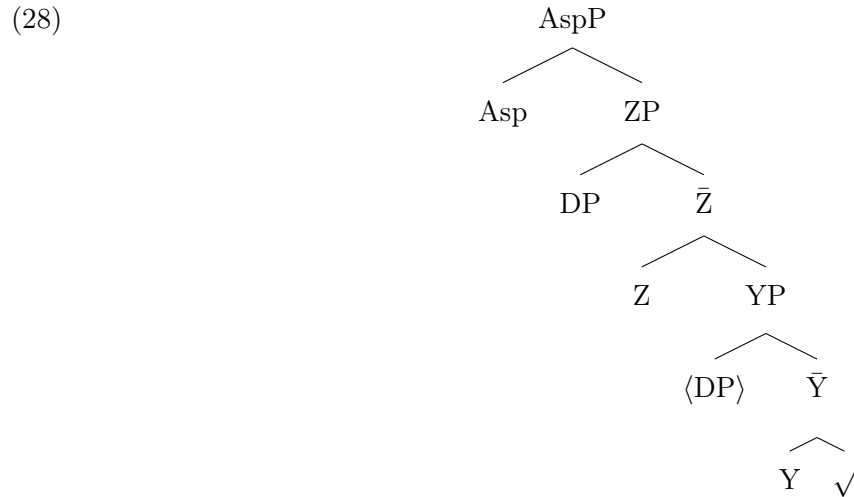
However, there are two syntactic structures associated with (26). The first is, *mutatis mutandis*, the same as that proposed by Borer for result nominals:



In (27), the root incorporates into μ . I have represented the incorporation as head movement here, with a lower copy, but an implementation involving pronunciation of the root at some point

in the projection line, as in Brody’s (2000) Mirror Theory, is probably preferable. Structures like (27) behave syntactically just like nouns, taking arguments as possessors or prepositional modifiers just as nouns do (see Adger 2013 for detailed analysis of nominal structure in Gaelic).

For the verbal contexts, I propose that a structure like (28) is appropriate:



Y and Z here are variables over whatever functional structure introduces (Y) and case licenses (Z) the internal argument⁵.

That the internal argument appears in two positions is a fairly well-established conclusion in Gaelic syntax. We have seen examples of FOPs where the object precedes the verbal noun. However, if the object is pronominal, it may strand an emphatic particle after the verbal noun, as in (29):

- (29) Tha Sìleas air an leughadh -san
 be.PRES Sìleas PERF PRT.3.M.PL read.VN EMPH.3.PL
 ‘Sìleas has read THEM.

Gaelic emphatic particles usually attach directly to overt pronouns and agree in person, number and gender with them:

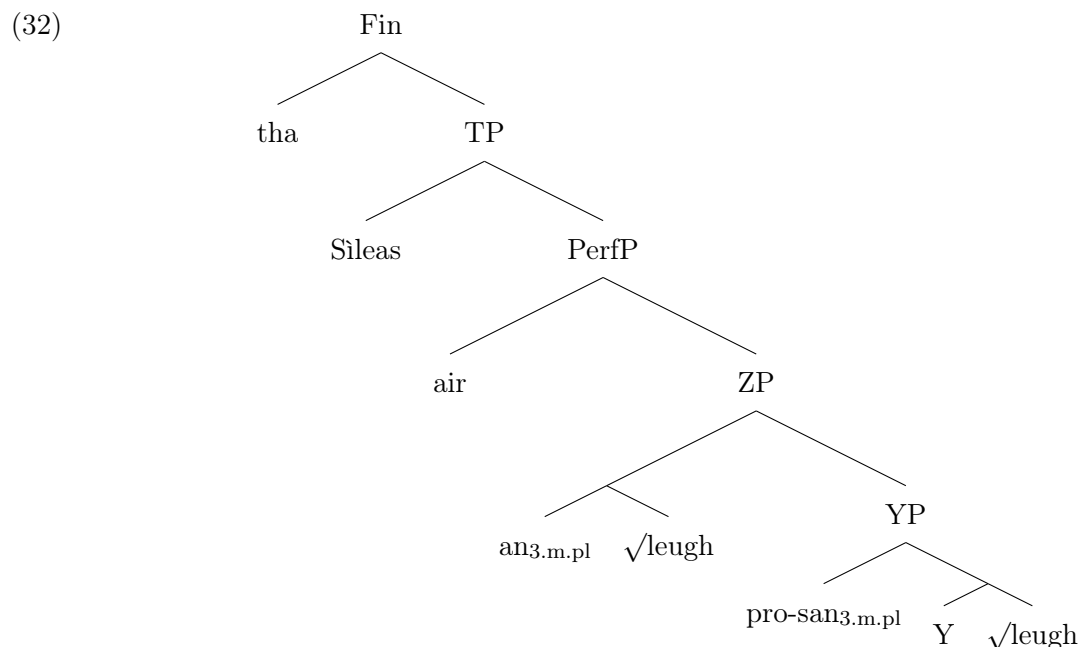
- (30) Chunnaic Seonag iad-san / mi-se
 see.PAST Seonag them-EMPH.3.PL / I-EMPH.1.SG
 ‘Seonag saw THEM / ME’

⁵I leave aside here functional structure that introduces subjects (X in Borer’s structure), though, given the raising data mentioned above, there must be such structure.

However, in possessive constructions, agreeing prepositional constructions, and, crucially, verbal noun constructions, emphatic particles attach to a *pro*, which is licensed by higher agreement (Adger 2017). This agreement is realised by the *an* particle in examples like (29). The analysis of the relevant part of (29) is then, roughly:

(31) Perf [Agr_{3.m.pl} [VerbalNoun pro-EMPH.3.PL]]

If this is correct, then there are two positions for the object in an FOP: following the verbal noun (the specifier of Y in (28)), and preceding it (the specifier of Z). The root itself appears in Z, giving the following more detailed structure:



Again, I have represented the position of the root as though it is head movement, though an analysis involving pronunciation of the root and associated functional material at different points in the extended projection, following Brody (2000), is a possible alternative.

FOPs with non-pronominal objects, then, involve raising the object from the position where it is introduced (the specifier of YP) to the specifier of ZP, where it is licensed by agreement with Z (again, there is good evidence for this agreement relation, see Adger 2017):

(33) Bha na h-oileanaich air an leabhar a leughadh
 be.PAST the.M.PL.DIR students PERF the.M.SG.DIR book PRT read.VN
 ‘The students had read the book.’

(34) ... air [_{ZP} an leabhar [_{Z_{3,m.sg}} √leugh] [_{YP} ⟨an leabhar⟩ ⟨√leugh⟩ ...

The particle *a* that appears immediately before the verbal noun is a realization of the agreement features on Z, the head that syntactically licenses the object. As is usual in Gaelic, default (third masculine singular) agreement appears when the argument is overt.

Verbal nouns with genitive objects have the same structure, but the Progressive head causes the verb to be pronounced adjacent to it, preceding the object:

(35) Bha na h-oileanaich a' leughadh an leabhair
 be.PAST the.M.PL.DIR students PROG read.VN the.M.SG.GEN book.GEN
 'The students were reading the book.'

(36) ... [a' [_{Z_{3,m.sg}} √leugh]] [_{ZP} an leabhair [_{YP} ⟨an leabhair⟩ ⟨√leugh⟩ ...

The reader will have noticed that there is no piece of syntax that corresponds to the verbal noun morphology μ in this analysis. Rather, following the Parallel Morphology intuition, if not its specifics, I suggest a rule of Spellout for Gaelic:

(37) If a root is morphologically unsuffixed, suffix μ [N]

This rule is motivated by a general observation about the morphological behaviour of roots in Gaelic. Roots are found in four general contexts, each one of which is an overt suffix (or a null suffix that is part of a paradigm of suffixes).

The first is finite verbs, where the root is morphologically combined with tense. Tense is usually marked by a suffix, so we have paradigms like the following⁶:

(38) *leugh*, 'read'; *leughaidh* 'will read'; *leughadh*; 'would read', *leughas* 'will read [relative form]'; *leughainn*; 'I would read'; *leughar* '(one) reads' etc.

There is no morphological present tense in Gaelic (it is formed periphrastically). An apparent counterexample to the idea that tense is suffixal in Gaelic is that past is signalled by initial lenition of the root (in certain circumstances accompanied by a preceding particle *do*, which also appears when a conditional suffix is present):

⁶The imperative form might be taken to be untensed, and in the singular it looks like a bare root. However, the plural imperative is a suffix, and hence follows the general pattern for roots described here.

- (39) *buail*, ‘strike’; *bhuail*, ‘struck’; *cha do bhuail*, ‘didn’t strike’; *bhuaileadh*, ‘would strike’;
cha do bhuaileadh, ‘wouldn’t strike’

In (39) we see initial lenition in the past, and when that past is embedded under an overt element in C, such as negation (or a question particle, or embedding complementizer), we see a preceding clitic *do*, with the whole unit making a single phonological word. The same pattern is found in conditionals, but in this case accompanied by the conditional affix *(e)adh*. This pattern, combined with the data in (38), suggests that the past is simply a zero-suffix, part of the paradigm of finite verbal suffixes marking tense and tense-related mood (see Cottell 1995 on Irish which has a similar profile). Overall, then, it is possible to define a paradigm of tense markers that suffix to the root making finite verbs⁷.

The second context is nouns, where the root is morphologically combined with number. Number is usually marked by a suffix, although sometimes this is attenuated to just palatalization of the root, orthographically marked by an *i* or *e* before the final consonant:

- (40) *leabhar* ‘book’, *leabhraichean* ‘books’; *cat* ‘cat’, *cait*, ‘cats’; *caileag* ‘girl’, *caileagan*, ‘girls’

There are also irregular nouns that supplete, or undergo internal vowel changes, but the paradigm of number is clearly suffixal.

The third context is adjectives, where the root is morphologically combined with a marker of comparativity (there is no morphological difference between comparative and superlative, rather the particles *nas* or *as* combine with the comparativized form). This is again usually a suffix, in this case a schwa with accompanying palatalization of the root, although there are a number of suppletive forms too:

- (41) a. *dearg*, ‘red’, *(nas) deirge* ‘redder’; *fuair* ‘cold’, *(nas) fhuaire* ‘colder’, etc.
 b. *math*, ‘good’, *(nas) fheàrr*, ‘better’; *dona*, ‘bad’, *(nas) miosa*, ‘worse’

In all of these three cases, the root morphologically combines with some element that is (i) a suffix; (ii) is part a paradigm of suffixal forms, some of which are phonologically contentful, though others are best understood as null.

The fourth case, then, is verbal nouns: as we’ve seen, the morphology associated with verbal

⁷Thanks to Gillian Ramchand for making me be more explicit on this general point.

nouns is (i) suffixal and (ii) has, at least potentially, a phonological realization. It follows the same pattern as the other contexts, each providing the child acquiring Gaelic with evidence for an overarching generalization about how roots can be phonologically realised⁸.

Given this, I suggest the following general constraint on Gaelic roots:

(42) A root in Gaelic must be morphologically combined with a suffix.

In the case of verbal nouns in verbal contexts, the analysis I have suggested above leaves these unsuffixed by any element in the syntax with the right morphological properties. The root does morphologically combine with Y and Z, and perhaps in the case of progressives with Asp, but none of these have suffixal realizations. Note how different this is to the situation with past tense: there, past is part of a paradigm where tense marking is systematically suffixal. For Y and Z and for aspectual marking, there is no paradigm of suffixes which mark agreement or aspect in the extended projection of the verb.

My suggestion is that the general constraint in (42) is met via the spellout rule in (37): since the syntax does not provide an appropriate host, the root delivered to spellout by the syntax is suffixed by μ [N] via (37) to meet the general constraint (42).

In cases like (27), where the root is suffixed by μ [N] in the syntax and the verbal noun behaves in all respects like a true noun, (42) is automatically met, as it is in the case of finite verbs, nouns and adjectives. However, (42) is not met in structures like (28), and the related modal and control constructions, where the verbal noun behaves like a verb, since in none of these does the verb incorporate into an element of the extended projection which has a suffixal morphological paradigm.

If this analysis is correct, verbal nouns in aspectual, modal and control contexts are in fact rather different from English derived nominals like *destruction* or *refusal*, which are truly nouns. Verbal nouns are *syntactically* roots, embedded in verbal functional structure, though they are *morphologically* nouns.

One loose end needs to be tied up. Why, when the verbal noun precedes its object, is the object genitive? In the present analysis, the verbal noun is just a root, and there is no obvious source for genitive case.

⁸Compare with other similar well-known phenomena: theme vowels that obligatorily attach to roots, obligatorily bound kinship terms that must be marked with possessor agreement, etc.

The answer, I think, is that morphological case in Gaelic is truly morphological and is divorced from syntactic licensing. There is strong independent evidence that morphological case is post-syntactic in Gaelic. Ostrove (2020) shows in great detail that dative case in Gaelic is assigned under linear adjacency, as part of spellout as opposed to in the syntax, and argues that DP syntactic licensing must be separated from the morphological case form. He gives the following rule for case realization in Gaelic:

(43) $DP \rightarrow [DP: M\text{-case}.X] / DP \text{ is linearly adjacent to } Y.$

For datives, Ostrove takes Y to be P .

I think this is exactly right, and is correct for genitive case in the language too, although in that case Y is an $[N]$ feature. In the analysis defended here for genitive objects of verbal nouns, the DP object is preceded by and linearly adjacent to $\mu[N]$, and so is morphologically realized as genitive, although syntactically the DP is licensed by verbal functional structure⁹.

5 Conclusion

Briefly summing up, this short paper has sought to show that, although the morphology of verbal nouns in Gaelic is always nominal, the verbal noun itself may be derived either syntactically or morphologically. When it is derived syntactically, the outcome is a resolutely nominal structure, with noun-like syntactic behaviour. When it is derived morphologically, the syntax is actually verbal, as there is no nominalizer present in the syntax. This proposal makes sense of the otherwise curious behaviour of the verbal noun.¹⁰

⁹It must be the case that the rule applies to a feature, as opposed to a head N , since genitive case is found in possessive constructions where the head N is modified by an A (as in (11)), so it is the projection of N that is responsible for the genitive case via (43).

¹⁰A further question I have not addressed is whether there is a result/complex event ambiguity for verbal nouns in nominal contexts more generally in Gaelic, which would be compatible with Borer's approach. There are certainly cases where the verbal noun is used as a result nominal, but there appear to be others when it seems to have only a complex event reading, the corresponding result nominal being formed via different morphological means. This is, of course, still consistent with there being a true syntactic ambiguity, as in Borer (2014), with the result reading being blocked by the presence of an extant result nominal. I have not run the requisite tests, and leave this interesting topic for another time.

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