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Mixed nominalizations, short verb movement and object shift in English[1]

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0. Introduction

The ongoing debate concerning overt object shift and verb movement in languages such as Icelandic has largely overlooked a body of literature arguing for overt verb movement and object shift of a clearly different type in English (Pesetsky 1991, Johnson 1991, Koizumi 1993). We will show that the nominalizations of verb-particle constructions provide a final confirmation of the overt object-shift analysis of English accusative objects, and require a split-VP architecture as proposed in the above literature and later work (Travis 1988, Kratzer 1993, Chomsky 1995). The analysis we present depends upon a non-lexicalist approach to the formation of nominal and verbal forms from category-neutral roots, which we frame in terms of the Distributed Morphology framework of Halle and Marantz 1994.

Chomsky (1970) first noted that mixed nominalizations of verb-particle constructions (0a, b) do not exhibit the optionality of object-particle ordering of the verbal form (0c, d):

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(0) a. Chris's **writing up** of the paper.
b. *Chris's **writing** of the paper **up**.
c. Chris **wrote** the paper **up**.
d. Chris **wrote up** the paper.

He presents this data as part of his argument in favor of the Lexicalist Hypothesis. Roughly, he took the fact that the nominal+particle does not exhibit the range of possible transformations admitted by the verb+particle as evidence that nominals are formed pre-syntactically. Were they formed in the syntax, he argued, they should be subject to the same transformations, prior to the nominalization transformation, that the verbal form is subject to, including Particle Movement, the transformation then responsible for the alternation illustrated in (0c, d).

We argue that the correct theory of phrase structure differences between the nominal and verbal forms permits us to explain the paradigm in (0) without recourse to a pre-syntactic component (Lexicon). In short, the full verbal construction involves more structure (and movement) than the nominalization does, in which all elements remain *in situ*.

The following provides a short preview of the conclusions we arrive at in this paper. First, we show that English has short verb movement and object shift in verbal clauses but not in nominalizations. Second, we support the proposal of Marantz 1997 that a nominalization is really the Spell-Out of a category neutral "root" projection in a DP context. Third, we propose that particles head their own phrasal projection and have a syntax distinct from resultative phrases. Finally, our analysis refutes one of the classical arguments for the Lexicalist Hypothesis.

1. Making the right distinctions

It is necessary at this point to clearly delineate the data set with which we are dealing, as the existence of several different contexts for the suffix *-ing* may be at first confusing. As originally noted in Lees 1961:64-69 and by many theoreticians since (e.g. Jackendoff 1977), however, there are clear structural and interpretive differences which distinguish true nominalizations from gerundive constructions.

The properties of gerunds in *-ing* are listed below in (1). Essentially, gerunds appear to be verb phrases in all respects, both syntactically and interpretively. Among other things, gerunds may not take adjectival modification or number marking, they assign

accusative case to any direct objects present, and they may contain auxiliaries and expletives. Most crucially for the present treatment, they are always morphophonologically transparent: formation is always with the affix *-ing* and there are no verb-specific gerundive affixes which block the occurence of the form in *-ing* in individual cases.

(1) *gerunds:* **DP V-ing DP**
The barbarian army(’s) suddenly destroying the city upset Caesar.

- have properties similar to related VPs, e.g. may contain auxiliaries
- morphophonologically transparent formation in *-ing*
- all VPs have corresponding gerund (Lees 1961:66)

In keeping with the verbal properties of these forms, the particle shift alternation is fully productive in gerunds, as illustrated in (2).

(2) a. Chris’s hastily writing the paper up...
b. Chris’s hastily writing up the paper...

In contrast, true nominalizations (so called “derived” nominalizations) exhibit properties identical to those of underived nouns. Some of the relevant properties of non-*ing* nominalizations are listed below in (3):

(3) *“derived” nominalizations:* **DP’s V-Nom of DP**
The barbarian army’s sudden destruction of the city upset Caesar.

- syntactically distinct from VPs in various ways
- theme argument case-marked by *of*
- morphophonological conditioning (*destroy --> destruction)*

Unlike the gerundive forms, derived nominals take adjectival modification (*sudden destruction)* and may take number affixes; they do not assign accusative case to selected objects. No auxilliaries or expletives may appear with derived nominals, and derived nominals exhibit root-specific morphophonological conditioning and may have idiosyncratic, non-transparent interpretive properties.

The nominalizations we are concerned with here exhibit all the properties of derived nominalizations, but they are formed with the *-ing* affix, like gerunds. Following the terminology of Chomksy (1970) we term them “mixed” nominalizations.

(4) *"mixed" nominalizations:* **DP's V-ing of DP**
Belushi's mixing of drugs and alcohol proved fatal.

These nominalizations, we maintain, are not "ambiguous" between a gerundive and a true nominal interpretation, but rather are in fact true nominalizations, formed when there is no specific nominalizing affix available for a given root. On this treatment, *-ing* is the Elsewhere nominalizing affix. For further discussion, see section 3 below.

2. The Technology: Split VP and PrtP with short object movement

The mixed nominalizations are the ones generally found with verb-particle constructions. How can we account for the fact that particle shift is available in the verb phrase and the gerund but not in the mixed nominalization? Let us first consider a recent treatment of particle shift in a split-VP framework, and then examine how it may be extended to the current problem.

The particle-shift data are presented again in (5a,b (=0c,d)) below:

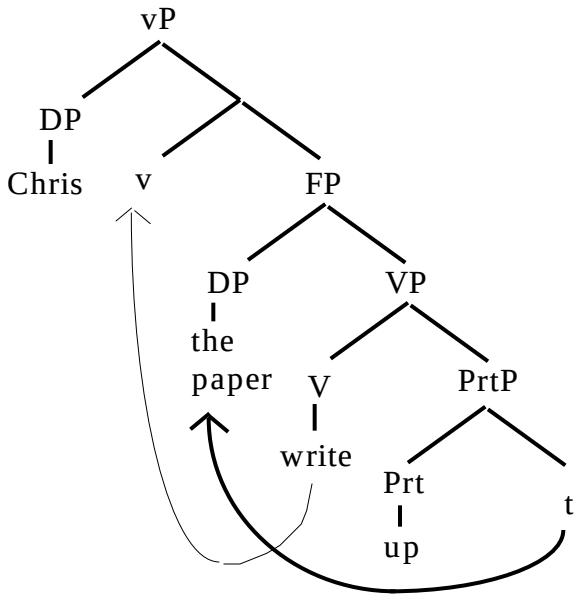
(5) a. Chris **wrote** the paper **up**.
b. Chris **wrote up** the paper. (= (0a') and (0b'))

Koizumi (1993) presents an analysis of the Case Adjacency requirement in English which relies on two structural innovations in the VP: first, a split-VP architecture (cf. Larson 1988 Pesetsky 1991, Johnson 1991, Kratzer 1996, Travis 1994, Harley 1995, Runner 1995) also, in which the verb moves from a lower V head and adjoins to an upper v head; and second, an additional functional projection available between the two V heads, which we shall term FP. FP is the position of structural Case checking, where accusative-marked objects in English must appear in the overt syntax in order to receive Case. This architecture is illustrated in (6) on the following page, together with the movements which derive the verb-object-particle order in English.

The verb moves from its position in the lower VP. On our account, the particle is generated as a sister to the verb, and the object is a sister of the particle. The object moves around the particle to SpecFP, where it checks Case, while the verb moves to the head of vP. The strict adjacency requirement between the verb and the object in English (no adverbial material may intervene, cf. **Chris wrote completely the paper up*) is

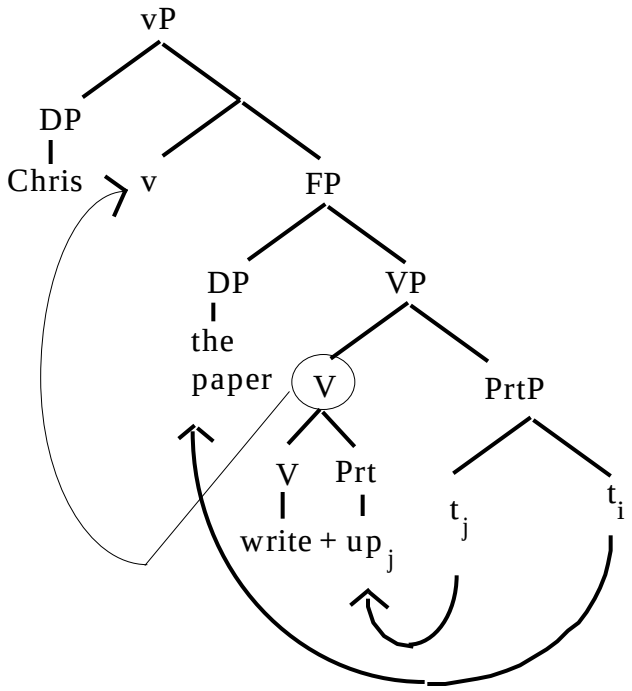
derived because FP is not a legitimate adjunction site for adverbs, not containing the relevant semantic content (cf. Travis 1988).

(6) Chris wrote the paper up.



In (7) below, we illustrate the movements which occur to generate the verb-particle-object order produced by particle shift. Essentially, everything occurs exactly as it did in (6) above, with the additional optional phenomenon of the particle cliticizing to the verb via head-movement. The particle then moves along with the verb to appear in the head of vP, and the object follows the entire moved verb+particle complex.

(7) Chris wrote up the paper.



In (8a,b) below, we show that Object+Particle may be coordinated as a phrasal category (8a), while Particle+Object may not (8b) (Koizumi 1993). The structures outlined above correctly predict this difference in coordination possibilities. Since Prt-Object ordering indicates that the Prt has incorporated into the V, Prt+Object does not form a constituent in (8b). In (8a) on the other hand, since the particle is stranded below the object, the object-containing FP (and the stranded particle which it dominates) may be freely coordinated with another FP.

(8) a. Chris turned the oxygen on and the acetylene off.
b. *Chris turned on the oxygen and off the acetylene.

The structure and movements proposed above differ from Koizumi's in one point. Koizumi base-generates the particle as sister to the V head so that these form a single lexical item. The V head on his account may optionally excoporate from the V+particle complex, thus producing the V+Object+Particle order. Under our analysis, the particle projects its own phrase and takes the object as its complement. In addition to having the theoretical advantage of not requiring the introduction of excorporation as a mechanism, our proposal also makes a correct empirical prediction. Like a regular prepositional phrase (9a, b), particles in verb-particle constuctions may be modified by prepositional adverbials, as in (9c, d) below (den Dikken 1995).

(9) a. Chris (*right) threw the ball **right** through the window.
b. Chris (*straight) walked **straight** up the path.
c. Chris (*right) turned the light **right** off.
d. Chris (*straight) wrote the information **straight** down.

Further, the fact that the particle is incorporated with the verb on verb+particle+object order accounts for the ill-formedness of (10a, b) below, since no adverb may intervene between the verb and the incorporated particle. (10c), with particle-incorporation but an adverb in situ, is independently ruled out by the prohibition on stranding PP adverbials shown in (10d):

(10) a. *Chris turned right off the light.
b. *Chris wrote straight down the information.
c. *Chris turned+off$_i$ the light right t_i.
d. *Into the room$_i$ walked Chris right t_i.

Koizumi's structure, on the other hand, requires that the prepositional adverbial exemplified in (9c, d) be (impossibly) adjoined directly into the middle of the V head. On the current proposal, the Prt phrase, headed by the prepositional particle, may be modified by prepositional adverbs just like fully-functional prepositional phrases. Here, particles are just "bleached" prepositions: prepositions which have no case-assigning properties.

To sum up, then, the mechanisms proposed to derive verbal particle shift, on this modification of Koizumi (1993), are the following: the object argument moves out of the lower VP for Case purposes, while the verb moves around it to the head of the higher vP. The particle remains in situ in VP, and hence is clause-final, unless the option of incorporating into V is exercised, in which case the particle moves with V to the head of vP. We now discuss our non-lexicalist approach to insertion of morphemes before going on to solve the nominalization puzzle we began with.

3. Distributed Morphology vs. Lexicalism

As outlined above, we assume the general framework for morphophonological realization and conditioning termed Distributed Morphology (Halle & Marantz 1993, 1994). Under this system, collections of morphosyntactic features are manipulated by the syntax, and, after all syntactic operations are complete, such features are then *realized* when morphophonological forms, taken from a set called the *Vocabulary*, are inserted at syntactic terminal notes. Vocabulary Insertion provides the most specific form consistent with the immediate context of the terminal node. For example, in the environment *ox*___,

a [pl] feature will be realized as *-en*. If no particular specific form is consistent with the feature in context, an elsewhere form is inserted. In addition to the Vocabulary and the collection of morphosyntactic features, an *Encyclopedia* links Vocabulary Items (again context-sensitively) with their meanings. For further discussion of the relationship between features, closed-class and open-class items and the Encyclopedia, see Harley and Noyer (forthcoming).

In the current situation, we analyze *-ing* as a polyfunctional Vocabulary Item, inserted both as the gerundive affix and the default or Elsewhere nominalizing affix. In gerundive syntax the relevant feature is always realized as *-ing*. In nominal syntax, however, a variety of morphophonological forms such as *-(at)ion, -ment, -al* and so forth compete with *-ing* for insertion. If a vocabulary item selects a specialized nominalization suffix, this suffix (which may trigger other readjustments) is inserted, blocking the *-ing* form, just as the more specific affix *-en* blocks plural *-s* in the example *oxen* above. If no such special form exists, then *-ing* is inserted as the default. Such a blocking effect is illustrated in (11).

(11) a. Chris's **admiration** of Mary (specialized nominalization)
b. ?*Chris's **admiring** of Mary (nominalizing *-ing*)

If the Encyclopedia provides a specialized meaning to a morphologically specialized nominal (e.g. denoting the result of the action, or some material produced by the action), then the default *-ing* spelling can still be inserted yielding a default nominal meaning denoting roughly "the activity of". In (12a), we illustrate the possibility of inserting *-ing* in the context of *mix___*, despite the existence of the specialized nominalization *mixture*. Because *mixture* has the specialized meaning "the resulting substance", the insertion of *-ing* to produce the nominal meaning "the activity of" is not blocked by *mixture*.

(12) a. *Nominalization with specialized meaning and specialized form*
Belushi's **lethal mixture of drugs and alcohol** proved fatal when he drank it.

b. *Nominalization with default -ing* (*Mixed nominalization)*
Belushi's **foolish mixing of drugs and alcohol** proved fatal.

In (13) below we provide further examples of the blocking effect (or lack thereof) correlated with the existence of a specialized meaning for the specialized nominalizing affix. We predict, of course, that a mixed nominalization should be acceptable only to the extent that a morphologically specialized nominalization has a specialized meaning.

(13)	admire	admiration of	?admiring of
	destroy	destruction of	?destroying of
	inspect	inspection of	?inspecting of
	mix	mixture of	mixing of
	move	movement of	moving of
	marry	marriage of	marrying of

To summarize, the present account does not recognize a Lexicon whose function is to produce the items which project syntactic structure. Clearly then, we cannot, as did Chomsky (1970), account for the fact that particle shift is not available in nominalizations by consigning nominalizations to the Lexicon. In the next section we provide an alternative solution that does not rely on the lexical vs. syntactic distinction.

4. Nominal vs. Gerundive Syntax: "Verb" and "Noun" as relationally-defined categories

The answer to the puzzle, we claim, lies in the fact that categorial status is syntactically determined. Because the syntactic environments for "nominal" and "verbal" realizations of morphemes are different, the syntactic processes available in each environment are likewise different. The difference between gerunds and nominalizations in fact has nothing to do with nominal forms being pre-syntactically constructed in a Lexicon.

The spirit of the current proposal is similar to that of the proposal in Chomsky 1965 to the effect that grammatical relations such as *subject* and *object* are not syntactic primitives but are derived notions defined configurationally. The relevant syntactic relations for "subject" and "object" which he identified are given in (14) below:

(14) "subject" = [NP, S]
"object" = [NP, VP]

In the same vein, Marantz 1997 proposes that syntactic categories such as *noun* or *verb* are not syntactic primitives. Rather, there is a single contentful category, which we will term √P (read as "RootP", following Pesetsky 1995) which may appear in different syntactic contexts. In the context where √P is dominated by vP, √ is realized in its verbal form (√P = VP in (6) and (7) above); when √P is dominated by DP, it is realized in its nominal form[2]. These syntactic relations identifying categorial status are outlined in (15):

[2]Since FP intervenes between vP and √P, on the treatment of verbal syntax presented here, it must not "count" as immediate context. Either a multiple-specifier approach to accusative case checking (in spec-√P)

(15) content category = √P

"verb phrase" = [√P, v]	content category under v functional head
"noun phrase" = [√P, D]	content category under D functional head

When the derivation reaches Spell-Out, and morphophonological material is inserted, the form inserted into the √ node (and concomitant readjustment rules) will be conditioned by the immediate syntactic context, as illustrated in (16)

(16)

destroy	---> *destruct-ion*	in env. of D
Elsewhere,	*destroy*	(i.e. in env. of v)

In the gerundive context, then, it is immediately clear that a vP must be present, as gerunds take the verbal form of the root, rather than the nominal form (*The barbarians destroying the city upset Caesar*, not **The barbarians destructing the city upset Caesar*). The syntactic structure for gerunds, then, must contain a vP. (This proposal essentially updates the standard analysis, in which gerunds are formed from VPs, into a contemporary clausal architecture.) As noted by Lees 1961, gerunds may not take a determiner (**The destroying the city*), and so we propose to treat gerunds as special instances of small clauses with vP predicates.[3] We illustrate this option in (17) below.

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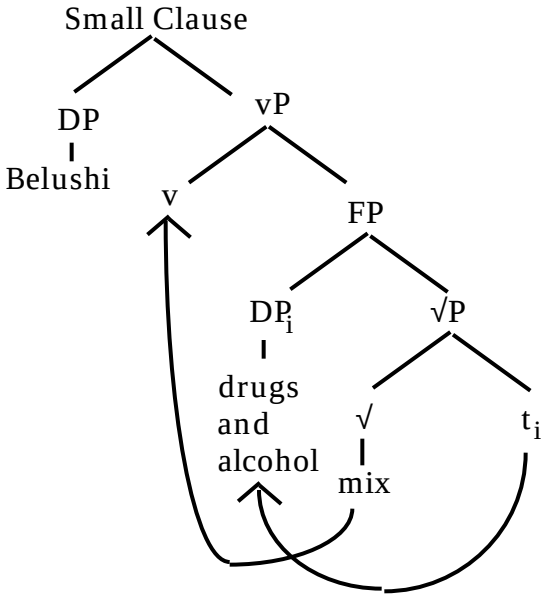
or a check-then-delete approach to FP (as it has no semantic content) will serve to permit the correct realization environment for the √ head.

[3]An equally plausible treatment would be to identify them as complements to a necessarily genitive D head, thus ensuring the presence of the necessary Spec-DP position and ruling out the plain-determiner structure; we will not choose between these alternatives here as gerunds are not the focus of the current treatment. See (e.g. Siegel 1997) for other possibilities.

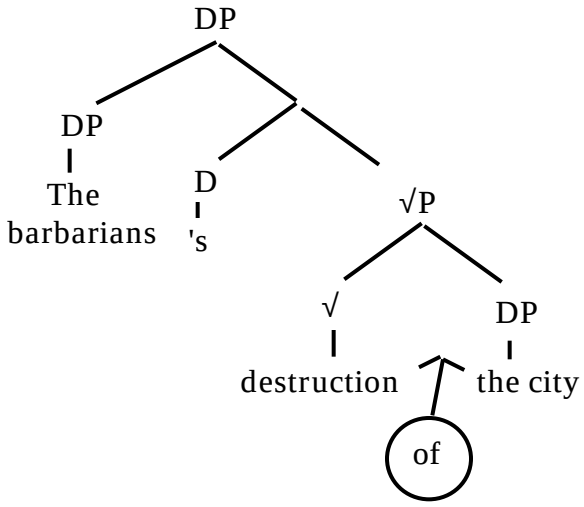
(17) *Gerund as Small Clause*
[$_{SC}$ Belushi$_k$ foolishly [$_{vP}$ mixing$_j$ [$_{FP}$ drugs and alcohol$_i$ [$_{√P}$ t_j t_i]]]]



The fact that gerunds take an adverbial modifier, rather than an adjectival one like the true nominalizations or the mixed nominalizations, is another indicator of the presence of vP: since vP creates a verbal category, it must be present if adverbial modification is present.

Let us now turn to the syntactic structure we adopt for true nominalizations. As outlined above, a root is realized as nominal in the nominal environment, that is, when it is in the DP context. Therefore, the syntactic structure for nominalizations must be something like that sketched in (18) below

(18) *Nominalization: no movement.*



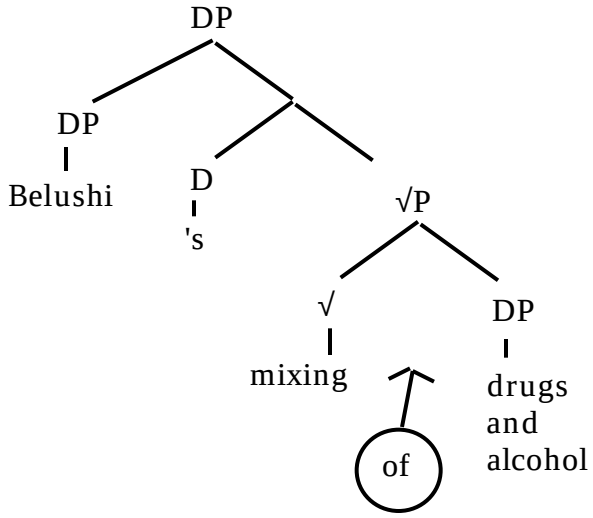
[$_{DP}$The barbarians' [$_{√P}$destruction of the city]]

The crucial feature of the structure above for the present analysis is the lack of vP or FP anywhere. Since accusative Case assignment is dependent upon the presence of FP, there will be no accusative Case available in this structure, forcing the insertion of last-resort case-marker *of*. Further, no movement of the root to a higher head will be possible here. The other properties of nominalizations fall out equally naturally. Since DP creates a nominal category, any modification will be adjectival.

Now, recall that the "mixed" nominalizations have essentially the same syntactic properties as the true nominalizations illustrated above. Hence, we claim, they have the same syntax, illustrated in (19). The *-ing* spell-out simply reflects the Elsewhere realization in the nominal context.

(19) *"Mixed" nominalization*

Same syntax as above, spell-out in *-ing*



5. The Puzzle's Answer.

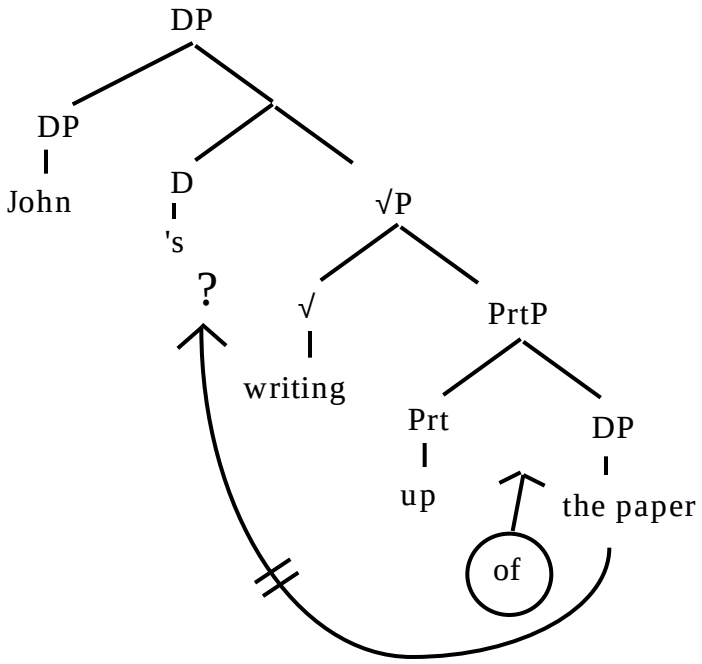
Now we have all the technology necessary to solve the problem of the lack of particle shift in mixed nominalizations without recourse to a Lexicon. The problem construction is outlined again in (20).

(20) a. *****Chris's **writing** of the paper **up**.

b. Chris **wrote** the paper **up**.

The reason for the lack of particle shift in the mixed nominal context should by now be obvious. Since everything in √P is *in situ* in the nominalization, with no higher verbal functional projections, object movement to the left of an *in situ* particle cannot occur, as illustrated in (21):

(21) **No object movement in nominalization: nowhere to go**
[$_{DP}$ Chris's [$_{\sqrt{P}}$ writing up of the paper].
*Chris's writing of the paper up.



To summarize, the key feature of the above structure which prevents object shift around the particle is the fact that the nominalization is just √P under D. There is no vP or FP available in the structure, hence the object may not move to a higher functional position. The object must therefore stay *in situ* to the right of the particle, which is a non-Case-assigning preposition. The fact that no Case is available forces the insertion of last-resort Case-assigner *of*.

6. Three further issues.

Here we address three further issues relating to the present analysis. First, the impossibility of pied-piping inserted *of* in movement constructions verifies that *of*-insertion occurs after syntax. For example, it is clear that normal pied-piping as in (22e) is not possible with the *wh*-phrase in (22b) and (22d)[4].

(22) a. Which city did you witness the barbarians' destruction of *t*?
b. *Of which city did you witness the barbarians' destruction *t*?
c. Which gas did you encourage the turning off of *t*?
d. *Of which gas did you encourage the turning off *t*?
e. From which cabinet did you remove the file *t*?

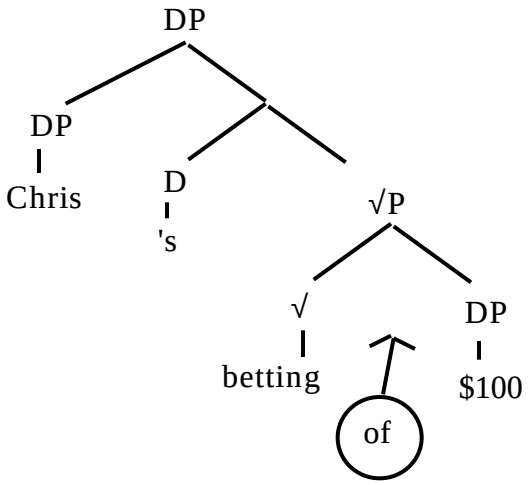
Wh-movement occurs in the syntax, and its trace is the portion of the chain that needs Case-marking. None is available, so insertion of *of* at Spell-Out occurs, at the trace, where the Case is necessary.

Second, nominalizations of double-object verbs are impossible (23b,d,f), as are nominalizations of double-object verb-particle constructions (23h).

(23) a. The modern teaching of Latin began in the 19th century.
b. ??The modern teaching of children Latin began in the 19th century.
c. Chris's betting of a hundred dollars
d. *Chris's betting of Robin a hundred dollars
e. Throw me down that wrench, please.
f. *His very helpful throwing down of me that wrench
g. Pat whipped up Chris some dinner.
h. *Pat's nearly immediate whipping up of Chris some dinner

(24)

[4]We disagree with the judgment given by Chomsky (1986:80, citing Huang 1982) for (22b) (for these authors the sentence is grammatical). However, the judgment, as checked with several English speakers, seems fairly robust. Of further interest is the nominal island violation in (22a, c); see Chomsky (1986) for discussion.



A potentially plausible account of the unavailability of the nominalized form is as follows. We assume that in double object constructions, two functional projections must be present between vP and √P to check the structural case on the two objects. By hypothesis, *of* insertion is possible only for theme arguments (Chomsky 1981). In the nominalizations, then, with the lack of functional positions in which to check Case, at least one of the two arguments will find itself Caseless and the nominalization will be ill-formed.

Third, in the present proposal, there are two semantically contentful projections, vP and √P, to which adverbs may adjoin. Since particles, when they remain *in situ*, are complements of √P, they should appear to the right of √P-adjoined adverbial material. √P, on this approach, is the site of adjunctions of manner adverbs (see discussion in Harley 1995). In (25), we provide data showing that insertion of a manner adverb between the object and the particle, while not perfect, is certainly far from ungrammatical:

(25) a. Chris [$_{vP}$ quickly [$_{vP}$ turned the oxygen [$_{√P}$ off]]] adjunction to vP
b. Chris's quick [$_{√P}$ turning off of the oxygen] adjunction to √P
c. ?Chris [$_{vP}$ turned the oxygen [$_{√P}$ quickly [$_{√P}$ off]]] adjunction to √P

These judgments are contra Johnson (1991), who maintains that adverbs are ungrammatical between V and Prt. However, the judgment here of slight awkwardness in example (25c) above is certainly vastly different from the flat ungrammaticality of a true Adjacency violation, illustrated below in (26):

(26) *Chris kissed quickly Robin.

True ungrammaticality, of a much stronger form than that in (25c), is found if an adverbial is inserted between the verb and the particle in a particle-shift construction. As discussed above (see 10), this is what we predict, since in that situation the particle has incorporated with — and therefore must be adjacent to — the verb.

(27) *Chris turned quickly off the oxygen.

We feel that the essential problem with (25c), insofar as there is one, is a prosodic one of some type. We can increase or decrease the ungrammatical effect by making the object lighter or heavier, as we illustrate with a heavy object creating increased ungrammaticality in (28a) and a lighter object resulting in essential grammaticality in (28b):

(28) a. ??The tired cowpoke rounded herd after herd of prize-winning cattle carefully up.
b. The tired cowpoke rounded them carefully up.

7. Resultatives versus Verb-Particle Constructions

True verb-particle constructions have at least three crucial defining properties, which, we believe, set them apart both from resultative constructions and simple V PP structures. As shown above, verb-particle constructions may undergo particle shift with no change in meaning: the object may appear to the right or left of the verb. Further, there is often a specialized meaning associated with the verb+particle constructions, usually not obviously related to the meaning of the individual components, and finally, the object is assigned accusative case, and requires the presence of last-resort *of* in nominalizations.

The first class of V+DP+Prep sequences which might be confounded with verb-particle constructions are resultative constructions with a result P, of the type illustrated in (29) below. Indeed, some analysts (den Dikken 1995) have proposed to subsume verb-particle constructions under an analysis of resultative constructions.

(29) Chris walked the dog around.

In P-resultative constructions, the object may appear only to the left of the preposition. If the preposition appears to the left of the object, a PP results with a concomitant loss of the resultative meaning, as illustrated in (30).

(30) a. *Chris walked around the dog. (circumambulation only)
b. *Chris' walking around of the dog.

By hypothesis the ordering [V P DP] is the base order for verb-particle constructions, as diagnosed by their nominalizations. If verb-particle constructions have the same structure as resultatives, there is at least no immediate account for why (30) is not a possible order. We however assume that resultative constructions, whether the resultant predicate is a P or some other predicative category, have the structure in (31a), where the object forms a small clause with the resultant predicate. If the small clause structure is not present, no resultative reading is available, as illustrated in (31b, c) for an adjectival resultative:

(31) a. $[_{\sqrt{P}}\ \sqrt{}\ [_{SC}\ DP\ P]]$
b. Chris painted the barn red.
c. *Chris painted red the barn.

Resultative constructions have one property in common with the true verb+particle constructions, however, which is the fact that case for the object argument is accusative and is assigned by the verb. This is not the case for our third set of verb+P constructions, which is the class of potentially confounding V+PP strings we will treat here.

As expected, V+PP strings differ from verb-particle constructions in that the object may only appear to the right of the P. Idiomatic interpretations of the verb+P combination are possible, but far from necessary, and the object receives case from the P, and in nominalizations no *of*-insertion is necessary. The structure of this type of construction may be seen in (32), and some examples of prepositional complements with and without idiomatic interpretations appear in (33):

(32) $[_{\sqrt{P}}\ \sqrt{}\ [_{PP}\ P\ PP\ ]]$

(33) a. Chris walked into the store.
b. Mary flew off the handle.
c. Robin dropped off the face of the earth.

The table in (34) summarizes constructions in which verb-particle constructions, P-resultatives, and V+PP idioms occur.

(34) Diagnostics for Verb-Particle Constructions

	Verb Particle	P-Resultative	Verb PP idiom
V P DP	ok	*	ok
V DP P	ok	ok	*
V-nom *of* DP P	*	ok	*
V-nom DP P	*	*	*
V-nom P DP	*	*	ok
V-nom P *of* DP	ok	*	*

We can establish the difference between these structures by examining homophonous pairs, exemplified in (35):

(35)

	Verb Particle	P-Resultative	V+PP
lay off	'fire'		'stop bothering'
run through		'impale'	'rehearse'
get out	'make visible'	'expel'	
put on	'don, produce'	'deceive'	

Lay off is homophonous between a verb-particle use 'fire' and an (idiomatic) verb-PP use 'stop bothering'. For the 'stop bothering' version, both the DP P order (36b) and *of*-insertion (36c) are equally poor, while the 'fire' version permits DP P order (36a) and requires *of-insertion* (36d):

(36) a. The boss laid the employees off.
b. *The bully laid the 98-lb. weakling off.
c. The bully's laying off (*of) the 98-lb. weakling.
d. The boss' laying off *(of) the employees.

Similarly, *run through* is homophonous between a P-resultative 'impale' and a V+PP use as 'rehearse'. The P-resultative resists the P DP order (37d), while the V+PP use resists the DP P order (37c) and eschews needless *of*-insertion (37e).

(37) a. Porthos ran the villian through (with his sword).
b. Porthos' running of the villain through
c. *The cast ran the play through.
d. *Porthos' running through of the villain (with his sword)
e. The cast's running through (*of) the play.

Finally, there are cases such as *get out* 'make visible/expel' or *put on* 'don, produce/deceive' which double as verb-particle constructions and as P-resulatives:

(38) a. The bouncer got out a gun (particle)
b. *The bouncer got out the drunk sailors. (resultative)
c. The putting on of masks. (particle)
d. *The putting on of Chris (resultative)

8. Conclusion

In this paper we have presented an analysis of English verb-particle constructions and their interaction with nominalizations which permits a) a refutation of the argument from Particle Shift for the Lexicalist Hypothesis and b) provides a final confirmation of the split-VP approach to the internal structure of the verb phrase. Working within the framework of Distributed Morphology, we analyze nominalizations as the structurally determined nominal realizations of a category-neutral root, and the verbal form as equally structurally determined. The possibility of raising of the root accompanied by structural case-checking of the object results in particle-shift being available in the structurally enriched verbal environment, but not in the nominal environment.

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