

This material condenses Chapter 5 of *Lexicon and Grammar: the English Syntacticon* (Mouton de Gruyter, Berlin, 2000). Case #1 of the Syncom Project on Adjectival Passives presents many of the same ideas and compares them with earlier competing accounts of the passive.

## PASSIVE AND PERFECT SYNTACTIC STRUCTURES

### 1. Analytic Passive Constructions

A **passive participle** (*broken, done, eaten, flown, sung*, etc.) is a non-finite form that combines with a higher verb in finite passive clauses. These combinations are called **analytic passives**. The English passive participle is homonymous with the past tense for all but a list of irregular verbs.

There are two distinct uses of these analytic passives in many Indo-European languages, called **verbal passives** and **adjectival passives** (Section 3).

The same participle also combines with an auxiliary to form a **composed past** tense in English (*have broken*, etc.) and most Germanic and Romance languages.

### 2. Passive Participles: evidence they are Adjectives

Though formed from a verbal stem, passive participles are *all* adjectives, for at least three reasons.

#### 2.1. (Both types of) passive participles uniformly inflect like adjectives.

That is, if adjectives in all positions agree (Romance), then passive participles do as well. If only attributive adjectives agree (German), then only attributive participles agree. In contrast, these participle forms don't agree in the "active" composed past. Here are the relevant French examples:

- (1) a. *passive adjective* A mon arrivée, cette porte semblait déjà *repeinte*.  
'At my arrival, that door seemed already repainted+FEM'
- b. *passive verb* Cette porte était vite *repeinte* par le locataire pendant ma visite.  
'That door was quickly repainted+FEM by the renter during my visit'
- c. *composed past* Cette femme a tout de même *peint*(\*e) seulement par nécessité.  
'That woman has all the same painted (\*FEM) only by necessity'

#### 2.2 Both types of passives are selected by verbs lexically specified as +\_\_\_AP.

- (2) Adjectival but not verbal passives appear with almost all V whose subcategorization is for

a frame +\_\_\_AP or +\_\_\_DP^(AP), E.g., the English intransitives *act, appear, be, become, feel, look, remain, seem, smell, sound, stay, taste*.

(3) Verbal passives are selected by a *very few* linking verbs also subcategorized as +\_\_\_AP, those that are least semantically specific (*be* and/or *get*, depending on the language involved).

### 2.3. Passive participles have AP distribution in adjunct and other positions.

(4) As adjuncts of verb phrases:  
 { *Desolate/ Unwanted* }, the child spent it school years { *hungry/ uncared for* }.

(5) As attributive modifiers of nouns:  
 Church bells { *silent/ rung* } at noon reflect the status of the church.

(6) With the prepositional copula *as*:  
 He struck us as { *intelligent/ pompous/ experienced/ overgrown* }.

Given their adjectival properties, Lieber's (1980) right-hand head rule for bound morphology dictates the simple beginnings of a lexical entry (7) for all passive participles.

(7) **Passive participles** (tentative): **-en, A, +V \_\_\_**, ....

The goal of what follows is to adequately complete this entry without departing from simplicity.

## 3. Verbal Passives vs. Adjectival Passives: their differences

### 3.1. A defining difference between the two passives: ongoing vs. completed activity

Traditional and generative grammar distinguish passive participles with an activity sense from those that indicate a resultant state (Wasow, 1977). So-called *adjectival passives* have a sense of *completed activity*. In contrast, so-called verbal passives do not:

(8) The door { remained/ was } *closed* during the noon hour. (Ad; door closed by noon)  
 The door { got/ was } *closed* during the noon hour. (V; door can still be open at noon)

John { seems/ is } very (*un*)*satisfied*. (Ad; satisfaction already obtained)  
 His needs are { getting/ being } (*\*very*) (*\*un*)*satisfied*. (V; satisfaction still on the way)

The door looked (*un*)*painted*. (Ad; painting complete)  
 The door is being (*\*un*)*painted*. (V; painting incomplete)

We will use among others the following two diagnostics for verbal passives. Certain verbs are apparently incompatible with a completed sense and hence do not appear in adjectival passives:

- (9) \*New York seems (very much) { *approached* / *left* } in the tourist season.  
 \*That good dinner felt { *accompanied* / *followed* } by too much drink.  
 \*Many polluted cities remain { (un)*avoided* / *escaped* } during the summer.

Another diagnostic is the incompatibility of adjectival passives with directional PP complements:

- (10) \*The clay looked { *handed* around to students / *pressed* into a bowl }.  
 \*A basketball sounded { *dribbled* across the floor/ *thrown* against the wall }.

The sense of completed activity, i.e. of a property, seems nothing more than the **characteristic Logical Form (LF) interpretation of the category A**. To account for this, I propose:

- (11) In adjectival passives, the adjectival head [<sub>A</sub> *-en* ] is present in LF (and Spell Out).  
 In verbal passives, *-en* is absent in the syntactic derivation and LF; *-en* is present only in PF.

At least six syntactic differences from Wasow (1977) correlate with and in part follow from (11).  
*By these criteria, the distribution of adjectival passives is essentially identical to that of adjectives.*

### 3.2. Selection by different classes of V

As in Section 1.2, essentially all V with the frame +\_\_\_AP select adjectival passives; only one or two such V select verbal passives, such as English *be* and *get*. Cf. examples (9) and (10).

### 3.3. SPEC(AP) such as *very*, *too*, *how* and *so* freely modify only adjectival passives.

An English diagnostic for adjectival status is that a progressive can appear only with animate subjects: { *The salesman* / \**The price* } *is being reasonable*. { *The host* / \**The party* } *is being polite*.

- (12) The garden seemed too overplanted.  
 The garden is being (\*too) overplanted.  
 New York remains more affected by strikes than other cities.  
 \*New York is more avoided by tourists than other cities.

- (13) very satisfied, too irritated, how oppressed, so scared  
 \*very avoided, \*too approached, \*how followed, \*so dribbled [ using the V of (9)-(10) ]

### 3.4. Only adjectival passives accept the adjectival prefix *un-* (Siegel, 1973).

- (14) uncut, unknown, unpainted, unrewarded, unsatisfied  
 \*unavoided, \*undribbled, \*unhanded, \*unleft, \*unprecedented

Since the head [<sub>A</sub> *-en* ] is lexicalized *throughout* adjectival passive derivations in (11), they will occur whenever any principle or lexical specification sanctions an AP, as in (2)—(6) and (12)—(14).

### 3.5. Only verbal passives have an overt or understood external argument (“agent phrases”).

Unlike adjectival passives, a verbal passive is related to some DP that acts as its logical subject, either an overt *by*-phrase or an interpreted PRO. These understood arguments account for how passive verbs (15) contrast with middle verbs (16) and adjectival passives (17), which lack them.

- (15) a. The meeting was started on time (by Susan) (in order) to please the host.  
 b. The chairs were moved around on purpose (by the guests).  
 c. This corn has been grown voluntarily ( { by peasants / to stave off famine } ).  
 d. Our workers are better paid intentionally (by the new boss).  
 e. Art classes are being restored (by the Board) in order to qualify for funding.
- (16) a. \*The meeting started on time (by Susan) to please the host.  
 b. \*The chairs moved around on purpose (by the guests).  
 c. \*This corn has grown voluntarily ( { by peasants / to stave off famine } ).
- (17) a. That series of meetings sounds completed (\*by the committee).  
 b. Most of our furniture is still unmoved (\*by the company).  
 c. This corn looks fully grown (\*voluntarily).  
 We judge the corn fully grown (\*to stave off famine).  
 d. Our workers remain better paid (\*intentionally).  
 e. Some art classes seem restored (\*in order to qualify for funding).

An overt *by*-phrase or corresponding covert PRO in a verbal passive accounts for two properties:

- (18) a. A syntactically present animate subject seems to be a necessary condition for  
 adverbs of intentionality and adjunct purpose clauses, as in (15b,c,d).  
 b. This logical subject may (not necessarily must) control the optional PRO subject of

an infinitive of purpose, optionally introduced by *in order* as in (15a,c,e).

A V stem in a verbal passive thus appears to obey the Extended Projection Principle (Chomsky, 1981), i.e. it must have a subject DP c-commanding it in LF.

In contrast, since the V stem of an adjectival passive is not a head at any level, by (11), it lacks a syntactic subject. It resembles rather the subjectless Vs in compounds and derived morphology, like the bold V in *meeting place*, *think tank*, *go cart*, *infestation*, *bereavement*, etc.

That is, a V in an adjectival passive is apparently not subject to the Extended Projection Principle.

**3.6. Idiomatic object nouns passivize freely only in verbal passives.** The next section treats this.

- (19) A great deal { was being made/ \*sounded made } of your resignation.  
 No attention { is being paid/ \*seems paid } to minor officials.  
 Some advantage may finally { be taken/ \*feel taken } of our new wealth.

**3.7. Only verbal passives have the full internal structure of VPs.** This is explained in section 7.3.

A verbal passive contains one “trace” or “gap” replacing a "passivized" DP in a corresponding active VP. But in addition to this, adjectival passive VPs tolerate no other overt internal DP.

## 4. Using the lexical entry for *-en* to account for the differences

- (7) **Passive participles** (tentative): *-en*, A, +V \_\_\_\_, ....

- (11) In adjectival passives, the adjectival head [<sub>A</sub> *-en* ] is present in LF (and Spell Out).  
 In verbal passives, *-en* is absent in the syntactic derivation and LF; *-en* is present only in PF.

### 4.1. A Lexical Notation and the Extended Projection Principle

Emonds (2002) generalizes and systematizes some notational conventions for lexical entries, in particular the use of parentheses. In particular, parentheses can enclose both the phonological content of an entry (here *-en*) and the syntactic category (here A).

Parentheses around phonological content means **optionally present at the PF interface**.

Parentheses around a syntactic category means **optionally present at the LF interface**. I use this

to revise the entry (7), thereby allowing the ambiguity of *-en* expressed in (11):

(20) **Passive participles** (2<sup>nd</sup> version): *-en*, (A), +V \_\_\_\_, ....

These parentheses *do not mean* that the category A of *-en* is optional in syntax. By definition, they mean that the category A is optionally *treated as absent in LF*. This absence accounts for the restrictions on verbal passives in sections 3.1, 3.3 and 3.4. (For details, see Emonds, 2000, Ch. 5.)

Let us say that a category B functions at a level if and only if it is lexicalized at that level.<sup>[1]</sup> We can then take “being lexicalized” as a necessary condition for functioning as a *head of a phrase*:

(21) **Lexical Head.** The lexical head of a phrase YP at a given level is the rightmost lexicalized X<sup>0</sup> not contained in some ZP between YP and X<sup>0</sup>.

By (11), the lexical head of an adjectival passive phrase at Spell Out (and hence LF) is an A. The lexical head of a verbal passive phrase at these levels is V, because *-en* is not yet inserted under A.

Section 5 proposes a general condition determining levels of insertion. At this point, we only know that inserting *-en* at different levels explains several paradigms differentiating the two passives.

**Explaining section 3.5:** Suppose now that the requirement of “obligatory subjects,” the Extended Projection Principle of Chomsky (1981), is a condition on Vs that have the status of *lexical heads*:

(22) **Extended Projection Principle (at LF).** Exactly one DP argument of a V (called its “subject”) is external to YP if and only if V is the lexical head of YP.

In a verbal passive, where by (11) V is the lexical head at LF, V must have an external argument.

In an adjectival passive, where V is not the head of VP (*-en* is present on its right), V cannot have an external argument. These two conclusions account for the observations in section 3.5.

**Explaining section 3.6.** This section observed that (only) adjectival passives disallow any LF relation other than argumenthood between a DP and the V stem of the participle.

(19) A great deal { was being made/ \*sounded made } of your resignation.  
 No attention { is being paid/ \*seems paid } to minor officials.  
 Some advantage may finally { be taken/ \*feel taken } of our new wealth.

Plausibly, phrasal idioms (including ones with open variables) are specified in the entries of *their*

*lexical heads*. Since a V in an adjectival passive is not a lexical head, the idioms built around the Vs in (19), i.e., *make*, *pay*, *take*, cannot appear in adjectival passives.

Actually, the contrast (19) is a typical difference between inflectional and derivational morphology. Idioms don't survive under derivation.

- (23) a. During the trial, all were impressed by John's maintaining silence.  
       \*During the trial, all were impressed by John's maintenance of silence.  
       b. His paying { bribes/ attention } to minor officials was foolish.  
       His payment of { bribes/ \*attention } to minor officials was foolish.  
       c. This show is pleasing local kids no end.  
       \*This show seems pleasing to local kids no end.

We can assume that lexical specifications of an idiom forbid any intervening heads such as *-ance*, *-ment*, *-ing*, or *-en* in *any* deep structure idiomatic sequence such as *maintain silence*, *pay attention*, etc. According to (11), the participial ending *-en* is underlyingly present only in passive adjectives.

#### 4.2. The limited distribution of verbal passives

**The puzzle of section 3.2.** Verbal passives do not have the full distribution of the category A, e.g., *seem*, *appear*, *become*, *look*, etc. are not possible "auxiliaries" with verbal passives.

Apparently seduced by the label "verbal passive," analysts have in fact ignored *their limited external distribution*. Verbal passives do *not* by any means have the full distribution of VPs:<sup>[2]</sup>

- (24) \*The boy will *taken* the letter.  
       \*He tried to *given* lots of presents.  
       \*The class went on *spoken* to about discipline.  
       \*Please *vaccinated* before you go overseas!  
       \*For children to *examined* often is important.  
       \*We let John *examined* by a nurse.

In fact, verbal passives which are arguments occur only with *be* and *get*. (Passives can appear in adjunct positions with no auxiliary.)

The interpretive property expressed in (11) leads to an account for this limited distribution. We begin with corresponding syntactic and PF representations for each type of passive as in (25).

(25)	<b>Syntactic and LF representations</b>	PF representation
a. Passive verb	$[_A [V \textit{eat}] [_A \emptyset]]$	$\implies [_A [V \textit{eat}] [_A \textit{en}]]$
b. Passive adjective	$[_A [V \textit{eat}] [_A \textit{en}]]$	$\implies [_A [V \textit{eat}] [_A \textit{en}]]$

Here then is the crucial question:

(26) How is it that no  $X^0$  specified as +\_\_\_AP other than *get* or *be* selects verbal passives?<sup>[3]</sup>

(27) **Lexical Headedness.** The head of a construction is the lexical item that satisfies selection relations with elements outside the construction (adapted from Harris, 1957).

That is, a node in head position cannot be selected until it comes to dominate a lexical item. Now according to (11), the *-en* in verbal passives is somehow *not present prior to PF*. That is, prior to the PF part of a derivation, the “headless” passive verb, bold in (25a), simply can’t be selected.

(28) Headedness Corollary (preliminary formulation).  $[_Y X^0 - [_Y \emptyset]]$  cannot be selected.

We can thus answer (26) if *be* and *get* are the (only) V, +\_\_\_AP which are inserted “late,” i.e., in PF. That is, they and only they can then select *eaten* on the right side of (25a).

## 5. Derivational levels for inserting lexical items

As suggested in Chomsky (1965, Ch. 2), basic semantic features that play a role in syntax must be distinguished from more specific semantic features that do not.

- (29) a. Semantic features (of high specificity) that do *not* play a role in transformational derivations are called **purely semantic features** and notated *f*.  
 b. Semantic features (of low specificity) that play a role in transformational derivations are called **cognitive syntactic features** and notated F.<sup>[4]</sup>

Cognitive syntactic features F are severely limited in number, unlike the purely semantic features *f*. Categories that don’t have the freedom to express a rich array of purely semantic *f* are **closed**.

Moreover, **purely semantic *f* occur only in the open lexical classes N, V, A and P.**

Consequently, other grammatical classes (Det, Modal, Conjunction, etc.) disallow semantic *f* and are closed.

Among verbs with AP complements (*act, appear, be, become, feel, get, look, remain, seem, smell, sound, stay, taste*), *be* and *get* are precisely those that seem to lack semantically specific *f*.

### 5.1. Feature determination of insertion levels

In studies culminating in Emonds (2000), I have argued that distinct *but still related* grammatical behaviors are characteristic of morphemes that lack purely semantic features *f*.

I also argue that these different grammatical behaviors can be predicted in terms of *the level at which a given morpheme enters a grammatical derivation*. The level of insertion is in turn predicted by the type of lexical features (29) specified for a particular morpheme. Hence, these morphemes' grammatical properties all automatically follow from their properly formulated lexical entries.

(30) **Deep Lexicalization.** Items associated with purely semantic features *f* satisfy lexical insertion conditions (just) before transformations apply to domains containing them.

(31) **Syntactic (or Cyclic) Lexicalization.** Grammatical morphemes with interpreted F but no purely semantic features *f* are inserted at the end of the transformational cycle on the largest domain of which they are the head.

(32) **Phonological Lexicalization.** Lexical items whose only features are contextual or otherwise uninterpreted are inserted subsequent to any operations contributing to Logical Form.<sup>[5]</sup>

Notes on Minimalism.<sup>[6]</sup> Late insertions don't violate the Inclusiveness Condition of Chomsky (1995): late insertion of a selected lexical item in a tree does not imply that a derivation adds anything to the tree. Late insertion does make his Extension Condition subject to Economy of Representation. Lexical insertion extends the root of a tree *only if* it needs to; cf. Emonds (2001).

Let's apply the claims (30)-(32) to the grammatical morphemes *be* and *-en* in an analytic passive construction. Recall, the goal is still to answer the question (26) above:

(26) How is it that no  $X^0$  specified as +\_\_\_AP other than *get* or *be* selects verbal passives?

First, let's make a simple assumption that the bound adjective entry for *-en* (20) has no interpretable features other than A itself. For A to be interpreted in LF (as "completed activity"), *-en* is inserted prior to Spell Out by (30) or (31), and an adjectival passive results. When this A is *not* interpreted (no "completed activity"), *-en* is inserted after Spell Out by (32) and a verbal passive results.

Once *-en* forms a passive verb via PF insertion, it becomes the lexical head A of its AP. Thus, *only a grammatical V, +\_\_\_AP lexicalized in PF can take a verbal passive AP as a complement.*

As seen above, *be* and *get* are the only grammatical verbs with the frame +\_\_\_AP lacking interpreted syntactic F, and so are the only possible auxiliaries in verbal passives. This finally answers (26).

## 5.2. A possible objection regarding *get*

*Get* undoubtedly has an inchoative sense in LF, as the truth value contrasts in (33a) show. However, no such meaning (truth value) contrasts appear in verbal passives (33b):

- (33) a. The cat { got/ was } really { near the house/ angry at the mouse }.  
 b. The cat { got/ was } immediately { examined by a vet/ treated as a pet }.

It appears that *get* can attempt to satisfy its insertion frame +\_\_\_AP in both syntax and PF, and that in the latter case (with passives), it enters the derivation too late to affect interpretation in LF.

*Get* also appears sensitive to the class of the V host of *-en*, giving rise to incompatibilities like (34).

- (34) \*The mountains got { *reached/avoided* } during the night.  
 \*Some storms are getting *predicted* on the news.  
 \*Few prisoners got *thought* to be dangerous.

Such restrictions seem to be effects of interpreted features F on the open class Vs. These F percolate to  $[_A V + en]$  and provide *contextual* features +\_\_\_[AP,  $\pm F$ ] for which passive *get* is specified. Passive *get* itself need not carry any interpreted feature to account for (34).

## 5.3. A clarification regarding “unselectability” of the structure $[_A V - [_A \emptyset]]$

Emonds (1991) uses different insertion levels to explain different grammatical behaviors of *-ing*, claiming that productive English gerunds and participles result from inserting *-ing* in the PF context  $[_{N, A} V - [_{N, A} \emptyset]]$ . Moreover, I claim that *higher predicates select this V*, apparently violating (28).

- (28) Headedness Corollary (preliminary formulation).  $[_Y X^0 - [_Y \emptyset]]$  cannot be selected.

Should not the V host of PF-inserted passive *-en* similarly occur in positions that select for V,

wrongly making examples as in (24) OK? The key to resolving this discrepancy is the *nature of adjectival agreement*. As throughout this study, analytic passives just cannot be properly analyzed without using this crucial property.

Consider a language with overt adjectival agreement. Spanish has fairly exact counterparts to *-en* (a passive participle suffix *-do*, inflected like A) and *-ing* (an invariant present participle suffix *-ndo*).

Exactly as in English, the Spanish verbal passive participle V + *do* is selected only by a featureless grammatical auxiliary (*ser* ‘be’), while the present participle V + *ndo* is selected by numerous verbs reminiscent of those that select present participles in English (Emonds, 1985, Ch. 2).

- (35) a. Verbal passive V + *do* has agreement features of an A and is selected only in PF.  
 b. Present participle V + *ndo* never shows agreement and is freely selectable in syntax.

We need to revise the Headedness Corollary:

- (36) **Headedness Corollary.** Any features on Y in  $[_Y X^0 - [_Y \emptyset ]]$  block a role for X in selection.

Let  $\Phi$  represent agreement features. I take *the passive participle in both languages* to have syntactic agreement features in both verbal and adjectival passives. Spanish overtly realizes these features.

Then Lexical Headedness (27) excludes selecting the verbal passive structure  $[_A V - [_A, \Phi \emptyset ]]$  as an A, while the Headedness Corollary (36) excludes selecting this same structure as a V. After this A is lexicalized as *-en* in PF, Lexical Headedness allows a late inserted item to select the structure as A.

## 6. Suppression of Theta Role Assignment in SPEC(IP)

In line with Sobin’s (1985) critique of case-based accounts of passive movement, Áfarli (1989: 102) concludes that “the essential property of the passive phenomenon is that the subject position of a passive clause is theta-free and thus becomes a possible landing site for NP movement.”

I concur, and propose that what makes the subject of a passive clause “theta-free” in either type of passive is the Headedness Corollary, which blocks a relation between the V stem and a DP in SPEC(IP). The latter’s “argumenthood” is prevented by the participle’s agreement features.

Hence no passive V can select a DP in SPEC(IP) as an argument; i.e. SPEC(IP) is theta-free. Then, it must be either (i) interpreted in LF by virtue of being a landing site of movement, or (ii) deleted in LF, by virtue of being an expletive. We return to this distinction in section 10.

In contrast, due to a perfect participle's lack of agreement features on *-en*, the V in a composed past (a perfect tense) *is* the lexical head of VP. Hence SPEC(IP) *is* accessible to such a V as an argument.

## 7. The uniform object-to-subject movement in both types of Passives

### 7.1 Evidence for NP Movement in Adjectival Passives

An English adjectival passive is built around a transitive verb whose *deep direct object DP is absent and whose subcategorization frame is otherwise respected* (Levin and Rappaport; 1986, sect. 2 & 3).

- (37) a. verb: They stuffed the feathers \*(into the pillow).  
 adjective: The feathers stayed stuffed \*(in the pillow).  
 b. verb: We place our company records \*(where they belong).  
 adjective: Our company records are placed \*(where they belong).  
 c. verb: The trees are being stripped {of/ \*with} bark.  
 The bark is being stripped {from/ \*on} those trees.  
 adjective: The trees look stripped {of/ \*with} bark.  
 The bark remains unstripped {from/ \*on} those trees.

Theta roles are irrelevant for determining well-formed adjectival passives: "...the properties of an AP headed by an adjectival passive participle are determined by the complement structure of the base verb." (637) "...the theta-role assigned to the direct argument internal to the VP headed by the verb is assigned external to the AP headed by the related adjectival passive participle...." (643).<sup>[7]</sup>

Abstracting away from terminology, these quotes straightforwardly paraphrase a syntactic passive relation between a direct object and a subject. The import of their findings is thus: *the semantic role of the subject of a passive adjective is always that of the corresponding verb's deep direct object.*

This is exactly the conclusion that the passive sub-case of Move NP derives passive adjectives.

### 7.2. A non-problem concerning NP Movement with adjectival passives

Chomsky's (1970) long accepted analysis of derived nominals, which have idiomatic and lexicalized meanings, uses transformational object proposing. The lexicalized idiomatic meanings of many passive adjectives are thus no barrier to deriving adjectival passives by NP movement.

### 7.3. Reconsidering the role of the Case Filter in passives

**Explaining section 3.7.** As soon as both types of passives are derived by movement, we find that *the Case Filter predicts an unstipulative and exact distinction between adjectival and verbal passives.*

Movement to a subject position is the *only* source of a DP gap after passive verbs. But the Case Filter further restricts the complement range in adjectival passives, as in (38).

- (38) Ann { was/ \*seemed } given the letter.  
 That letter { was/ \*sounded } sent all the candidates.  
 Who { got/ \*acted } taken such unfair advantage of?  
 How much unfair advantage { got/ \*looked } taken of Bill?  
 Peter { was/ \*felt } forgiven his sins.  
 Peter's sins { were/ \*stayed } forgiven him.  
 Those workers { were/ \*seemed } allowed a lot of vacation.  
 He { was being charged/ \*felt charged } a lot of money.

The examples in (38) demonstrate that *a V in a verbal passive can assign case*. Claims to the contrary invariably invoke ad hoc mechanisms for case in these paradigms.<sup>[8]</sup> Structural cases should thus be assigned *optionally*; then if a DP doesn't receive case from V, the DP may move to get case.

The government and binding motivation for what forces passive NP movement to subject position, namely the inability of an A to assign case to a DP sister, never actually worked for passive verbs without stipulations for the examples in (38).

But it works perfectly for passive adjectives, as they never occur in “double object” constructions.

## 8. The Lexical Entry for *-en* as the source of the “DP gap” in passives

### 8.1. The $\Phi$ features on *-en*

Nothing said so far accounts formally for the DP trace or its properties in passive structures; moreover, it remains to complete (20).

(20) **Passive participles** (2<sup>nd</sup> version): *-en*, (A), +V \_\_\_\_, ....

I propose that for English, all we need say for both purposes is that passive *-en* also realizes  $\Phi$  features (agreement):

(39) **Passive participles (final version)**: *-en*, (A), +V \_\_\_\_,  $\Phi$  features

However we develop a theory of agreement, it seems clear that a non-nominal category specified to agree with a nominal (that is what  $\Phi$  features consist of) will agree with the closest c-commanding nominal, i.e. its nominal sister if it has one. Additionally, it probably can agree with no other.

Several works including Emonds (2000, Ch. 4) develops a principle called Alternative Realization (“AR”) that formally characterizes inflectional morphology, including agreement of this type.

**More detail:** Alternative Realization allows lexical entries of closed class items to exhibit features that are not canonical for the category in question, but are “borrowed” from an adjacent item.

(40) **Alternative Realization.** If F is a cognitive syntactic feature canonically associated with a category B, F can also be spelled out in a closed class grammatical morpheme under  $X^0$ , where  $X^k$  is a sister of [B, F].

*A feature F in its canonical position is interpreted in LF but an alternatively realized F is not.*

If all the features of a morpheme are contextual frames or alternative realizations, then none are interpreted, and so such morphemes are inserted in PF by (28).

Reflection on (40) shows that AR allows a dependent morpheme under a head to spell out features of a complement, which is then null. For example, an accusative Romance clitic zeroes an object DP by alternatively realizing the object's features [DEF,  $\pm$ FEM,  $\pm$ PLUR] on a morpheme under  $V^0$ .

The most characteristic features of a direct object are the  $\Phi$  features of its D (Person, Number, Gender). Although the passive morpheme *-en* cannot, as an A, alternatively realize D itself, it can be alternatively realize  $\Phi$  features. This allows (39) above. **End of additional detail.**

In lexically unmarked uses of AR a canonical position [B, F] must be null whenever *all* of B's features are alternatively realized (the Invisible Category Principle of Emonds, 1987). E.g., I is empty when Tense is on V. Thus morphological “doubling,” though common, is a marked option.

The AR exemplified by English and French *-en* appears to be unmarked in this sense. A sister DP of a passive participle is thus *required to be empty* by the alternatively realized  $\Phi$  features specified in the lexical entry of *-en*. The  $\Phi$  features in (39) thus explain the gap in both types of passives.

This approach to passive gaps reflects McA'Nulty (1983) and Lefebvre (1988), who states: “Agreement morphology on the past participle spells out the features of the trace of the NP governed by the past participle.”

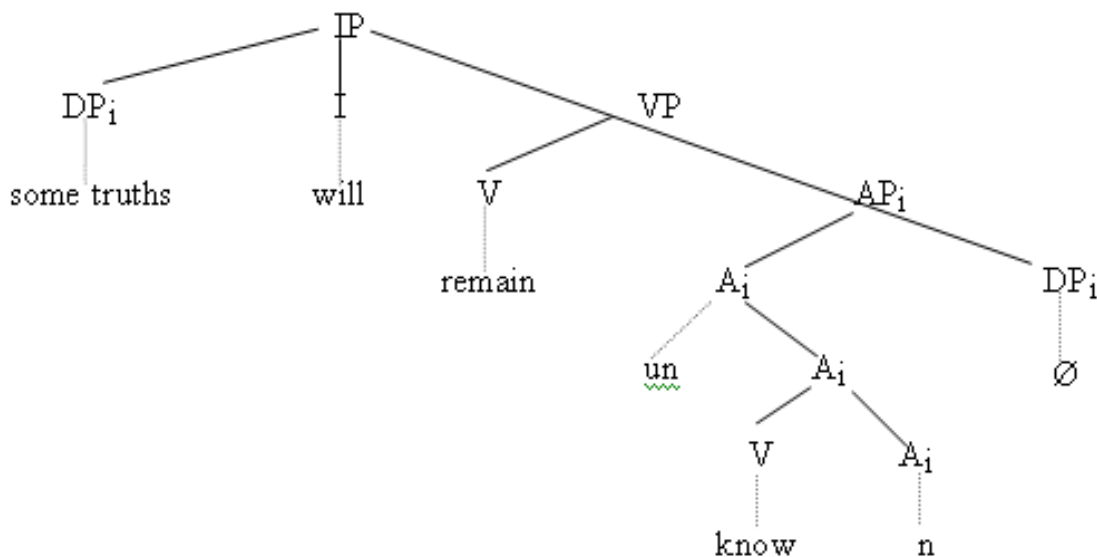
## 8.2. Subject-object co-indexing in passives

Section 6 showed how adjectival  $\Phi$  features on the adjective *-en* play a crucial role in ensuring that its clausal subject is “theta-free” with respect to the V host.

Section 8.1 has shown that the AR source of these  $\Phi$  features on *-en* is an empty category in object position. Moreover, unmarked adjectives, including *-en*, agree with their subject. By transitivity, objects and subjects of (both adjectival or verbal) passives must agree in  $\Phi$  features with each other.

Assuming  $\Phi$  feature agreement reflects co-indexing, these two co-indexings, again by transitivity, imply that the subject and object positions of *-en* are also co-indexed, as in an adjectival passive:

(41)



If the subject DP position is theta-free, this required PF indexing can arise only by movement.

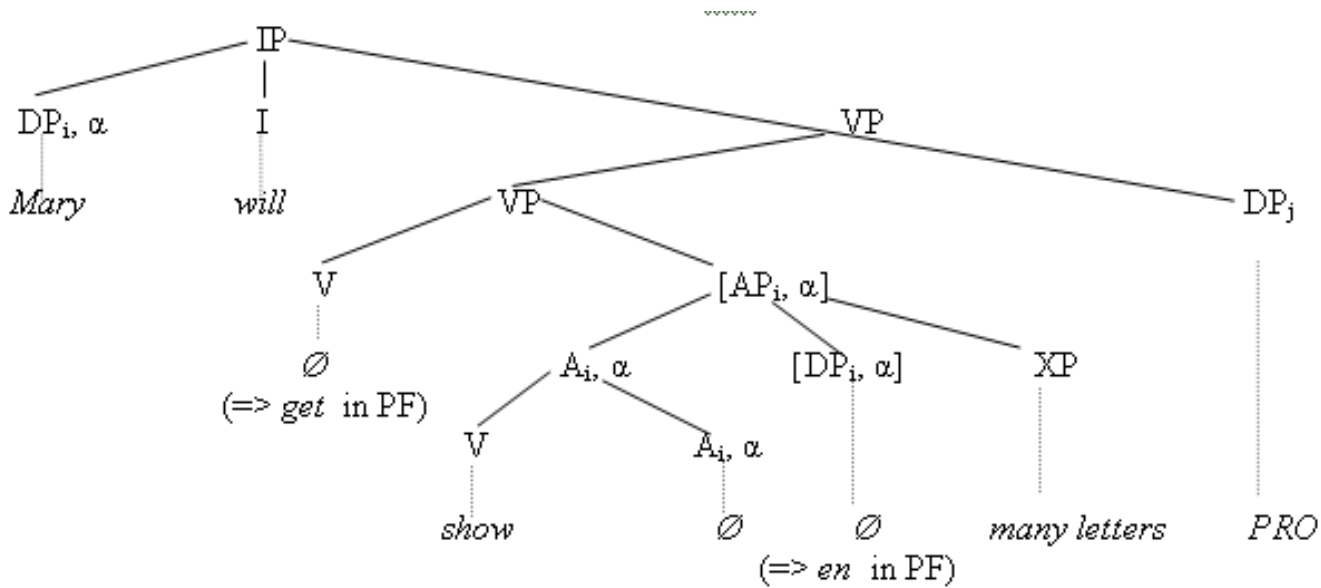
This characteristic co-indexing of passive transforms is thus guaranteed by the lexical entry for *-en*

itself, which furnishes the agreeing category A with the phi-features of the object. That is, the lexical entry (39) minimally and elegantly captures the passive property.<sup>[9]</sup>

### 8.3. Review of principles and structure of the English verbal passive

(42) Typical verbal passive: Mary will get shown many letters.

(43) Verbal passive structure at all levels except PF;  $\alpha = [+FEM, \pm PLUR]_i$ :



This PF insertion option for *get*, *be* and *-en*, in conjunction with independently justified principles of grammar, completely explains the syntactic properties of the English *verbal passive* as follows:

The absence of *-en* at syntactic levels, a choice provided by the lexical entry (39), explains why verbal passives do not tolerate adjectival prefixes (e.g. *-un*) or specifiers such as *very*, *too*, etc.

The absence of *-en* at LF also explains why verbal passives have no sense of completed action.

Since the lexical head of the verbal passive is V, it is natural that verbal passives of verbal idioms such as *make a great deal of* and *take advantage of* occur freely.

Since V in (43) is a lexical head, the Extended Projection Principle (22) requires that it have a structural subject. But since the Headness Corollary (36) renders SPEC(IP) inaccessible to theta role assignment by V, the required subject must be realized "less economically" by generating an extra DP inside VP, either an overt PRO or inside a case-marking *by*-phrase.

Verbal passives are called verbal because they head phrases that *have the internal structure of*

VPs. An active VP is identical to a passive VP except that the latter contains one trace replacing a "passivized" DP. Other DP complements are allowed, as in (38).

Simply restricting landing sites of NP movement to "theta-bar" positions provides no principled reason why *seem*, *appear*, *become*, etc. are not possible "auxiliaries" in the verbal passive. In the present account this follows from their not being inserted in PF.

## 9. Perfect Syntactic Structures

A consequence of the Headedness Corollary is that the English present participle suffix [<sub>A</sub> *-ing* ] is unspecified in syntax for  $\Phi$  agreement features. In this, it is an unusual adjective. A question arises, are other adjectival complements without  $\Phi$  agreement features in syntax independently attested?

In fact, Germanic and Romance languages, in which adjectives overtly agree, do have idiomatic combinations of common verbs with non-agreeing (invariant) adjective complements. In any contexts without the verbs that define the idioms, the adjectives in (44)-(45) agree normally.

- (44) French:           avoir chaud ‘be hot’, avoir beau, ‘do in vain’, tenir bon ‘hold on’, peser  
lourd                   ‘weigh heavy’, chanter faux ‘sing off key’, etc.
- (45) German:         recht haben ‘be (in the) right’

Thus, a Germanic and Romance lexicon may specify that the usually agreeing adjectival suffix *-en* (the right hand head of a participle) lacks agreement in complements of grammatical *avoir*, *haben*, etc. entirely parallel to the idioms in (44)- (45). *I claim this is the genesis of the composed past.*

Consider again for example Spanish. Its composed past combines a grammatical auxiliary *haber*, historically from a form meaning *have*, with a *non-agreeing* passive participle suffix *V-do*.

I propose the same analysis for English *have* + *V-en*, whose A agreement is never overt.

The reasoning here implies that any overt AR agreement of the composed past *-en* with an *object*, as in some Romance systems, is *not in the syntax*. Such agreement features are rather added in PF.

I conclude that the structure in syntax of an active passive participle is [<sub>VP</sub> [<sub>V</sub>  $\emptyset$  ] [<sub>A</sub> **V** - [<sub>A</sub>,  $-\Phi$   $\emptyset$  ] ] ], where *have* and *-en* are respectively inserted under the two empty nodes in PF. By Lexical Headedness (27), it correctly follows that the bold V in this structure is the head that selects and case-marks complement phrases in VP. This head is also subject to selection from outside VP.

## 10. Lexical notation for cross-linguistic variation in impersonal passives

Other Germanic languages have variations on a participle-based passive (Åfarli, 1989; Baker, Johnson and Roberts, 1989). In Norwegian "in situ transitive passives" no object DP moves.

- (46) Det                    vart gitt     den såra     soldaten ein medalje. (Norwegian)  
 \*{ It/ There } was given the wounded soldier a medal.

There also exist "intransitive impersonal passives" with no object DP (German, Norwegian):

- (47) a.        Es wurde bis spät in die Nacht getrunken. (German)  
           it was    until late in the night drunk  
           \*{ It/ There } was drunk until late in the night.  
 b.        Det                    vart gestikulert. (Norwegian)  
           \*{ It/ There } was gesticulated.

It is of interest that English counterparts to both types are ungrammatical.

- (48) In all 3 systems, including English: *-en* alternatively realizes  $\Phi$  features that occur as canonical features on an object DP. In unmarked AR, this DP must be empty, i.e., it is a trace.

As shown in (46), the Norwegian counterpart of *-en* can also alternatively realize  $\Phi$  features whose canonically realized source DP is *lexical*. This is a *marked* instance of AR.

I propose to list alternatively realized features that may co-occur with (or "double") an overt source in this fashion with a lexical notation of underlining. An English noun plural (49a) is a simple example. In contrast, an English past tense, which never doubles [I, PAST], is unmarked AR (49b).

- (49) a.        -s, N, +N\_\_\_\_, PLUR            those three boys; \*those three boy  
           b.        -ed, V, +V\_\_\_\_, PAST            \*could/ did cleaned; could/ did clean

The interpretation of this underline is: whenever PLUR is canonically present on a D or NUM sister of some N projection, then the plural suffix *must* also appear on N, whether or not the node where PLUR occurs canonically is empty. More generally, this type of inflection is called *agreement*.

- (50) then expresses the fact that a Norwegian passive participle can have an overt direct object.

(50) Norwegian Passive Participle (tentative): *en*, (A), +V \_\_\_\_, Φ features

If the source DP for the Φ features is empty, the results are as in section 9 for English; this DP must be the co-indexed trace of the subject DP. If the source DP is lexicalized, this object must still have the same index as the subject, since *-en* remains a predicate adjective agreeing with the subject.

But when a subject that lacks a theta role is co-indexed with an *overt* object DP, then universal grammar must force this subject to be an expletive. This correctly yields in situ transitives as in (46).

Finally, consider the intransitive impersonal passives of (47).

(51) In German and Norwegian, *-en* can appear even when it alternatively realizes *no* Φ features, provided there is no object DP; the theta-bar subject can only be an expletive.

To express this possibility, I propose to modify (39) by parenthesizing Φ features, which yields (52) for German and (53) for Norwegian.

(52) German Passive participle: *-en*, (A), +V \_\_\_\_, (Φ features)

(53) Norwegian Passive participle: *-en*, (A), +V \_\_\_\_, (Φ features)

I define parenthesized AR features to indicate that *both* the AR features *and* their canonically located source features, taken together, are optionally absent.<sup>[10]</sup> That is, V may be intransitive.

Under these lexical formalisms, German and Norwegian reproduce the English system with the addition of allowing passive intransitive verbs.

The absence of an object and hence Φ features on a passive participle means that the theta-bar DP subject of a passive intransitive verb can neither be indexed with any other DP, nor can it receive a theta-role independently, as shown in section 8.1. So this DP must be an expletive and the verb impersonal, exactly as in (47).

Since all verbs require a subject by the Extended Projection Principle (22), the subjects in (46) and (47) must be realized elsewhere, as a *by*-phrase or a PRO, just as with personal passives.

The different systems of English, German, and Norwegian thus result from minimally different lexical items of absolutely standard format: (39), (52) and (53) respectively.

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[1] “Lexicalized” includes phonologically null allomorphs of lexical items, *or* being properly co-indexed with lexical material (e.g., under the structural conditions appropriate to traces, ellipsis, etc.).

[2] More accurately, Fassi-Fehri (1990) reserves the term verbal passive for an Arabic construction more akin to Latin synthetic passives, and refers to the Arabic counterpart to an English verbal passive as an adjectival passive, because it is “internally verbal but externally adjectival.”

[3] Government and binding accounts have typically indicated that the passive “auxiliary” must not assign a theta role to its subject, i.e. NP movement is to a “theta-bar position.” But many verbs (*seem, appear, happen, etc.*) with “theta-bar” subjects still cannot be the basis of a verbal passive. In the end, such accounts simply stipulate that *be* and *get* take passive complements and other verbs do not.

[4] Chomsky’s original terms are simply semantic and syntactic respectively. People often interpret these terms as somehow implying that syntactic features don’t contribute to meaning. His original discussion makes clear that syntactic categories and features are *central* to meaning.

[5] The model for this is Chomsky’s (1957) analysis, which inserts uninterpreted auxiliary *do* after transformations (“do-support”), in line with (32). Such insertion is distinct from main verb *do*, presumably inserted like other V prior to transformations. As Newmeyer (1980) observes, the explanatory breadth of this analysis won the day for generative grammar. We should extend rather than exclude a priori the very analysis that made the generative enterprise successful.

[6] I assume a fairly standard model of grammatical derivation (cf. Chomsky, 1995) in which underlying phrasal domains are projected from lexical heads and then transformationally processed so as to obtain a representation of all aspects of grammatical meaning, called Logical Form (“LF”).

At a certain derivational point called “Spell Out” (of the domain in question), the model assumes that further operations affect either a structure’s pronunciation or interpretation but not both. Transformations prior to Spell Out are called “in syntax” and those after Spell Out are said to be either “in LF” (on the LF branch) or “in PF” (on the PF branch).

[7] Levin and Rappaport (sect. 4.1) assume, but in no way demonstrate, that adjectival passives are formed in the lexicon. Moreover: “In accordance with the program initiated in Chomsky (1981), we eschew the explicit use of subcategorization frames in lexical entries as a representation of the complement structure of verbs.” Rejecting a syntactic account based on subcategorization makes impossible a natural expression of their result, namely, that adjectival passives lack precisely that overt DP licensed by the frame +\_\_\_\_DP.

[8] The attempt to motivate NP-movement in verbal passives by lack of case led Chomsky (1981) to assign them to a special, “unspecified for  $\pm$ N” neutralized category. The latter is at bottom an equivocation: in Chomsky (1981, 50), participles that are [+V, unspecified for N] don’t assign case, whereas on p. 51, it is suggested that *of* is [-V, unspecified for N] and does. Hence, an ad hoc “neutralized category” (unspecified for N) of highly defective distribution leads not to a definition of a natural class of case assigners (somehow related to [-N]) but to its opposite.

[9] The object trace in a participle-based passive cannot arise independently of co-indexing of the participle with the subject. That is, movement is not the cause of co-indexing, but vice-versa. This suggests that a landing site for “A-movement” must have a kind of scope marker, akin to the scope markers of “A-bar landing sites” in van Riemsdijk and Williams’ (1981) NP Structure model.

[10] This excludes the possibility of optional AR (i.e., optional inflection) in the presence of their canonical source features. Such an exclusion corresponds to the general empirical fact of language that inflection, if present at all, is typically obligatory. Only canonical features can be optional.