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Passive Syntactic Structures

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Abstract

Ever since the analysis of adjectival passives in Wasow (1977), it has been widely assumed that the two passive constructions are to be generated differently (or that both are lexical). This paper shows that adjectival and verbal periphrastic passives are both formed with the identical fully adjectival suffix -*en* and that both are generated in the syntax via "NP movement." It argues that their differences, including distinctions previously glossed over (the highly restricted external distribution of verbal passives and the case assignment available inside verbal passives), can all be better explained by utilizing the author's theory of multi-level lexical insertion of (only) grammatical elements, which has been justified independently in other works. Fully lexicalized and more productive passive adjectives result from inserting -*en* at two different levels prior to Spell Out, while verbal passives result from PF-insertion of -*en*.

Possibly no construction has received more attention in generative grammar than the passive; it is one of the three constructions singled out in Chomsky (1957) for transformational treatment and has maintained its center stage position ever since. Indeed, much debate has turned on to what extent across languages and even within one language the passive can be considered a unitary phenomenon (Postal, 1986). In this paper, I will analyze the "periphrastic" or "analytic" passives of English and those which are formed similarly in contemporary Germanic and Romance languages, and claim that in a fundamental way these all instantiate only one construction, at least in the sense that periphrastic passives, both "verbal" and "adjectival", involve transfor-

mational movement from object to subject and that all are formed from a single lexical item, the participial suffix.[1]

Morphologically, English passive forms consist of a verbal stem combined with a "past participle suffix." The suffix is so-called because in most Germanic and Romance languages this same participle also combines with another auxiliary to form a composed past tense (in English the so-called "perfect tenses" *have taken*, etc.). Moreover, the suffix has the same form in English as the finite past tense for all but a fixed set of irregular verbs.[2] Because of the passive suffix's distinctive form with many irregular verbs such as *broken, done, eaten, flown, taken, written*, etc., it has been notated as *-en* since the earliest transformational work.

1. Passive participles: why they are Adjectives

It would seem to be a truism that an adequate grammatical analysis of a construction requires properly specifying the categories of its component parts. Nonetheless, determining this is not obvious for the traditionally termed "passive participle" in English and several other Germanic and Romance languages, since their grammars have at least two different constructions which are both termed passives. Wasow (1977) draws several grammatical distinctions, which we will review as we proceed, between "verbal passives" (1a) and "adjectival passives" (1b):

(1) a. During my visit, that door was quickly *repainted* by the tenant.
         His needs are getting *satisfied*.   (satisfaction still on the way)

     b. At my arrival, that door seemed already *repainted*.
         John is now very *(un)satisfied*.   (satisfaction already determined)

This dichotomy has led a number of analysts to conclude that the passive participle may belong to more than one grammatical category, perhaps analogous to the way that *one* can be both numeral and noun (in e.g., *one big one*) and forms like *dare* and *need* can be both verbs and modal members of I.

In this first section, I argue that though formed from a verbal stem, passive participles are *all* adjectives, for at least three reasons.

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[1] This paper is a revised version of a draft of Emonds (2000, Ch.5) and appears with the kind permission of the publisher. Several years ago, the said draft was drastically shortened to a handout, and has subsequently been expanded and revised in various ways. The basic content of this paper and the book chapter is the same, but the ideas are presented differently and some auxiliary hypotheses and supporting material are different in the two versions. Moreover, the chapter in the book is not self-contained, whereas this paper to some extent is.

[2] In many spoken dialects, the past participle and the finite past tense have the same form generally: *they('ve) took it, they('ve) done it, they('ve) wrote it, they('ve) broke it, they('ve) sung it, they('ve) hid it.*

1.1 Both types of passive participles inflect like adjectives.

First, in Germanic and Romance grammatical systems, in whichever contexts an adjective agrees with a modified nominal projection, both uses of a passive participle agree as well.[3] If only attributive adjectives agree, as in German, then passives agree in and only in the same attributive contexts. Further, both adjectives and passive participles agree in number, gender *and case*.

In Romance systems, all (and only) adjectives agree in number and gender with modified nominals, in both attributive and predicative positions. Thus, the following French passives, both adjectival (2a) and verbal (2b), exhibit feminine (plural) agreements via *-e(s)* exactly as do adjectives in the same positions.

(2) a. A mon arrivée, ces *jolies* portes semblaient déjà { *repeintes/ grises* }.
     'At my arrival, those pretty doors seemed already { repainted/ gray }'

   b. Cette *jolie* porte était vite *repeinte* par le locataire pendant ma visite.
     'That pretty door was quickly repainted by the renter during my visit'

In contrast, the composed past of a verb in French does not agree with a subject if the auxiliary is *avoir* 'have'.

(3) Cette femme a tout de même *peint(*e)* seulement par nécessité.
     'That woman (FEM) has all the same painted (*FEM) only by necessity'

Since adjectival and passive agreement share both their morphology and their syntax in several language systems, and since this agreement is unlike verb agreement in the languages in question (verbs agree with subjects in person but not in gender), this sharing is explained if all passive participles are uniformly analyzed as adjectives.

1.2 Both types of passives are selected by verbs which are +___AP.

Second, as noted in Wasow (1977), adjectival passives can appear as complements of almost all V whose subcategorization frame is +___AP or +___DP^(AP). For example, English intransitives such as *act, appear, be, become, feel, look, remain, seem, smell, sound, stay* and *taste* all accept AP complements:

(4) She { felt/ seemed/ sounded/ found him/ considered Bill } { ill/ betrayed/ cared for}.

Although verbal passives are selected by a very few linking verbs, these are nonetheless also subcategorized as +___AP; in particular (a fact to which we will return), these

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[3]These patterns are commonplaces in traditional grammars of languages such as French, German and Spanish.

"passive auxiliaries" are those V with this frame which are *least semantically specific* (*be* and/ or *get* and their translations, depending on the Germanic or Romance language involved).

Thus, analyzing all passives as adjectives explains why they always appear as complements of V which are +___AP or +___DP^(AP).

1.3 Passive participles have AP distribution in adjunct and other positions.
Third, passive participles appear as adjuncts of sentences (5a) and of verb phrases (5b) and as attributive modifiers of nouns (5c), all of which are characteristic positions of predicate adjectives:

(5) a. { *Desolate/ Unwanted/ Rejected* }, the child turned to crime.

 b. The child spent it school years { *hungry/ uncared for/ bullied* }.

 c. Church bells { *silent/ rung* } at noon reflect the status of the clergy.
     It's patients { *unable* to pay/ *left* to wait/ *examined* too hastily } that leads to problems.

A central usage of the particle *as* consists of its role as a "prepositional copula." That is, like the copula *be*, a (non-comparative) *as* takes a complement which is a predicate attribute. Since traditional grammar, based on Latin and Greek inflection, considers the morphological case assigned by a P to its complements to be its essential property, it cannot comfortably assign the category P to an element such as Czech *jako* 'as' or German *als* 'as' whose complement, unlike those of other Ps in those languages, is not associated with a particular case but rather, like the complement of *be*, agrees with the nominal projection it modifies.

But as soon as properties such as phrasal distributions and co-occurrence are considered in generative grammar, it becomes easy to construct roughly a dozen independent arguments to the effect that non-comparative *as* introduces a predicate attribute and heads a PP (Emonds, 1985, Ch. 6).

The fact that passive participles appear as complements to this non-comparative prepositional copula thus becomes another argument for establishing their adjectival status.

(6) He { struck us/ treated them } as { *intelligent/ ill/ experienced/ undernourished* }.

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

(7) **Passive participles** (tentative entry): | *en*, A, +V___, ... |

2. Verbal vs. adjectival passives: their differences

Given that the two types of passives have their grammatical category in common, it is appropriate to review the properties that differentiate them.

2.1 An interpretive difference: ongoing vs. completed activity

Traditional and generative grammar distinguish passive participles with an activity sense from those which indicate a resultant state (Wasow, 1977). So-called *adjectival passives have a sense of completed activity* (8a). In contrast, so-called verbal passives do not (8b):

(8) a. The door { remained/ was } *closed* during the noon hour.

                                  (door closed by noon)

    John { seems/ is } very *(un)satisfied.*   (satisfaction already obtained)

    The door looked *(un)painted.*   (painting complete)

    b. The door { got/ was } *closed* during the noon hour.

                           (door can still be open at noon)

    His needs are { getting/ being } (*very) *(*un)satisfied.*

                       (satisfaction still on the way)

    The door is being *(*un)painted.*   (painting incomplete)

Certain verbs and certain directional complements are incompatible with this "completed sense" and hence do not appear in adjectival passives. Consequently, when these V and when such complements appear in passives, they serve as diagnostics for *verbal* 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.

    *The clay looked { *handed* around to students /*pressed* into a bowl }.

    *A basketball sounded { *dribbled* across the floor/ *thrown* against the wall }.

This sense of completed activity, i.e. of a property, seems nothing more than the characteristic and general Logical Form ("LF") interpretation of the syntactic category A. To account for this correlation, I propose the following relation between the morphology of the passive and its interpretation. While *-en* is present in Phonological Form ("PF") in all passives,

(10) a. In adjectival passives, the head [$_A$ *-en*] **is present in LF and in the syntax.**

    b. In verbal passives, *-en* is absent in syntax and LF and **present only in PF.**

The formulation (10) presupposes that morphemes can be inserted at different levels of a derivation, with crucial grammatical differences resulting from these distinctions. We return in section 4 to elaborating a lexical theory of this type.

Many syntactic differences between adjectival and verbal passives can now be seen to correlate with and be at least partially explained by (10). Most of the paradigms which we will now review are from Wasow (1977). *In these paradigms, the distribution of adjectival passives is essentially identical to that of adjectives; this general fact follows from the presence of -en at all levels (10a).*

2.2   Selection by different classes of V
As seen in section 1.2, though passive phrases are all selected by frames containing an AP, there is a difference between adjectival and verbal passives. Adjectival passives are selected by essentially *all* V which are +___AP, while verbal passives are selected only by one or two such V in each language. Certainly (10a) explains the (general) first part of this statement.

2.3   Degree words such as *very, too,* etc. freely modify only adjectival passives.
Adjectival passives differ as to which ones may be modified by characteristic adjectival modifiers, as in (11a). But in any case, verbal passives may never be so modified, as seen in (11b). Note that the verbs in (9) can be used to ensure that a verbal rather than an adjectival passive is present (**too approached, *how followed, *very avoided, *so dribbled*, etc.).

(11)   a.   The garden seemed too overplanted.
            New York remains more affected by strikes than other cities.
            That region doesn't seem very inhabited.
            How spotted did those clothes look?

       b.   The garden is being (*too) overplanted.
            *New York is more avoided by tourists than other cities.
            *That prison doesn't seem very escaped these days.
            *How pressed did the clay feel against the sides?

In turn, adjectival passives can themselves be divided into lexicalized adjectives, which like most other adjectives are compatible with a full range of Degree words, and those that seem "created anew" at each use. The latter often sound unacceptable with adjectival modifiers and in this sense are more like verbal passives.[4] *The contrast (10) thus*

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[4]The distinction between lexicalized ("deep inserted") passive adjectives (i) and those resulting from productive syntactic derivation (ii) is studied in more detail in Emonds (2000, Ch. 5). The co-occurrence patterns for the latter resemble those of the verbs from which they are formed:

allows us to correlate free adjectival modification with the presence of a lexical entry under A at deep structure.

2.4 Only adjectival passives accept prefixation by the adjectival prefix *un-*.

This test distinguishing verbal passives from adjectival passives dates from Siegel (1973). *(That work remained uncut/ unknown/ unpainted/ unrewarded/ unseen.)* The verbs in (9) again serve as diagnostics to exclude adjectival passives.

(12) *That work seemed { unleft in good hands/ unpreceded by others }.
     *Those toys should remain { unthrown/ unhanded } to any customers.

Theoretically, this test reduces to a special case of the free modification of deep structure A treated in section 2.3. Hence it is also accounted for by (10).

2.5 Only verbal passives have the full internal structure of VPs.

This is to say, verbal passives essentially recreate the full range of structures found in active VPs, except that a passive VP contains one trace replacing a "passivized" DP. But adjectival passive VPs exhibit a significantly smaller range of syntactic patterns than this. In particular, they tolerate no overt internal DPs not in PPs. Section 5.3 will exemplify this restriction and propose an explanation in part dependent on (10) and in part on other independently justified principles of grammatical theory.

2.6 Only verbal passives have an overt or understood structural subject inside VP.

This restriction on English *by*-phrases and their cross-linguistic counterparts will be discussed and explained in section 6.

2.7 Idiomatic object nouns passivize freely only in verbal passives.

There remains a final contrast between adjectival and verbal passives: the former disallow any semantic relation other than argumenthood between a DP and the V stem of a participle, as shown by the contrasts in (13).

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

(i)   Access to those services remained { very/ so } restricted (*to students).

(ii) Access to those services remained restricted to students.

The same type of distinction can also be found between fully lexicalized derived nominals (iii) and productively formed "mixed" or "action" nominals (iv); only the former fully accept nominal modification.

(iii) I doubt that (three) restrictions on access to those services will solve the problem.

(iv) I doubt that such (*three) restricting(*s) of access to those services will solve the problem.

Actually, this kind of contrast is a typical difference between so-called "inflectional" and "derivational" morphology, and passive paradigms show that verbal passives are inflectional while adjectival passives are not. When a verb appears with other fully productive inflections, as in gerunds, the construction also allows idiomatic combinations such as *maintain silence, pay attention* and *please DP no end* as in (13b). But idioms don't survive under derivational processes, as seen in the derived nominals in (13c):

(13) b. During the trial, all were impressed by John's maintaining silence.
          His paying { bribes/ attention } to minor officials was foolish.
          This show is pleasing local kids no end.

      c. *During the trial, all were impressed by John's maintenance of silence.
          His payment of { bribes/ *attention } to minor officials was foolish.
          *This show seems pleasing to local kids no end.

It thus appears that idiomatic combinations tolerate no intervening heads in syntactic structure or LF. In accord with the structure in (10a), the intervening lexical item *-en* at these levels blocks idiomatic combinations in adjectival passives, whereas the empty A head of verbal passives in (10b) has no effect and hence allows them.[5]

We have now reviewed seven differences between adjectival and verbal passives, which have been discussed in various works on passives in English and other languages. Five of these differences have already been attributed directly to the distinction drawn between the structure for adjectival passives (10a), in which a lexical A is present in the syntax and at LF, and that for verbal passives (10b), which is adjectival only at the level of PF.

3.   The puzzling distributional fact about verbal passives

Up to this point, we have been able to account for a number of properties of adjectival passives. However, the distribution of verbal passives remains somewhat mysterious. Even though they have some adjectival properties, they are far from having the full distribution of the category A, as we have seen in section 2. Among other things, verbs which do take AP complements such as *seem, appear, become,* etc. are not possible "auxiliaries" with verbal passive complements.

In fact, research seems to have ignored *the extremely limited external distribution of verbal passives*. For example, they do not have the distribution of VPs, as evidenced in (14).

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[5]Derivational morphology does *not* block the simple interpretation of an XP as an argument of a head Y: *the maintenance of these roads is costly; his payment of huge sums; any entertainment of poor children;* etc.

(14) The boy will { take/ *taken } the letter.
      He tried to { give/ *given } lots of presents.
      The class went on { speaking/ *spoken } to about discipline.
      Please { be vaccinated/ *vaccinated } before you go overseas!
      For children to { get examined/ *examined } often is important.
      We let John { be examined/ *examined } by a nurse.

In my view, analysts have simply been seduced by the label "verbal passive" and have consequently not taken seriously this construction's defective distribution.[6] The puzzle about verbal passives is that they are selected like APs but further, *only a very few grammatical verbs* accept them as complements. In English, there are two such verbs. A satisfying analysis of verbal passives must thus explain two facts until now glossed over:

(15) a. No X^0, +___ AP other than the verbs *get* or *be* selects verbal passives.[7]

      b. Phrases headed by passive V are not selected as VPs.

The "non-property" interpretation of verbal passives in section 2.1 suggests how we might rephrase the puzzles in (15) with an eye to solving them. If we define the head of a phrase essentially along the lines initiated by Z. Harris as in (16), it follows that a node in head position in PF, in particular the inflection *-en*, cannot be selected until it comes to dominate a lexical item.

(16) **Headedness.** The head is the lexical item in a construction which satisfies selection relations with elements outside the construction. Only lexicalized heads can select and be selected.[8]

(17) **Lexical Head.** The lexical head of Z^j is defined as the highest lexically filled head Y^0 in Z^j.

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[6]Fassi-Fehri (1993) reserves the term verbal passive for an Arabic construction more akin to the Latin synthetic passive. Synthetic passives in fact generally do have the distribution of VPs, counter to (14); this is what distinguishes them from passive participles. Fassi-Fehri refers to the Arabic construction corresponding to an English verbal passive as an adjectival passive, precisely because it is "internally verbal but externally adjectival."

[7]It is often said in government and binding accounts that a passive "auxiliary" must not assign a theta role to its subject, i.e. NP movement is to a "theta-bar position." But many such verbs that can satisfy this condition (*seem, appear, happen*, etc.) still cannot be the basis of a passive. In the end, such accounts have simply stipulated that *be* and *get* take passive complements and other verbs do not, i.e., a language whose passive auxiliaries would translate (only) as *appear* and *be likely* is equally expected.

[8]There are probably cases, for example gapping paradigms, where a phonologically empty head counts as lexicalized provided it is co-indexed with a lexicalized head. These issues are orthogonal to our concern here.

Now, according to (10), the corresponding underlying and PF representations for each type of passive are as in (18).

(18)   Verbal passives   Adjectival passives
   a. syntactic representation $[_A [_V \textit{throw}] [_A \emptyset]]$ $[_A \textit{un} [_A [_V \textit{paint}] [_A \textit{ed}]]]$
   b. PF representation $[_A [_V \textit{throw}] [_A \textbf{\textit{n}}]]$ $[_A \textit{un} [_A [_V \textit{paint}] [_A \textbf{\textit{ed}}]]]$

Since the head of an adjectival passive is a lexicalized A throughout a derivation, this construction will be permitted by any principle or lexical item that sanctions AP at any derivational level, as in the examples in (4), (5), (6), (8) and (11). But for verbal passives, (16) and (17) together imply that verbal passives can only be selected as APs *in PF*. And since it appears that the only X^0 that select verbal passives are (in English) *be* and *get*, we seem led to conclude that *be* and *get* can select verbal passives because they are the only X^0, +___ AP inserted in PF. That is, these grammatical morphemes, like *-en* itself, are inserted "late" in a syntactic derivation.

4. Solving the puzzle with levels of lexical insertion

The key to an adequate cross-linguistic analysis of periphrastic or "analytic" passives thus seems to be a better understanding of late insertion of grammatical morphemes. That is, we need to be able to predict which morphemes undergo such insertion—not all grammatical morphemes do, since the *-en* of passive adjectives is present prior to Spell Out of PF, as in (10a). In the best case, the form of lexical entries themselves should hold the key for predicting the level of a morpheme's lexical insertion.[9]

4.1 Characterizing levels of lexical insertion

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

(19) a. Semantic features (of high specificity) which play no role in transformational derivations are called **purely semantic features** and notated *f*.

      b. Semantic features (of low specificity) which play a role in transformational derivations are called **cognitive syntactic features** and notated F.[10]

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[9]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.

At a certain point in the processing, usually called "Spell Out" (of the domain in question), the model assumes that further operations on that domain may affect either a structure's pronunciation or its interpretation but not both. Transformational operations prior to Spell Out are called "the syntax" and those after Spell Out are said to be either "in LF" (on the LF branch) or "in PF" (on the PF branch).

[10]Chomsky's original terms are simply semantic and syntactic respectively. The use of these terms often leads to a misunderstanding, to the effect that I somehow mean that syntactic features don't contribute to meaning. His original discussion is at pains to avoid this misunderstanding.

Cognitive syntactic features F are severely limited in number, unlike the purely semantic features f, but they can occur with every grammatical category. In contrast, purely semantic f occur only with members of the open lexical classes N, V, A and P; it is the proliferation of these features which allows these classes to be large. Consequently, the grammatical classes (Determiner, Modal, Conjunction, etc.) which disallow semantic f are generated by the fewer combinatorial possibilities of the set { F_i } and are hence "closed."

Among verbs with AP complements (*act, appear, be, become, feel, get, look, remain, seem, smell, sound, stay, taste*), the most likely candidates for those lacking semantically specific f are precisely *be* and *get*. According to Kimball (1973), the cognitive syntactic feature which distinguishes these two elements is ±INCHOATIVE. *Have* also lacks f, but is not subcategorized for an AP.

In a series of studies (Emonds, 1987, 1991, 1994), I have claimed that distinct but still related grammatical behaviors are characteristic of grammatical morphemes (free or bound) which lack purely semantic features f. These different grammatical behaviors can be predicted in terms of *three different levels at which a given morpheme can enter a grammatical derivation*. The level of insertion can in turn be predicted by the type of lexical features associated with a particular morpheme. Hence, various grammatical behaviors are all automatic consequences of properly formulated lexical entries for these morphemes, all of whose features are in the desirable cases simply formulated and independently motivated.

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

(21) **Syntactic Lexicalization.** Grammatical morphemes with interpreted F but no purely semantic features f are inserted during the cycle of transformational syntax on the largest domain of which they are the head (i.e. before Spell Out).

(22) **Phonological Lexicalization.** Lexical items whose only features are contextual or otherwise uninterpreted are inserted subsequent to operations contributing to LF.

Applying these definitions to morphemes in a passive periphrastic construction, the bound adjective *-en* has no interpretable features other than A itself. When A is interpreted, *-en* is inserted prior to Spell Out and an adjectival passive results as in (10a). This passive AP can then be selected by any appropriately subcategorized verb present in the derivation at Spell Out, i.e. any such verb which contributes to LF.

On the other hand, when the category A is uninterpreted (verbal passives), *-en* can only be inserted *after Spell Out* by Phonological Lexicalization (22). Because of the

Headedness requirement on selection (16), no head X^0 which is present at Spell Out (i.e., interpretable at LF) can then select a verbal passive AP as in (10b). This accounts for property (15a) of section 3.

(15)   a.   No X^0 , +___AP other than the verbs *get* or *be* selects verbal passives.

Since *be* and *get* are (the only) grammatical verbs with the frame +___AP lacking interpreted F or f, they are the possible passive auxiliaries in verbal passives.

4. 2   A possible objection based on the "meaning" of *get*

In most of its uses, *get* has an inchoative sense interpreted in LF: *John was sick* vs. *John got sick; the cat was near the mouse* vs. *the cat got near the mouse,* etc. This suggests that *get* is subject to Syntactic Lexicalization (21), i.e. present at Spell Out and LF.

(23)   *get*, V, INCHOATIVE, +___(DP)^XP

Nonetheless, it appears that as a passive auxiliary *get* does not necessarily contribute any meaning which is absent with *be*; the following pairs seem equivalent for truth values: *John was finally examined at noon* vs. *John finally got examined at noon; the scene was being accurately described* vs. *the scene was getting accurately described,* etc.

This suggests the following scenario: (i) *get* has an entry as in (23); (ii) if the subcategorization frame for *get* is satisfied in the syntax, then *get* is inserted prior to Spell Out and necessarily contributes the feature INCHOATIVE to LF; (iii) when a given context such as the verbal passive structure in (10b) does *not* satisfy the frame for *get* prior to Spell Out, because the head A -*en* is absent at this level and hence fails to satisfy Headedness (16), *get* gets "another chance" to be inserted at PF after -*en* is inserted. In this case, however, its feature INCHOATIVE is not available at LF and contributes at most stylistically to the clause.[11]

4. 3   A possible objection based on putative similarity of -*ing* and -*en*

Though we have an answer now to (15a), we have not yet accounted for (15b).

(15)   b.   Phrases headed by passive V are not selected like VPs.

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[11]Even so, the passive auxiliary *get* appears incompatible with certain verbs:

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

I propose that such restrictions are rather effects of interpreted features F on the open class Vs themselves. These F percolate to [A V + *en*] and provide contextual features +___[AP, ±F] for which passive *get* is specified. Passive *get* itself need not carry any interpreted feature.

In another analysis using PF lexicalization (Emonds, 1991), a productive inflection such as the productive gerundive *-ing* (specified as N, +V___) is absent in the syntax. Consequently, Headedness (16) requires the V stem rather than *-ing* to play the roles of both the selecting and selected head of their construction prior to Spell Out.

By analogy, the PF-insertion of passive *-en* might similarly allow the V stem to be selected as a V-headed phrase, i.e., we would expect some subsets of open class verbs to take passive participle complements—perhaps the same subsets as take complements headed by V+*ing*. But by (15b), this is precisely what does not happen.

I propose that in the Germanic and Romance languages at issue, *adjectives have a feature of co-indexation with the D or N projection they modify*, which is reflected by overt PF agreements in most languages in these families. Thus, the actual representation of a verbal passive in syntax, with *-en* as yet uninserted, is the indexed (24) rather than (18a).

(24) Verbal passives in syntax: $[_{A_i} [_V \textit{throw}] [_{A_i} \emptyset]]$

In addition, let us sharpen one aspect of headedness as follows.

(25) **Head Accessibility.** A lexical head $Z^0 \neq Y^0$ of YP is accessible outside YP only if Y^0 is unspecified for any features.

That is, if the categorially identical Y^0 head of YP is in any way specified for features, even a Y^0 which is empty makes any other lexicalized head of YP inaccessible *outside the YP domain*. It now follows the configuration (24), namely that of the verbal passive at Spell Out, is *entirely unselectable*, for in (24) the unlexicalized right member $[_{A_i} \emptyset]$ fails Headedness (16), while its left member *throw* fails Accessibility (25) because the rightmost Y^0 has features.

Not surprisingly, the only positions other than complements of *be* and *get* which tolerate verbal passives are unselected adjuncts, as observed in section 1.3.

(26) Church bells rung at noon reflect the status of the clergy.
      That huge dinner, followed by too much drink, did us in.
      Any clay pressed into a bowl will soon dry out.
      Basketballs dribbled constantly for hours often deflate.

Headedness (16) and Head Accessibility (25) together then fully account for the restriction (15a–b), i.e. the extremely restricted distribution of verbal passives.[12]

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[12]In Emonds (2000, Ch. 5), I claim that the unselectability of the configuration (24) is not absolute, but results from a restriction somewhat weaker than (25):

Condition on Selection. If X is a selected lexical head of ZP, any features F on ZP other than those on X itself must be explicitly selected by a context feature +___ [XP, F].

4.4   A note on category-changing inflections

The passive inflection *-en*, like *-ing*, is uniformly a category-changing suffix; it changes V to A. In light of how these two morphemes work, we cannot cling to the timeworn definition or claim to the effect that "inflections never change the category of the stem."

Rather, *the "inflections" of morphology never affect the phrase-internal properties of the lexical head.* This revised claim about morphology accurately encompasses both English inflections which change the category of the stem: *-ing* and the passive inflection.[13] When *-en* is inserted in PF, the lexical head of the passive remains V from deep structure through LF, resulting in the many phrase-internal properties characteristic of a verbal passive VP: V-modifying adverbials, possible agent phrase, verbal idioms, case-marking of more than one DP complement, and exclusion of both characteristic A-modifiers and the adjectival prefix *un-*. The revised generalization about inflection is thus fully predicted by the theory of PF Lexicalization (22).

5.   The uniform object-to-subject movement in both types of passives

Let us now turn to the nature of the relation between a subject of a passive clause and the deep object of a corresponding active clause, until now left aside.

5.1   Evidence for movement in Adjectival Passives

An English adjectival passive is invariably built around a transitive verb whose *deep direct object DP is absent and whose subcategorization frame is otherwise respected* (Levin and Rappaport, 1986, sections 2 and 3). The following are representative of the type of data they use to establish this descriptive generalization.

(27) 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).

In order for the configuration in (24) with an empty A and co-indexation features to be a complement, the Condition on Selection requires a context feature +___ [VP, ϕ-feature index]; no lexical entry has this complex selection feature.

[13]Category changing inflections thus account for phrases which behave internally in one way (in accord with their stem) and externally in another (in accord with the inflection). A third category changing inflection of English may be the adverbial *-ly*, which seems to change phrases which are internally like APs into ones whose external distribution is closer to that of PPs.

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.

The authors studiously avoid reference to syntactic structure in describing their find-
ings; their statements include for example a "more basic insight: the properties of
an AP headed by an adjectival passive participle are determined by the complement
structure of the base verb." (637) In the same vein, they summarize "... 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).[14]

Thus, even though Levin and Rappaport devote fully half of their article to recasting
their proposals in theta role terminology, they actually demonstrate that theta roles are
irrelevant for determining well-formed passive adjectives. A little reflection moreover
shows that their syntactic generalization for adjectival passives (above in italics) is
exactly what holds for verbal passives, except that "deep direct object" in adjectival
passives is replaced for verbal passives with "direct object at Spell Out."[15]

In essence, these quoted results simply paraphrase a syntactic passive relation be-
tween a direct object and a subject. The import of their findings is thus straightforward:
*the semantic (theta) role of the subject of a passive adjective is always that of the cor-
responding verb's deep direct object.* This relation is best captured, as it has been
throughout the history of generative grammar, by using object to subject noun phrase
movement.

5.2 A non-problem concerning movement with adjectival passives

Even though Levin and Rappaport have shown that individual theta roles are irrele-
vant for characterizing adjectival passives, there still remains a legacy of the lexicalist
treatments that begin with Wasow (1977): many researchers feel that the idiomatic
lexicalized meanings of many passive adjectives somehow undermine any account of
them in terms of transformational movement of the object DP. But this conclusion is
a non-sequitur. Chomsky's (1970) long accepted analysis of derived nominals, which
also can have idiomatic and lexicalized meanings, uses transformational object prepos-

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[14]Their section 4.1 begins: "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." Consequently, after establishing their empirical conclusion, the second half their essay reformulates
their result in terms of theta-grids and takes issue with various competing semantic formulations. Their
choice of lexical framework has made it impossible to express thir main result in a natural way, namely, that
adjectival passives lack exactly that overt DP licensed by +___DP.

[15]We return in section 7 to how the lexical insertion theory of section 4 predicts the difference in level of
the relevant direct object in the two kinds of passives.

ing. The lexicalized meanings of many passive adjectives are thus no barrier to deriving adjectival passives by "NP movement."

5.3   The role of the Case Filter reconsidered (cf. section 2.5)

The usual motivation for what forces passive NP movement to subject position, namely the inability of a passive participle to assign case to a DP sister, is fraught with difficulties when a range of more complex verbal passives are seriously considered. In all the following, a verbal passive occurs with an overt and bare object (in italics) which obviously must receive case from some source.

(28)   Ann was given *the letter*.
         That letter { was/ got } sent *all the candidates*.
         Who { was/ got } taken *such unfair advantage* of?
         Peter was forgiven *his sins*.
         Peter's sins were forgiven *him*.
         Those workers were allowed *a lot of vacation*.
         He was being charged *too much money*.

It is thus doubtful whether a verbal passive actually interferes with case assignment. Claims to the contrary always invoke ad hoc mechanisms (i.e., beg the question).[16]

Thus, the examples in (28) show that prima facie *a passive V can assign case*. Put differently, only verbal passives have the full internal structure of VPs (the problem noted in section 2.5). But this is a natural consequence of the analysis here; since verbal passives (18a) do not have adjectival heads at the level of Case Assignment (Spell Out or "s-structure"), nothing stops their lexical head V from assigning case as in active counterparts. In general, structural cases should always be assigned *optionally*; then if a DP doesn't receive case from V, this DP may move to get case.

In interesting contrast to the verbal passives in (28), the Case Filter actually accounts for the ill-formed adjectival passives in (29), precisely because they never occur in the "double object constructions" seen in (28):

(29)   *Ann seemed given *the letter*.
         *That letter sounded sent *all the candidates*.
         *Who acted taken *such unfair advantage* of?
         *Peter felt forgiven *his sins*.

---

[16]The attempt to motivate NP-movement in verbal passives by lack of case has led Chomsky (1981) to assign them to a special, "unspecified for ±N" neutralized category. The latter is at bottom an equivocation: in Chomsky (1981, 50), participles which 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.

*Peter's sins stayed forgiven *him*.
*Those workers appeared allowed *a lot of vacation*.
*He felt charged *too much money*.

If adjectival passives are derived by movement, as argued in the previous subsection, it is natural enough that the examples in (29) are all excluded; the A-headed adjectival passives in (18) simply cannot, like other adjectives, assign case to those DPs which are not targeted by NP movement.

5.4 Suppression of theta role assignment in SPEC(IP)

The present analysis is not original in questioning a case-based motivation for NP movement in passives. Studies by Sobin (1985) and Åfarli (1989) have concluded 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" (Åfarli, 1989, 102). For Germanic and Romance participle-based passives at least, I fully concur. In fact, the approach to passive movement in Chomsky (1995) using the "strong D feature on Tense" (previously known as the Extended Projection Principle) seems to accept the Sobin-Åfarli critique.

I propose that what makes the subject of a (verbal or adjectival) passive clause "theta-free" and hence forces movement of some DP to this position is the fact that SPEC(IP) cannot serve as an external argument of a lexical head V which is *not accessible outside VP*. The definition of Head Accessibility (25) means that at no point in a derivation is a V stem in a passive participle accessible in this sense; the feature specification of the A head of the passive participle blocks theta role assignment to SPEC(IP) and thereby accounts for Åfarli's "essential property of the passive."

6. Postposed "agent phrases" as true subjects

Unlike in adjectival passives, a verb in a verbal passive is related to some constituent which acts as its logical subject, even when a *by*-phrase is not overt. Verbal passives (30) thus contrast with middle verbs (31) and adjectival passives (32), which lack such arguments.

(30) 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.

(31) 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 }).

(32) 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 covertly represented logical subject in a verbal passive can account for two properties of examples as in (30):

(33) a. This logical subject may (not necessarily must) control the optional PRO subject of a "higher" infinitive of purpose, optionally introduced by *in order,* as in (30a,c,e).

    b. A syntactically present animate subject seems to be a necessary condition for adverbs of intentionality, as in (30b,c,d), and for that matter, for adjunct purpose clauses as well.

We therefore want to know why a verbal passive seemingly requires a structurally represented subject, while an adjectival passive does not. We know that in general verbs require subjects in LF—this is the Extended Projection Principle ("EPP") of Chomsky (1981). I find the following to be a general and workable formulation of this idea:

(34) **Extended Projection Principle.** Every V which is a lexical head in LF must have a structural subject phrase.

This formulation exempts PF-inserted V (such as passive and perfect auxiliaries) from the EPP; on their own, such verbs impose no requirement that a subject be present. *(34) also exempts adjectival passives,* because in their representation (10a) the V stem of an adjectival passive is not a lexical head of the construction at any level. The V stems of passive adjectives resemble rather the subjectless Vs in compounds and derived morphology, as those bolded in *meeting place,* **think** *tank,* **go** *cart,* **infestation,**

bereavement, etc. That is, a V inside a passive adjective is simply not subject to the EPP, which accounts for the pattern (32).

On the other hand, the V in the verbal passive structure (24) is its lexical head in the syntax and LF. However, because of the agreement features on $[_A \; \emptyset \;]$, this head V is not visible external to VP according to (25). Hence a DP in SPEC(IP) cannot be interpreted as its subject in this construction.

Nonetheless as a lexical head, the V in a verbal passive must obey the EPP, i.e. it must have a subject DP c-commanding it in LF.

(35)   **Generalized definition of Subject.** The subject of a head X is the lowest nominal projection which c-commands a phrasal projection of X in LF, within all the same cyclic domains as X.

Economy of Representation generally prefers an argument to be realized in a DP and to satisfy the Case Filter without recourse to an "extra" case-assigning P and PP. For this reason, overt postposed agents such as *by*-phrases are not allowed when a bare subject in a SPEC position can satisfy the EPP. But as we have just seen, this is not possible in verbal passives. Therefore the lexical head V in a verbal passive satisfies the EPP either with a PRO subject internal to VP or with a less economically realized overt subject, one in a PP whose head assigns it case but has no other LF role. And since this P has no other role in LF, it is deleted there, allowing its object DP to c-command the V^1 and hence be its subject, as (34) requires.

One might detect some discomfort among syntacticians about attributing "true subject" status to a DP which is at the same time housed in a "true PP." That is, in the face of subject DPs marked with various grammatical prepositions, there seems to be a tendency to start talking about a PP adjunct to which a theta role is mysteriously "transferred," or alternatively to say that the P doesn't really head a PP but is just a "case-marker" of uncertain structure.[17] One then concludes that a DP in a passive *by*-phrase, which seems to be in a "true PP" by tests such as stranding and cleft focusing, cannot simultaneously be a "true subject" of a V (i.e. it cannot satisfy the EPP.)

The actual facts of grammar contradict this vague line of thought. For example, the lower subject DP of a French causative can be marked with either *par* 'by' or *à* 'to'. Especially the DPs marked with *à* have been treated as "true subjects" by a host of generative analyses beginning with Kayne (1975). Yet it is indisputable that these "case-markers" of "true subjects" are also typical P heads of PPs. For example, while the French relative pronoun *qui* need not be animate as a subject, it is without exception necessarily animate as an object of a P (in many constructions), and this holds as well for lower subjects of causatives marked by *par* and *à*. (C. Piera, pers.

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[17]I have argued in e.g. Emonds (1985, Ch. 7, and 1987) that the special properties of these uninterpreted grammatical P are best explained by their late insertion, according to (21) and (22).

comm.). Moreover, lower causative subjects marked by *à* are possible only if a higher causative V is independently subcategorized for an indirect object PP (Herschensohn, 1981); the post-verbal word order of *à*-marked DPs is exactly that of PPs and not DPs; etc. Cf. Emonds (2000, Appendix to Ch. 6).

Similarly to *à*, the Japanese postposition *ni* 'to, by, at' serves as a case-marker for subject DPs in a wide range of constructions, including causative complements, passive clauses, and certain "dative subject" finite constructions.[18] The DP case-marked by *ni* satisfies tests for "true subjecthood" in Japanese (and is so treated by many researchers). And yet the syntax of DP+*ni* with respect to for example co-occurring with the focus particles *wa, mo* 'also', *sae* 'even', etc. is much closer to that of PP than to that of DP+case-marker. There are thus no actual arguments to support the idea that DPs which receive case from grammatical Ps are not structural objects in a PP at Spell Out.

It is thus exactly the PRO or *by*-phrase subject of verbal passives which is required by the EPP and which explains the paradigms in (30).[19]

7.   The lexical entry for *-en* as the source of DP gaps in passives

Nothing said so far accounts for the DP trace or its movement properties in passive structures; i.e., it remains to complete (7).

(7)   **Passive participles** (tentative entry): $\boxed{\textit{en}, \text{A}, +\text{V}\underline{\quad}, \dots}$

7.1   Alternative Realization ("AR")

AR of cognitive syntactic features F is a basic principle developed in several of my works (Emonds 1987, 1994, 2000), which can be consulted for more thorough justifications and demonstrations of details. Though AR is not limited to bound morphemes, it is limited to closed class items and one of its principal manifestations is its ability to fully characterize the well-known special properties of inflection, such as its "very local" nature and its close relation to grammatical elements that appear "nearby" as free morphemes. Some examples:

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[18]*Ni* cannot be a complementizer since it follows the subject and precedes (at least parts of) the predicate.

[19]It can now be appreciated that the EPP (34) formulated here, in tandem with the generalized definition of Subject (35), is more general than any linking of subjecthood or the EPP to particular SPEC positions via strong features in the minimalist framework of Chomsky (1995). That is, the postposed or understood subjects of passives, and for that matter of causatives in Romance languages, simply *are* subjects, and no ad hoc formulations of "theta role transfers" or other special rules involving agent phrases need be invoked.

(36) Alternative Realization of F_i | Canonical position of F_i

English adjectival suffixes *-er, -est*	the A modifiers *more* and *most*
English tense suffixes	I (modals = free morpheme counterparts)
Arabic definiteness prefix *al-* on N	Determiner
Romance clitics on V	pro-forms in XP complements, adjuncts
(non-genitive) oblique cases on DP	various grammatical P
applicative morphemes on V (e.g. Bantu)	various grammatical P
English suffix *n't* on I	VP-initial position of *not*

Alternative Realization factors out of the transformational component operations with several undesirable properties such as lowering, non-productivity, limitation to particular languages and modification of word-internal structure. For example, English "affix movement" conceived of as a transformation has all these drawbacks, including the fact that it mysteriously doesn't apply to any I which is +MODAL. Since AR results from the lexical specifications of closed class items, such properties are expected rather than problematic.

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

A rather brutally succinct summary of how AR works is as follows. In lexically unmarked uses of AR, a grammatical element [B, F] must be null if *all* of B's canonical features are alternatively realized; this is the Invisible Category Principle or "ICP" of Emonds (1987). Moreover, *a feature F in its canonical position is interpreted in LF but an alternatively realized F is not.*

Hence, morphemes all of whose features, other than their contextual features, are alternative realizations are uniformly inserted in PF by (22). Traditional grammar calls bound morphemes of this type "inflections." Under these conceptions, one principal effect of AR is to allow an affix or clitic under a head X^0 to spell out features of a complement or adjunct which is then null (Emonds, 1987). For example, an accusative Romance clitic zeroes a direct object by alternatively realizing the object's features [DEF, ±FEM, ±PLUR] on a morpheme bound to a verbal stem.

Now, the most characteristic features of a direct object are the ϕ-features of its D, namely its Person, Number and Gender. I notate this set as $\phi(D)$. Although the passive morpheme *-en* cannot, as an A, alternatively realize D itself, it can be lexically specified for ϕ-features $\phi(D)$. This is in fact my proposal for what finally completes the specification of the passive participle lexical entry (7):

(38) **Passive participles:** $\boxed{en, \text{A}, +\text{V}\_\_\_, \phi(\text{D})}$

As can be appreciated from some reflection on the table of correspondences in (36), the unmarked and most frequent cases of AR are those when the ICP *must* come into play and zero the canonical position of the alternatively realized features. Precisely as expected, the appearance of e.g. English and French passive *-en* requires that the DP position, the source of the ϕ-features $\phi(\text{D})$ in *-en, must be null.*[20]

This approach to the licensing of passive gaps reflects McA'Nulty (1983) and Lefebvre (1988). According to Lefebvre: "agreement morphology on the past participle spells out the features of the trace of the NP governed by the past participle."[21]

The correctness of characterizing *-en* as a Spell Out of the ϕ-features of a passive participle's DP sister is independently confirmed by another difference between verbal and adjectival passives. The DP gap in a verbal passive can correspond to *any DP* which comes to occupy an object position at Spell Out, including deep indirect objects and deep subjects of infinitival complements promoted to direct object position. This correct result is obtained because in verbal passives, the licensing of a DP gap by the Invisible Category Principle occurs after these promotions take place, i.e., AR computes the proper source for the ϕ-features $\phi(\text{D})$ of *-en* after Spell Out. But as observed in section 5.1, the adjectival passive DP gap always corresponds to a *deep* direct object (Levin and Rappaport, 1986, sections 2 and 3). And indeed by (10a), *-en* is inserted in adjectival passives either pre-transformationally or during the transformational cycle on AP, i.e., before such raising occurs. Consequently, the only ϕ-features $\phi(\text{D})$ available for adjectival passives are those of deep direct objects.[22]

7.2 Subject-object co-indexing in passives

In section 4.3, we saw that adjectival agreement features on *-en* play a crucial role in ensuring that its agreeing clausal subject is "theta-free" with respect to the V stem of $[_\text{A} \text{ -en }]$ (i.e. in blocking a possible assignment of a theta role by V to this subject).

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[20]In conjunction with the Case Filter, this gives exactly the right distinction between adjectival and verbal passives. AR is the only source of the gap after passive verbs, which otherwise can assign case, whereas the Case Filter further restricts the range of complements with passive adjectives, as seen in (29).

[21]Here, as in McA'Nulty's and Lefebvre's accounts, such traces have ϕ-features, which are clearly the source of the agreement features on floating quantifiers. The needed canonical ϕ-features on DP traces thus confirm the analysis of passive participles as their alternative realizations.

French: *Les filles   me semblaient   avoir déjà toutes* [FEM, PLUR] *perdu   leur argent.*
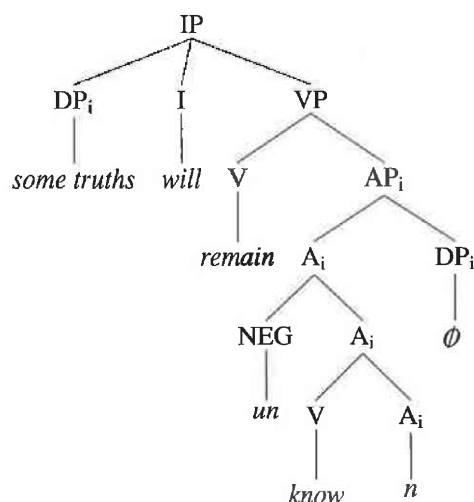Italian: *Le ragazze mi sono sembrata aver giá tutte* [FEM, PLUR]   *perduto il loro denaro.*
        'The girls   seemed to me   to have already all   lost   their money.'

[22]Pending further research, I have deliberately left some ambiguity in the formulation of Syntactic Lexicalization (21). The incompatibility of passive adjectives with DPs raised to surface direct objects, reported in Wasow (1977), suggests that syntactic lexicalization of a Y^0 *precedes* transformations in the XP domain of which Y^0 is the lexical head.

Interestingly, these ϕ-features of A are subject to two different agreements. First, the passive participle A must agree with its subject DP, according to the general A agreement in the languages in question.[23] Second, these ϕ-features alternatively realize features of an object DP, and so must also be the same as that object's ϕ-features.

If we plausibly assume that any ϕ-feature agreement reflects PF co-indexing, these two co-indexings (of a participle with its surface DP subject and with an object DP as well), imply by transitivity that the subject and object positions of *-en* must also be co-indexed, as in (39). We can illustrate this structure equally well with verbal passives and with adjectival passives; here we use the latter.

(39)

Clearly, especially since the subject DP position is theta-free in a passive construction, this required PF indexing can arise only by movement. That is, the only null DP which can be locally A-bound under any familiar typology of empty categories is a trace of movement to an A-position, i.e. passive movement.

This subject-object co-indexing, characteristic of passive transforms, is thus guaranteed by the lexical entry for *-en* itself, which furnishes the category A (co-indexed with the subject) with alternatively realized ϕ-features co-indexed with the object. i.e., the lexical entry for *-en* (38) minimally and elegantly captures the passive property.

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[23]I assume that the overt morphological agreement of adjectives with the DP they modify in French,German, Spanish, etc. reflects an abstract agreement that is equally present in a language like English, since the basic relation between the passive periphrastic construction and adjectives seems similar in all the languages under discussion.

Moreover, the reasoning is the same for verbal and adjectival passives; both construc-tions have DP traces in object position.[24]

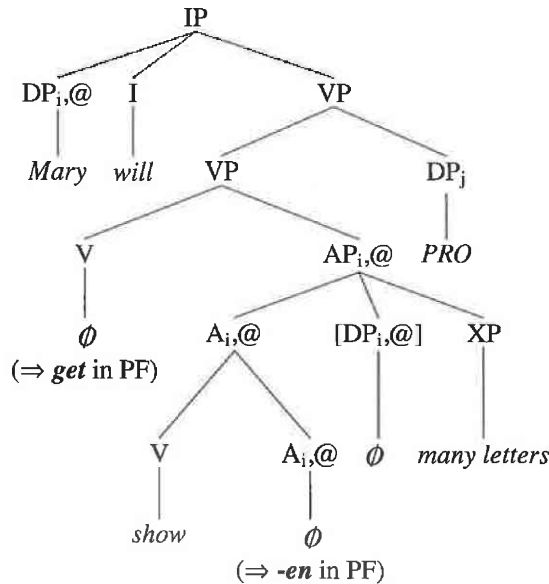## 8. Accounting for verbal passive properties by PF insertion

The lexical specification of the passive participle (38) can now account for all syntactic and interpretive properties of periphrastic verbal passives listed above in sections 2 and 3.

(38)   **Passive participles:** $\boxed{en, \text{A}, +\text{V}\underline{\hspace{1em}}, \phi(\text{D})}$

To show this, I illustrate the effect of (38) with a typical example of a verbal passive (40) and a corresponding tree (41). PF-inserted grammatical formatives are shown in bold.

(40)   Mary will get shown many letters.

(41)   Verbal passive structure of (40) at all levels except PF; $@ = [\pm\text{FEM}, \pm\text{PLUR}]_i$;

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[24]The object trace in a participle-based passive cannot arise independently of a co-indexed participle. That is, movement is not the cause of co-indexing, but vice-versa. This suggests that a landing site for "A-movement" must independently be marked with a kind of "scope marker," akin to the scope markers of "A-bar landing sites" in the "linear model" of derivations proposed in van Riemsdijk and Williams (1981).

The various syntactic properties of English verbal passives are explained as follows:

The absence of *-en* at all syntactic levels explains why verbal passives do not tolerate specifically adjectival prefixes (e.g. *un-*) or adjectival modifiers such as *very, too,* etc.

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

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

Since by the definition of lexical head (17), V in (41) is a lexical head, the Extended Projection Principle (34) requires that it or any verbal passive have a structural subject. But since the co-indexing features on a participle and hence Head Accessibility (25) render SPEC(IP) inaccessible to theta role assignment by V, the required subject may be a VP-internal PRO. Alternatively, if this subject DP is overt, it must be realized "less economically" by generating an extra PP inside VP which will provide this DP with case (via a preposition such as English *by*, French *par* or *de*, etc.)

Head Accessibility also prevents a passive V from being lexically selected—the only way to select a passive participle is to select its word-internal right-hand head [$_A$ *-en*]. Since this element is not interpreted in verbal passives, it is inserted at PF by Phonological Lexicalization (22). Consequently, only a late inserted grammatical verb (with an appropriate +___AP frame, i.e. *be* or *get*) can select a verbal passive. Simply restricting landing sites of NP movement to "theta-bar" positions provides no principled reason why *seem, appear, happen,* etc. are not possible "auxiliaries" in verbal passives. In the present account this follows from these verbs having LF content and hence not being inserted in PF.

Verbal passives are called verbal because they head phrases which *have the internal structure of VPs.* A VP with a passive V is syntactically identical to an active VP except that a passive VP contains one trace replacing a "passivized" DP. This empty DP is forced to be present by the fact that *-en* must alternatively realize ϕ-features, according to its lexical entry. But unlike what obtains with adjectival passives, other overt DP complements are allowed with verbal passives, as seen in (28).[25]

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[25]Chomsky's (1981) suggestion that second objects in verbal passives receive some kind of "inherent case"—unrelated to theta role assignment, as can be concluded from considering (28)—comes down to passive verbs assigning case, since corresponding adjectival passives (29) can't be formed using the same verb phrases.

9. 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); Sobin (1985) and Lappin and Shlonsky (1993) observe similar combinations in Slavic and Semitic languages as well. It is of interest that the English counterparts are ungrammatical. I limit examples here to Indo-European periphrastic passives.

In the "in situ transitive passives" of Norwegian and Ukrainian, no object DP moves to receive case.

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

      b. Cerkv-u   bul-o   zbudova-n-o   v 1640 roc'i. (Ukrainian)
          church-ACC/FEM was-IMP built-PASS-IMP in 1640
          *{ It /There } was built this church in 1640.

A second variation in German, Norwegian and Ukrainian permits "intransitive impersonal passives" with no object DP:

(43) 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.

As mentioned briefly in section 7.1, *unmarked* AR requires that the nearby source from which features are copied be empty. In this sense, the passive participle suffix *-en* specified by the entry (38) can occur only when a DP object of the passive participle is empty.

(44) **Valid for all systems, including English:** *-en* alternatively realizes ϕ-features $\phi(D)$ which by AR also occur on an object DP; in unmarked AR, this DP is a trace.

The restriction (44) is lifted in systems where the periphrastic passive occurs with overt direct objects.

(45) **Also present in Norwegian and Ukrainian:** *-en* alternatively realizes ϕ-features $\phi(D)$ which may, in marked AR, have their canonical source in a lexical object DP. The co-indexed subject position is then an expletive.

I propose to list alternatively realized features which may co-occur with (or "double") an overt source using a lexical notation of underlining. The English noun plural provides a simple example of this type of AR:

(46) **English plural:** *-(e)s*, N, +N___ , <u>PLUR</u>

The interpretation of <u>PLUR</u> is that whenever PLUR is canonically present on a D or NUM sister of some N projection, then the plural suffix *must* also appear on the head N, whether or not the node where this PLUR occurs canonically is empty.

Under this notation, the lexical entry for a passive participle which can occur with an overt direct object, such as those in Ukrainian or Norwegian (42), is written as (47):

(47) **Doubling passive participles:** *en*, A, +V___ , <u>ϕ(D)</u>

If the source DP for the ϕ-features ϕ(D) is empty, the results are as in English; this object DP must be the co-indexed trace of the subject DP.[26]

Finally, consider the intransitive impersonal passives of (43). In these cases, *-en* alternatively realizes no ϕ-features ϕ(D) because there is no object DP to serve as their source. I propose to express this by modifying (38) with parentheses for ϕ(D), yielding (48) for German and (49) for Norwegian.

(48) **German passive participles:** *en*, A, +V___ , (ϕ(D))

(49) **Norwegian passive participles:** *en*, A, +V___ , (<u>ϕ(D)</u>)

It is plausible to interpret these parentheses to indicate that the canonically located DP source for the AR features is optionally absent.[27] That is, *-en* may be inserted even when its host V is intransitive. In this case, it is plausible to assume that ϕ(D) on *-en* must consist of unmarked ϕ-features. Such specification apparently still suffices to activate Head Accessibility (25), which again renders the subject DP position incapable of receiving a theta role. Then, as with the in situ transitive passives, the theta-bar subject can again only be an expletive.

Under these lexical conventions of underlining and parentheses, German and Norwegian incorporate the English system with the addition of allowing passive intransitive verbs. Since all verbs require a subject by the EPP (34), the subjects in (42)–(43) must be realized elsewhere, as a *by*-phrase or a PRO, just as with personal passives.

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[26] Whether the source for the AR features is empty or lexicalized, Head Accessibility (25) still renders a DP in SPEC(IP) incapable of being theta marked by V. But the participle must still have the same index as the subject, since *-en* remains an agreeing predicate adjective. I assume that if an overt object DP is co-indexed with a subject which lacks a theta role, then universal grammar forces this subject to be an expletive, the correct result for in situ transitives.

[27] This excludes the option of AR (typically, inflectional) features being optional when the constituent which is their canonical source is present. Such an exclusion corresponds to an empirical generalization that inflection is typically obligatory if present at all.

The different systems of English, Ukrainian, German and Norwegian periphrastic passives thus result from the minimally different lexical items of uniform format, such as (38) for English and (47)–(49) for other closely related systems.

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