THE PREPOSITIONAL PASSIVE AS STRUCTURE-SHARING

Alex Alsina

Pompeu Fabra University

Abstract

Evidence is reviewed that requires abandoning verb-preposition reanalysis in the derivation of prepositional passives (P-passives). An alternative is proposed in which P-passives are a type of raising construction, where the object of the prepositional complement is structure-shared with the subject of the passive verb. This places the construction within the scope of the Theory of Structure-Sharing (Alsina 2008), which helps explain some of its properties. A proposal is made to account for the phrase-structure of P-passives and for the crosslinguistic variation regarding the availability of P-passives and preposition stranding.

1 Introduction

Prepositional passive, also known as pseudopassive, referred to here as P-passive, for short, has all the features of a canonical passive construction, except for one: in a P-passive, the subject does not correspond to an object of the verb in the active form, as it would in a canonical passive, but to the object of a prepositional complement, as the following examples illustrate.[†]

(1) a.   We all counted on Kim for this job.

     b.   Kim was counted on for this job (by all of us).

(2) a.   The car bumped into the wall.

     b.   The wall was bumped into (by the car).

The standard LFG analysis of P-passives, since Bresnan (1982), has been to assume an optional process of lexical, or morphological, incorporation of the preposition into the verb, whereby a verb and the head of its prepositional complement form a lexical unit, a word, to which the lexical rule of passivization can apply. This approach has been criticized by Postal 1986 and Baltin and Postal (1996) on the basis of English and by Lødrup (1991) taking into account Norwegian data. The arguments from these works against verb-preposition reanalysis (V-P reanalysis)—the idea that the verb and the adjacent preposition in examples like (1)–(2) optionally form a lexical unit or word—are so strong that they require abandoning this idea and thinking of a different way to account for P-passives.

In addition, P-passive has an effect also found in long-distance dependency (LDD) constructions: the creation of structures with preposition stranding (P-stranding), illustrated in (3a) for P-passive and in (3b) for LDD:

(3) a.   This article was talked about in the workshop.

     b.   Which article did you talk about in the workshop?

While English and other languages such as Norwegian have P-passive and LDD as sources for P-stranding, some languages, such as French and other

---

Romance languages,[1] do not allow P-stranding of either kind. The following examples ((4a–b) from Postal (1986:204)) illustrate this for French. (4b) shows that, in French, an argument that corresponds to the object of a prepositional complement, as in (4a), cannot be the subject of a passive clause, and (4c) shows that it cannot appear in clause-initial position by LDD.

(4)   a.   On ne peut pas compter sur Marc pour faire ce boulot.
           One can not count on Marc for do this job

      b.   * Marc ne peut pas être compté sur/dessus pour faire ce boulot.
           Marc can not be counted on   for do this job

      c.   * Qui est-ce qu'on ne peut pas compter sur/dessus pour faire ce boulot?
           who can one not count on for do this job?

The contrast between (3) and (4) has suggested to some linguists that languages split into exactly two types with respect to P-stranding: those that allow P-stranding from both sources, like English, and those that don't allow it from either source, like French. Hornstein and Weinberg (1981) and Kayne (1981) developed a unified account of P-stranding to capture this assumed tight correlation between the two potential sources of P-stranding. However, Maling and Zaenen (1985) argue that there is no correlation between the availability of P-passive and of P-stranding in a given language because there are languages, such as Icelandic, Swedish, and Danish, that allow P-stranding arising from LDD, but not as a result of passivization. Maling and Zaenen (1985:162) illustrate this point for Swedish, where P-passives are ungrammatical, as in (5a), although topicalization of the object of a PP is fine, as in (5b), where the presence of the dummy subject *det* shows that the sentence-initial NP is not a subject, but a topicalized phrase.

(5)   a.   * Hon   skrattades   at.
           she   was-laughed   at

      b.   Henne   skrattades   det   at.
           her   was-laughed   it   at
           'People laughed at her.'

Maling and Zaenen (1985) claim that P-stranding is determined by two separate parameters: (1) whether prepositions can govern the tail-end of an LDD (or an empty category, in their terms) and (2) whether a verb and a preposition can be reanalyzed as a word. If we formulate the parameters that regulate the availability of P-stranding as statements of different subtheories of grammar (a statement on LDD and a statement on word formation), we predict that there should be four types of languages corresponding to the

---

[1] Prince Edward Island French is an exception to the claim that Romance languages lack P-stranding, since, according to Law (2006:672) (citing King and Roberge (1990)), this dialect of French has both types of P-stranding.

positive or negative setting of each of these two parameters. If we assume that languages may vary depending on whether they allow P-stranding by LDD and whether they allow P-stranding by passivization, we predict the existence of four possibilities, as shown in the table in (6):

(6) Types of languages according to availability of P-stranding:

		P-stranding by LDD	
		yes	no
P-stranding by passivization	yes	English Norwegian	
	no	Icelandic Swedish	French, other Romance languages

Table (6) shows that one of the four types of languages predicted by the claim that the two sources of P-stranding are independent of each other is not attested: no language has been argued to allow P-stranding by passivization, while disallowing it by LDD.[2] In order to explain this gap, assuming that it is not accidental, P-passives and LDD cannot be as unrelated as they are standardly assumed to be in LFG.

This paper presents an analysis of P-passives that, on the one hand, does not assume a morphological process of V-P reanalysis and, on the other hand, assumes that both types of P-stranding referred to in (6) involve structure-sharing of the object of the preposition with a structurally more prominent grammatical function. This proposal brings P-passives within the scope of the Theory of Structure-Sharing of Alsina (2008), which will allow us to explain the covariation of the two phenomena, namely, the claim that only languages that allow P-stranding by LDD allow P-passives.

In what follows, first, I summarize the standard LFG approach to P-passives involving V-P reanalysis and the arguments that have been presented for and against this assumption. I then present the Theory of Structure-Sharing showing that many of the properties of P-passives follow straightforwardly from assuming that P-passives are a kind of raising construction, an assumption also made in Lødrup (1991) and Tseng (2007). Next, I propose the phrase-structure of P-passives, which is independently needed for verb-particle constructions, and the constraints relating properties of the phrase-structure with structure-sharing configurations. Two parameters, stated as such constraints, derive the claim about crosslinguistic facts embodied in (6).

---

[2] Law (2006:633) appears to also make this claim, but in fact makes the stronger claim that there are only two types of languages regarding P-stranding—those that have it and those that don't—by (in my opinion, incorrectly) analyzing Icelandic and Swedish as languages where P-passive is possible (Law 2006:655–660).

2   V-P reanalysis

2.1   Arguments for V-P reanalysis

One of the motivations, if not the main one, for assuming V-P reanalysis as part of the account of P-passives is that, in the version of LFG of Bresnan (1982), passivization is a lexical rule that operates on the list of grammatical functions (GFs) selected by a lexical item. It is a rule that takes a lexical item (an active verb form) as input and produces a different lexical item (a passive verb form) by changing the GFs assigned to arguments. In that version of the framework, the assignment of GFs to arguments is assumed to be fully specified in the lexical entries of words. The passive lexical rule replaces the GF name OBJ in a semantic form by SUBJ and replaces the name SUBJ by $\varnothing$ or OBL$_{by}$. This means that this rule can only apply to a lexical item whose argument list includes a SUBJ and an OBJ.

Thus, the semantic form of a transitive verb like *read* includes both a SUBJ and an OBJ: 'read $\langle(\uparrow\text{SUBJ})(\uparrow\text{OBJ})\rangle$'. The passive lexical rule can apply to it yielding the semantic form 'read $\langle \varnothing (\uparrow\text{SUBJ})\rangle$' or 'read $\langle(\uparrow\text{OBL}_{by})(\uparrow\text{SUBJ})\rangle$'. However, if we take an intransitive verb, like those used in (1)–(3), its semantic form lacks an OBJ and, so, it should not be possible for the passive lexical rule to apply to it. The V-P reanalysis rule is a way to turn an intransitive verb into a transitive verb. This rule, according to Bresnan 1982: 51, involves a morphological change, which analyzes a verb-preposition sequence as a single word of category V, and an operation that replaces the GF P OBJ in a lexical form by OBJ. In this way, the output lexical item includes the GF OBJ in its semantic form and can be the input to the passive lexical rule. In other words, the object of the preposition becomes the object of the derived verb, morphologically composed of a verb and a preposition.

A consequence of this analysis is that V-P reanalysis is restricted to prepositions that head a complement of the verb, i.e., cannot involve prepositions that head adjuncts. This is because the grammatical function P OBJ required in the input to the V-P reanalysis rule is one of the GFs assigned to arguments. This restriction accounts for the ungrammaticality of passive forms such as (7), where the preposition heads an adjunct of the verb (from Bresnan (1982:51)):

(7)   a.   * No reason was left for.
           (They left for no reason.)

      b.   * The operation was died after.
           (The patient died after the operation.)

Another consequence of this analysis is that the output of the V-P reanalysis rule can undergo the lexical process of Adjective Conversion. The italicized sequences in (8) (from Bresnan (1982:53)) are adjectives. On the assumption that word formation rules cannot take multi-word structures as input, those sequences have to be single words, to be input to Adjective Conversion.

(8) a.   Each *unpaid for* item will be returned.

     b.   His was not a *well-looked on* profession.

Yet another consequence of the V-P reanalysis rule is that it provides an immediate explanation for the fact that adverbs cannot appear between the verb and the preposition in P-passives, as in (9). This is because, under this view, the verb and the preposition constitute a word, which cannot be broken up in the syntax. Notice that an adverb can appear immediately before a stranded P if it is stranded by LDD, as in (10) (exx. from Bresnan (1982:54)):

(9) a.   * Everything was paid twice for.

     b.   * Your books were gone most thoroughly over.

(10) a.   That is something that I would have paid twice for.

     b.   These are the books that we have gone most thoroughly over.

The existence of double passives, such as those illustrated in (11) (Bresnan 1982:60), could be taken to be a problem for the V-P reanalysis rule, because, if *advantage* is the object in (11a), the passive form in (11b) is to be expected, but not (11c), and, if *her talents* is the object in (11a), then we expect (11c) and not (11b):

(11) a.   No one took advantage of her talents.

     b.   Not much advantage was taken of her talents.

     c.   Her talents weren't taken advantage of.

Bresnan's (1982) proposal to deal with these cases is to assume a dual analysis. There is an idiomatic object analysis, in which *advantage* in *take advantage of* is an object, although not an argument in the argument structure of the verb, and an incorporated object analysis, in which *take advantage* is treated as a morphologically complex verb. V-P reanalysis can apply to the incorporated object structure yielding the complex verb *take advantage of*, in which the apparent object of the preposition is the object of this complex verb. Passivization can apply either to this complex verb, making the apparent object of the preposition the passive subject, as in (11c), or to the idiomatic object structure, making the idiomatic noun the passive subject, as in (11b).

A positive consequence of this analysis is that it provides an explanation for the contrast in (12) (Bresnan 1982:61):

(12) a.   How much advantage was taken of John?

     b.   * How much advantage was John taken of?

John can only be the subject in (12b) if *advantage* is incorporated with the verb, but then *advantage* cannot be separated from the verb, as it is in (12b).

However, given this explanation, the fact that the putative incorporated noun can be modified by adjectives, as in (13), is a bit of a problem:

(13) a.   John was taken unfair advantage of.

b.   Her talents were made good use of.

Since the postverbal noun is assumed to be incorporated, Bresnan (1982) is forced to assume that the adjective is too. This yields fairly complex morphological structures in which each of the component elements coincidentally occupies the same position it would occupy if it was positioned by syntactic rules in a [V NP P] structure. We might reasonably expect a different order of elements in the incorporated structure from the order in the idiomatic object structure.

2.2 Arguments against V-P reanalysis

Postal (1986) and Baltin and Postal (1996) present several arguments against assuming V-P reanalysis. V-P reanalysis makes the claim that the P-object (the apparent object of a preposition in a putatively reanalyzable V-P sequence) is really (at least optionally) the object of a verb morphologically composed of a verb and a preposition and, therefore, should behave as the object of a verb, while both the verb and the preposition should be syntactically inert, as they are components of a word. The arguments that follow, based on those works, show that this claim is not correct.

An NP object of a verb can follow a PP or adverb when the former is focused or consists of a large number of lexical items, in the construction known as heavy NP shift, as in (14a). A P-object should behave like an ordinary object of a verb, given V-P reanalysis, and potentially appear following a PP. But this is not what happens, as we see in (14b). (Examples (14)–(20) are from Baltin and Postal (1996:129–133).)

(14) a.   I discussed ___$_1$ with Lorenzo [the problems he was having with deliveries]$_1$.

b. *I argued with ___$_2$ about such problems [the drivers' union leader]$_2$.

The preposition cannot be deleted without its object under gapping. If the verb and the preposition formed a word, there would be no reason not to expect deletion of the [V-P] verb:

(15) a.   Frank called Sandra and Arthur ___ Louise.

b.   Frank talked to Sandra and Arthur ___ *(to) Louise.

The V and P that supposedly make up a reanalyzed verb in passive structures like (16) should not be coordinated with another V or P respectively and should not be gapped independently of each other, as coordination and gapping, being syntactic processes, have no access to the internal structure of words, but (16) shows that this is possible:

(16) a.   The bridge was flown (both) over and under.

b.   Fascism was fought for by Goebbels and (then) against by De Gaulle.

The object of a preposition behaves differently from the object of a verb with respect to subdeletion, as (17) shows. Passivizable P-objects behave like objects of prepositions and not like objects of verbs, as illustrated in (18):

(17) a.　　Larry screamed more of those words than he did ___ of these words.

　　　b.　*Larry screamed about more of those words than he did ___ about of these words.

(18)　　　* Jane talked to more of these people than Sally talked to ___ of those people.

Passivizable P-objects behave like objects of prepositions, not like objects of verbs, with respect to floating quantifiers:

(19) a.　　Mike handed the photostats all to Louise.

　　　b.　　The air force struck (*at) those targets both in the morning.

(20) a.　　Mike warned those employees all about speaking to reporters.

　　　b.　* Mike talked to those employees all about speaking to reporters.

In Lødrup's (1991) analysis of Norwegian P-passives, the main argument against V-P reanalysis as a step in the derivation of P-passives is the non-adjacency of the passive verb and the preposition in many structures. Not only are the V and the P not adjacent in Norwegian P-passives such as (21a-b), but it would be ungrammatical to have them next to each other in (21c) (from Lødrup (1991:118–119)). The V and the P are italicized in (21).

(21) a.　　De må bli *passet* bedre *på*.
　　　　　'They must be looked better after'

　　　b.　　Hvorfor *passes* de ikke bedre *på*?
　　　　　'Why look-PASSIVE they not better after'

　　　c.　* Hvorfor *passes på* de ikke bedre?
　　　　　'Why look-PASSIVE after they not better'

This evidence shows that the V and the P cannot be treated as a lexical unit in the Norwegian P-passive. In fact, according to Lødrup (1991), the V and the P never behave as a syntactic unit in the Norwegian P-passive and, so, the claim that the Norwegian P-passive cannot involve V-P reanalysis is a widely accepted conclusion (see references in Lødrup (1991)).

One of the striking pieces of evidence for V-P reanalysis is the claim that P-passives undergo Adjective Conversion. However, Postal (1986) and Baltin and Postal (1996:142) claim that the instances of adjectives composed of a participle and a preposition do not constitute evidence for V-P reanalysis: there are many P-passive participles without a corresponding adjectival form. Relevant examples are: *argued-about proposals*, *sat-on tables*, *spoken-to students*. Thus, the mechanism that allows P-passives has to be much more general than the process that allows P-incorporation in adjectives

and the two processes cannot be assumed to be related. In addition, Lødrup (personal communication) notes that, in Norwegian, adjectives derived from P-passive forms are completely impossible.

The evidence presented by Postal (1986) and Baltin and Postal (1996) shows that, on the basis of the English facts alone, V-P reanalysis has to be rejected as a requirement for P-passive. Lødrup (1991) also shows that V-P reanalysis has to be rejected for P-passive in Norwegian. If we assume that P-passive is essentially the same construction in English and Norwegian,[3] it is clear that we need to find an alternative to V-P reanalysis for both languages.

3 P-passive as structure-sharing

If we assume there is no V-P reanalysis, it is reasonable to suppose that the preposition bears the same GF in the active structure as in the P-passive: an oblique complement. If so, the subject of the P-passive is not a thematic argument of the verb, but of the prepositional complement. This is, therefore, a kind of raising construction, in which the subject of the matrix predicate is a thematic argument of a complement of this predicate, only this complement, instead of being verbal, as in standard raising constructions, is prepositional (see Lødrup (1991) and Tseng (2007) for a similar claim). A raising construction involves structure-sharing (S-S) of two GFs: two GFs having the same value. Given this, the structure falls within the scope of the Theory of Structure-Sharing, proposed in Alsina (2008).

Since S-S is a feature common to both LDD and raising, the Theory of Structure-Sharing provides a unified treatment to LDD and raising by constraining the structures in which S-S arises. The theory consists of a set of well-formedness conditions on the f-structure: all instances of S-S must satisfy these conditions. A positive consequence of this theory is that it allows us to dispense with control equations, both the kind that are specified in lexical entries and the kind that are specified in c-structure rules.[4] In what follows, I will briefly present this theory, following Alsina (2008), in order to show that it accounts for crucial facts of P-passives.

This theory consists of four principles or conditions. The first of these—the Nonthematic Condition on Structure-Sharing—is given in (22). The notion of f-prominence, which is used in the formulation of condition (22), is defined in (23).

---

[3] The argument that P-passive in Norwegian is essentially the same as in English is that (a) it is a passive construction (as shown by the verbal morphology and the suppression of the logical subject) and (b) the passive subject is the thematic argument of a prepositional complement of the verb. A unified analysis of P-passive in both languages is therefore preferable to a different analysis for each language.

[4] Along with control equations, c-structure annotations are eliminated altogether. This allows us to dispense with the intermediary level of the annotated c-structure in the mapping between c-structure and f-structure, thus simplifying this mapping.

(22) **Nonthematic Condition on Structure-Sharing**: In every f-structure containing structure-sharing, a nonthematic GF is the most f-prominent GF in the structure-sharing relation.

(23) **F-prominence**: GF α is more f-prominent than GF β iff α f-commands β and either β does not f-command α or α is higher than β in the GF Hierarchy DF > OBJ > OBL.[5]

LDD constructions always satisfy condition (22), as they involve an OP as the most f-prominent GF in the S-S relation. If we take a nonthematic GF to be a GF that is not licensed by its mapping to a semantic participant, whether argument or adjunct, we see that OP is always nonthematic, because semantic participants are always mapped onto other GFs (SUBJ, OBJ, OBL). The other structure-shared GF in LDD is either lower in the GF Hierarchy or does not f-command the OP. (24) schematically represents the structure-sharing relation in two sentences involving LDD. It shows that the nonthematic OP is more f-prominent than the other GF it is structure-shared with:

(24) a.　　What do you think ⌐ is in that box ⌐

　　　　　　OP ——————————— SUBJ

　b.　　Who did you keep that secret ⌐ from ⌐

　　　　　　OP ——————————— OBJ

In raising constructions, there is always a nonthematic SUBJ or OBJ in the matrix clause that asymmetrically f-commands the other GF in the structure-sharing relation, as schematized in (25):

(25)　　Kim seems ⌐ to regret the situation ⌐

　　　SUBJ ——————— SUBJ

In canonical passive constructions, the subject is not part of a S-S relation, as it is a thematic GF (a GF licensed by its mapping to an argument of the verb), but in P-passives the subject is not a an argument of the verb, but of the prepositional complement of the verb. In these constructions, the Nonthematic Condition is satisfied because the subject is nonthematic and more f-prominent than the GF it is structure-shared with, namely, the object of the preposition. Consider the active-passive pair in (26):

(26) a.　　John paid for the tickets.

　b.　　The tickets were paid for.

---

[5] The information-structural GFs used in standard LFG, TOP and FOC, are here collapsed as a single GF: OP(ERATOR). Following Bresnan (2001) (see also Falk (2001)), SUBJ and OP constitute the class of Discourse Functions (DF). The GF hierarchy assumed here places these two GFs together at the top of the hierarchy.

The argument structure of *pay* has an external argument as its logical subject (the most prominent argument at argument structure) and an oblique-*for* argument. Passivization, as in all passive forms, suppresses the logical subject, which means it makes it unavailable for mapping to a direct GF. Thus, the external argument is unexpressed or expressed as an oblique phrase in the passive form of *pay*. The clause whose predicate is *pay* needs to satisfy the Subject Condition (see Bresnan and Kanerva (1989), among others), by which every verbal f-structure must include a subject, but neither the external argument nor the oblique argument can map onto the subject. The structure would violate this condition, were it not for the possibility of having a subject structure-shared with the object of the oblique complement. Thus, in the active (26a), the subject is the external argument of *pay*, whereas in the passive (26b), the subject *the tickets* is a nonthematic GF structure-shared with the object of the preposition, as shown schematically in (27):

(27)   The tickets were paid ⌈ for ⌉

        SUBJ ——————— OBJ
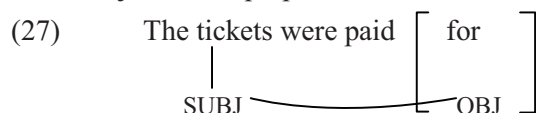
The second condition that a structure-sharing relation needs to satisfy is the Locality Condition:

(28) **Locality Condition on Structure-Sharing**: Every f-structure that contains a GF G and is f-commanded by another GF structure-shared with G has a DF involved in this relation.

The representation in (27) does not satisfy Locality, because the embedded f-structure has a GF structure-shared with a GF in the matrix f-structure, but there is no DF (SUBJ or OP) in the embedded f-structure that is also part of this S-S relation. Notice that (24b) does not satisfy this condition either, whereas (24a) and (25) do because there is a DF in the embedded f-structure that is part of the S-S relation. In both (24a) and (25) the DF in question is a SUBJ. In other cases, Locality is satisfied because the embedded f-structure has an OP taking part in the S-S relation that has its tail-end in this f-structure. Whether Locality is satisfied by having a SUBJ or an OP be the DF referred to in (28) depends on the Non-Subject Binding Condition (30). The statement of this condition requires the definition of the F-Binding relation given in (29):

(29) **F-Binding**: α f-binds β iff

   a.   α and β are different GFs with the same value, and

   b.   there's an argument in α's f-structure that is equal to β or has β as a feature and is not higher than α in the GF hierarchy.
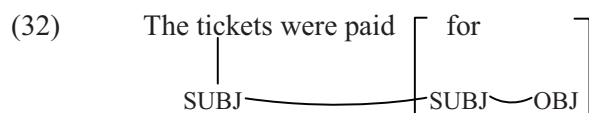
(30) **Non-Subject Binding Condition (Non-SUBJ Bind)**: The closest f-binder[6] of a non-SUBJ is a DF and, in a different f-structure, an OP.

---

[6] The closest f-binder can be defined as follows: If α and β both f-bind γ, α is a closer f-binder of γ than β iff β f-binds α but α does not f-bind β.

54

When LDD spans two (or more) f-structures, Locality and Non-SUBJ Bind are satisfied if the S-S relation includes in the embedded f-structure either a SUBJ, as in (24a), or an OP, as in (31). Notice that (24b) does not satisfy Locality because it lacks the OP included in (31).

(31)   Who did you keep that secret ⌈ from ⌉
                      |
         OP⎯⎯⎯⎯⎯⎯⎯⎯⎯OP‿OBJ ⌋
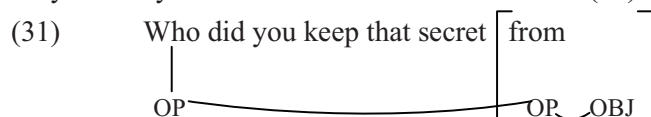
As for P-passives, Locality requires there to be a DF in the prepositional f-structure. Since this DF has the SUBJ of the matrix f-structure as its closest f-binder, it cannot be an OP by Non-SUBJ Bind (30). It has to be a SUBJ; as it is nonthematic, the Nonthematic Condition (22) is satisfied. The representation in (27) is thus replaced by (32):

(32)   The tickets were paid ⌈ for ⌉
             |
       SUBJ⎯⎯⎯⎯⎯⎯SUBJ‿OBJ ⌋

The evidence for the SUBJ in the prepositional f-structure is that it has to satisfy the fourth Condition of the theory: The SUBJ Binding Condition:

(33) **SUBJ Binding Condition (SUBJ Bind)**: A SUBJ that is structure-shared with a more f-prominent GF is

    a.   f-bound in a non-SUBJ of a clause and

    b.   in a tenseless f-structure if its closest f-binder is not OP.

By this condition, the embedded SUBJ in (32) must be f-bound and an f-bound GF is an argument or the feature of an argument in the f-structure of the f-binder. It follows from this that P-passive is only possible if the prepositional f-structure is an argument of the passive verb. In other words, there is no P-passive if the P introduces an adjunct, as in (7). This prediction follows from assuming a nonthematic subject in the prepositional f-structure of P-passive, which is required by the Theory of Structure-Sharing.

     Some verbs that do not require a prepositional argument allow P-passive, as in the following examples:

(34) a.   This chair has been sat on by Fred.

     b.   The room looks like it's been lived in.

     c.   This spoon has been eaten with.   (Davison 1980:45)

Davison (1980) observes that locative and instrumental phrases are very likely to participate in P-passives. We can just assume that certain verbs can augment their argument structures with a locative or instrumental argument. Notice that these verbs often allow locative inversion (e.g., *On that rock sat a huge angry lion*, *In that space lived a whole family of capybaras*).

     We do need to say that nominal and adjectival ([+N]) f-structures do not allow nonthematic subjects, unlike verbal and prepositional ([–N]) f-

structures. This is reflected in the following condition:

(35) **Nonthematic subject constraint**: Nonthematic subjects are only possible in [–N] f-structures.

This explains the non-existence of P-passives out of NPs (Lødrup 1991:124):

(36) a.   Reisen til Drøbak ble tenkt på.
The trip to Drøbak was thought of.

b.   * Drøbak ble tenkt på reisen til.
* Drøbak was thought of the trip to.

To summarize, this section has argued that P-passive is just a type of raising construction: raising out of a P complement. As such, it involves a structure-sharing relation and has to satisfy the principles of the Theory of Structure-Sharing. Nothing specific to P-passives needs to be assumed. And it follows from the theory that there is no P-passive involving adjuncts.

4   The c-structure of P-passives

At this point we still need to account for the following facts:

a)   Adjacency of V and P in P-passives (no intervening adverbs);
b)   Unavailability of P-passives in the presence of a thematic object;
c)   Fixed V___ position of nonthematic idiomatic objects in P-passive.

In order to capture these facts, we need to make explicit some assumptions about c-structure and the correspondence between c-structure and f-structure, first of all, the following function-category mapping principle:

(37) **No PP in P-passives**: A prepositional f-structure whose subject is nonthematic cannot map onto a phrasal category.

As argued earlier, the preposition in P-passives maps onto an f-structure (a prepositional f-structure) that has a nonthematic subject (see (32)). By principle (37), it cannot map onto a PP (or a P'); it maps onto a P that projects no further. This P is, therefore, a non-projecting category, to use Toivonen's (2003) term, indistiguishable from a particle in verb-particle constructions. So, it occupies the P position that we independently need for particles in verb-particle constructions. The phrase-structure rules for the verb phrase assumed here are based on Kiparsky (1988):[7]

(38) a.   VP → V' XP*

b.   V' → V (NP) P*
(where XP*=a sequence of 0 or more maximal projections of any category, and P*=a sequence of 0 or more instances of P)

There is evidence for the phrase structures that these rules license. In the first

---

[7] This proposal differs in various ways from others such as Toivonen (2003) and Farrell (2005), but I will not evaluate the differences here.

place, they predict a fixed V-NP-P-NP order in ditransitive verb-particle constructions, illustrated in the following examples (Farrell 2005:131):

(39) a.   She likes to give her students away candy.

    b.   * She likes to give away her students candy.

(40) a.   I want you to send my brother over a cake.

    b.   [%] I want you to send over my brother a cake.

                                    ([%]= ungrammatical for some speakers)

If we assume that there can be no more than one unrestricted and one restricted object per clause in English and the function-category correspondence rules in (41), we explain the facts in (39)–(40).

(41) a.   NP daughter of V' is for unrestricted object

    b.   NP daughter of VP is for restricted object

The unrestricted object NP is licensed by rule (38b) and the other NP is licensed by (38a). As the P, the particle *away* or *over*, has to appear at the right edge of V', it follows that it has to come after one NP and precede the other one in a c-structure such as this:

(42)   [$_{VP}$ [$_{V'}$ give [$_{NP}$ her students] away] [$_{NP}$ candy]]

In the second place, the alternative order of particle and object NP in examples like (43) is also predicted by this theory.

(43) a.   look up the word / look the word up

    b.   take out the garbage / take the garbage out

    c.   turn off the lights / turn the lights off

If we don't assume any principle forcing the object of a monotransitive construction to be either restricted or unrestricted, it follows that it can be either. As a restricted object, it will appear as sister of V', therefore following the particle, and, as an unrestricted object, if will appear as sister of V, therefore preceding the particle. Thus, the c-structures for the two orders in (43a) would be as shown in (44), where the NP is a restricted object in (44a) and an unrestricted object in (44b):

(44) a.   [$_{VP}$ [$_{V'}$ look up] [$_{NP}$ the word]]

    b.   [$_{VP}$ [$_{V'}$ look [$_{NP}$ the word] up]]

In the third place, there is no heavy NP shift over an NP. An object NP can follow a PP or other phrase, provided the NP is focused or heavy, but it cannot follow another NP, however heavy the former NP may be, as shown in (45)–(46):

(45) a.   I sent the message to a reporter.

    b.   I sent to a reporter the defamatory message that everyone is talking about.

(46) a.   I sent that reporter a message.

b. * I sent a message those reporters who kept following me.

The alternative orders of NP and PP in (45) follow from assuming that these constituents are ordered by Linear Precedence (LP) constraints. As in Gazdar and Pullum (1981), Falk (1983), Gazdar, Klein, Pullum, and Sag (1985), and Sag (1987), among others, LP constraints are statements on the order of sister constituents. The relevant LP constraints here are: NP < PP (an NP precedes a PP) and XP[light] < XP[heavy] (a light phrase precedes a heavy phrase). In case of conflict between the two LP constraints, ordering by weight wins over ordering by category.

Whereas the NP *the message* in (45a) can be licensed by either rule (38a) or (38b), the PP can only be licensed by (38a). In a structure where both the NP and the PP complements of *sent* are sister constituents, they are subject to the LP constraints. In such a structure, if the NP complement is heavy, as in (45b), it follows the PP, as shown in (47a). On the other hand, in structures with two NP complements, like (46), the two NPs are not sister constituents, as shown in (47b), and so they are not subject to the LP constraints stated above and the weight of the two objects is irrelevant for their relative order. This explains the ungrammaticality of (46b).

(47) a. $[_{VP} [_{V'}$ sent$] [_{PP}$ to a reporter$] [_{NP}$ the defamatory message...$]]$

b. $[_{VP} [_{V'}$ sent $[_{NP}$ that reporter$]] [_{NP}$ a message$]]$

Having established (38) as the rules for the VP in English, the P in P-passives, which does not project a PP by mapping constraint (37), has to appear in the P position licensed by (38b). This provides an immediate explanation for the claim illustrated in (9) that adverbs cannot appear between the verb and the P in a P-passive. There is no position in rule (38b) for an adverb. Notice that a preposition stranded by LDD is unaffected by constraint (37) and thus projects a PP (even though it includes nothing but a P); this PP is licensed by rule (38a) and therefore can appear following an adverb, as seen in (10).

In order to explain the claim that P-passives are only possible with verbs that don't have a thematic object in the active form (intransitive verbs and verbs with nonthematic objects), we need to assume an additional constraint: constraint (48), on the argument-GF mapping, by which the preferred choice for the subject function is an argument (as opposed to a nonargument) and an argument of its local predicate (as opposed to an argument of a nonlocal predicate). See Alsina (2001:380) for independent evidence for this constraint.

(48) **Subject Selection Principle**: If possible, the subject should be (a) an argument (b) of its local argument structure.

A principle such as this is implicitly assumed in general, as it explains why nonthematic subjects are a last resort option. For example, as a default, a

monadic predicate is intransitive; only under very specific conditions can an expletive be used as the subject, overriding this principle. In the case of P-passives, it explains why there are no P-passives of transitive verbs in general, as shown in (49b) (see also Zwicky (1987:648)), the exception being when the object is nonthematic, as in (50):[8]

(49) a.   The cookie has been paid for.

b.   * The cookie has been paid 50 cents for.

(50) a.   I caught sight of Mary in the crowd.

b.   Mary was caught sight of in the crowd.

There is no argument of the verb that can be a subject in (49a) or (50b), but there is in (49b). Once the logical subject of *pay* is suppressed by the passive morphology and therefore made unavailable for mapping to the subject, there is no other argument of the verb in (49a) that can be the subject; in this case, an NP that is not an argument of the verb can be chosen as the subject. In (49b), on the other hand, the argument structure of *pay* is not the same as in (49a): in this case, there is another argument in addition to the logical subject (the amount argument) and that is the preferred choice for subject. This explains the ungrammaticality of (49b), where a nonargument of the verb is the subject, while an argument of the verb is available. In contrast, (50) has an NP in object position (*sight*) that is clearly not a semantic argument of the verb. The verb *catch* and the noun *sight* form a noncompositional idiom in *catch sight (of)* in which the noun does not correspond to an argument. Consequently, by principle (48), *sight*, as a nonargument, loses out against the argument of the preposition as the preferred choice for subject.

The assumption that only arguments (expressions bearing thematic roles) can be restricted objects (see Alsina (1996a,b, 2001), among others) explains why nonthematic objects must appear in immediately postverbal position in P-passives. This is illustrated by the contrast in (51):

(51) a.   John was taken advantage of.

b.   * John was taken of advantage.

On the assumption just argued for that P-passives are possible in the presence of an object NP only if this object is nonthematic, *advantage* has to be nonthematic in (51). Therefore, it can only be an unrestricted object and occupy the position of sister of V (not sister of V', reserved for restricted

---

[8] Authors like Bolinger (1975) and Ziv and Sheintuch (1981) have claimed that examples similar to (49b) are grammatical (e.g., *It's never been done anything with at all, The oven hasn't been baked any cakes in yet)*. For Postal (1986:242) such examples "are at best jokes and must be considered ungrammatical." For dialects in which they are grammatical, an analysis like that proposed for Norwegian in section 5 would be appropriate.

objects). The preposition *of* in (51) is at the right edge of V' and, so, must follow the object, accounting for the contrast in (51).

But if *advantage* in (51) is a nonargument, how come we have the alternative form in (52), where this N is the passive subject?

(52)　　　Advantage was taken of John.

We have to assume a dual analysis of the idiomatic expression *take advantage of*: one in which *advantage* is an argument of *take* and one in which it is a nonthematic object of the idiom *take advantage of*. As an argument, it can passivize, as in (52), and undergo Heavy NP Shift:

(53)　　　They took of John such an amazingly unfair advantage that everyone complained.

In its nonargument analysis, *advantage* cannot be part of an LDD, as the bottom of an LDD must be a thematic argument. This explains the contrast in (12), repeated as (54):

(54) a.　How much advantage was taken of John?

　　 b.　* How much advantage was John taken of?

The only way *John* can be the subject in (54b) is if *advantage* is a nonargument, but then *advantage* cannot be part of an LDD. In addition, as a nonargument, *advantage* cannot undergo Heavy NP Shift:

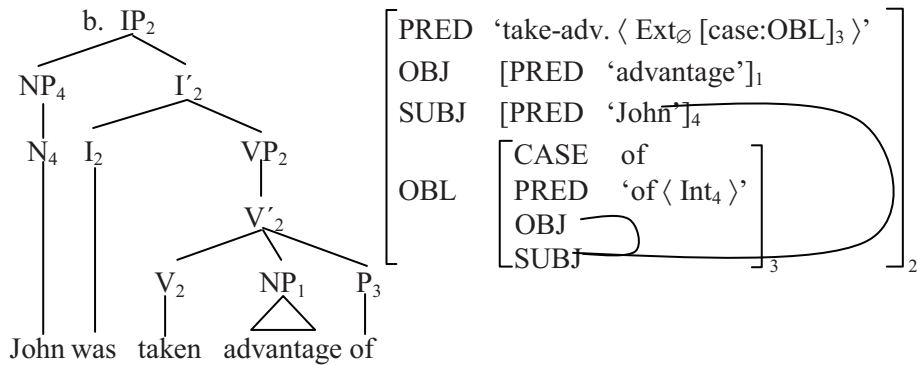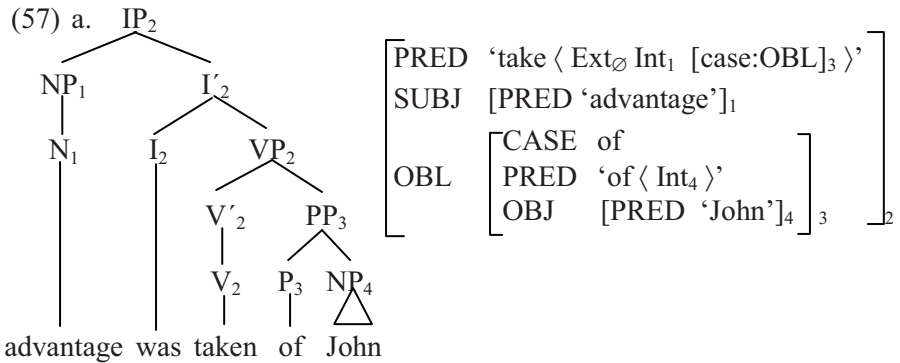(55)　　　* John was taken of such an amazingly unfair advantage that everyone complained.

An object that follows a prepositional complement has to be restricted, but the object in (55) cannot be restricted because only arguments can be restricted and *advantage* would have to be a nonargument in order for an NP that is not an argument of the verb to be the subject, given principle (48).

The lexical entries for *take*, needed for examples like (52), (53), and (54a), and for the noncompositional *take advantage*, needed for (51a), are given in (56a) and (56b) respectively. (56a) has an argument structure with an external argument, an internal argument and an oblique case argument, whereas (56b) has an argument structure with only an external argument and an oblique *of*-argument. Subscripted numbers, or indices, in (56) and (57) signal the correspondence between elements of different structures (a-structure, c-structure and f-structure). (56b) is an instance of a multi-word idiom, where each word is referred to by the other word.

(56) a.　take:　　V_3　[PRED 'take $\langle$ Ext Int [case:OBL] $\rangle$']$_3$

　　 b.　take:　　V_1　$\begin{bmatrix} \text{PRED 'take-advantage} \langle \text{ Ext } [\text{case:of}] \rangle' \\ \text{GF}_2 \end{bmatrix}_1$
　　　 advantage: N_2

Entry (56a) is needed for passive forms like (52) and entry (56b) is needed for passives like (51a). C- and f-structures for these two examples are given

in (57); being passive forms, the external argument is suppressed, which is notated by subscripting this argument with the emptyset symbol.

(57) a.

$$\begin{bmatrix} \text{PRED} & \text{'take} \langle \text{Ext}_\emptyset \text{ Int}_1 \text{ [case:OBL]}_3 \rangle \text{'} \\ \text{SUBJ} & \text{[PRED 'advantage']}_1 \\ \text{OBL} & \begin{bmatrix} \text{CASE} & \text{of} \\ \text{PRED} & \text{'of} \langle \text{Int}_4 \rangle \text{'} \\ \text{OBJ} & \text{[PRED 'John']}_4 \end{bmatrix}_3 \end{bmatrix}_2$$

IP$_2$ tree: NP$_1$ [N$_1$: advantage], I'$_2$ [I$_2$: was, VP$_2$ [V'$_2$ [V$_2$: taken], PP$_3$ [P$_3$: of, NP$_4$: John]]]

b.

$$\begin{bmatrix} \text{PRED} & \text{'take-adv.} \langle \text{Ext}_\emptyset \text{ [case:OBL]}_3 \rangle \text{'} \\ \text{OBJ} & \text{[PRED 'advantage']}_1 \\ \text{SUBJ} & \text{[PRED 'John']}_4 \\ \text{OBL} & \begin{bmatrix} \text{CASE} & \text{of} \\ \text{PRED} & \text{'of} \langle \text{Int}_4 \rangle \text{'} \\ \text{OBJ} & \\ \text{SUBJ} & \end{bmatrix}_3 \end{bmatrix}_2$$

IP$_2$ tree: NP$_4$ [N$_4$: John], I'$_2$ [I$_2$: was, VP$_2$ [V'$_2$ [V$_2$: taken, NP$_1$: advantage, P$_3$: of]]]

5   Crosslinguistic variation

We need to account for the following range of crosslinguistic variation:

a) Norwegian allows P-passives with some thematic objects, unlike English;
b) Icelandic, Danish and Swedish allow P-stranding, but no P-passive;
c) French, Catalan, Spanish (and other Romance languages) do not allow P-stranding of either the LDD or the P-passive type.

A) Norwegian allows thematic objects in P-passives, provided they are non-specific (Lødrup 1991: 126-127):

(58) a.   Barna ble skiftet bleier/*bleiene på.
            'The children were changed napkins/the-napkins on.'

b.   Brevet ble klistret frimerker på.
            'The letter was pasted stamps on.'

c.   [??] Brevet ble klistret noen grønne frimerker på.
            'The letter was pasted some green stamps on.'

d.   * Brevet ble klistret de grønne frimerkene på.
            'The letter was pasted the green stamps on.'

In order to account for these facts, we need a different subject selection principle for Norwegian from the one proposed for English in (48):

> (59) **Norwegian Subject Selection Principle**: If possible, the subject should be (a) a specific argument (b) of its local argument structure.

In (58b), (59) is satisfied because the object (*frimerker*) is a non-specific argument; so a nonargument can be the subject. In (58c,d), there is a specific argument of the verb that could be chosen as the subject and, so, making another NP (not an argument of the verb) the subject violates this principle.

B) In order to explain the fact that Icelandic, Danish, and Swedish (ID&S) allow P-stranding arising from LDD, but not from passivization, as argued by Maling and Zaenen (1985) (see ex. (5)), we need to disallow nonthematic subjects in prepositional f-structures. This can be done by introducing a parameter of variation in constraint (35): while some languages (like English and Norwegian) allow nonthematic subjects in verbal and prepositional ([−N]) f-structures, other languages (ID&S) only allow them in verbal ([−N, +V]) f-structures, as indicated in (60):

> (60) **Parametrized nonthematic subject constraint**:
>
> Nonthematic subjects are only possible in $\begin{Bmatrix} \text{a)} & [-N] \\ \text{b)} & [-N, +V] \end{Bmatrix}$ f-structures.

If the f-structure corresponding to a preposition cannot have a nonthematic subject, it will be impossible for the object of the preposition to raise up to the embedding f-structure without violating a principle of the Theory of Structure-Sharing such as Locality (28). Thus, ID&S, with parameter setting (60b), disallow P-passives. This parameter setting does not exclude P-stranding by LDD, because the prepositional f-structure does not involve a nonthematic subject in this case; it involves an OP instead.

C) The Romance facts exemplified in (4) can be accounted for by a constraint that rules out structure-shared GFs in a prepositional f-structure:

> (61) **Structure-Sharing in prepositional f-structures**: A prepositional f-structure cannot have two structure-shared GFs.

This constraint prevents P-stranding of both kinds: in either case, P-stranding is only possible if the object of the P is structure-shared with another GF of the same f-structure—a SUBJ, for P-passive, or an OP, for LDD. This is necessary for the structure to satisfy Locality (28).

   The parameters of variation embodied in (60) and (61) predict the existence of three types of languages and the non-existence of the unattested type of language in table (6), where P-stranding is possible in P-passives but not in LDD. Active (61) gives no P-stranding; active (60a) gives both types of P-stranding; active (60b) gives P-stranding by LDD only.

6 Conclusions

This paper argues for the following claims. First, P-passives are an instance of the general passive operation, which suppresses the logical subject: There is no special rule for P-passives. Second, there is structure-sharing between the passive subject and the prepositional oblique's object, which allows the structure to satisfy the Subject Condition. Third, this S-S relation is possible because it satisfies the Theory of Structure-Sharing: No functional control equation or equivalent lexical device is needed to ensure this S-S. Fourth, GFs are not assigned to arguments in the argument-structure at the lexical level. This assignment arises in the syntax as part of the mapping between argument-structure and f-structure, which allows a passive clause to have a subject that is not an argument of the verb, but of a dependent of this verb.

Finally, since P-passive (a type of raising) and LDD both have S-S in common, we expect some covariation between the two constructions. This is what we see: No P-stranding is possible in French and other Romance languages in either construction, whereas it is possible in Germanic, either in both constructions, as in English and Norwegian, or only in LDD, as in ID&S. If P-passive and LDD were unrelated phenomena, as they are usually assumed to be in LFG, we would expect a fourth type of language in which P-stranding is possible in passives but not in LDD. The present proposal predicts the non-existence of this type of language.

References

Alsina, Alex. 1996a. *The role of argument structure in grammar: Evidence from Romance*. Stanford, CA: CSLI Publications.

Alsina, Alex. 1996b. Passive types and the theory of object asymmetries. *Natural Language and Linguistic Theory* 14:673–723.

Alsina, Alex. 2001. On the nonsemantic nature of argument structure. *Language Sciences* 23:355–389.

Alsina, Alex. 2008. A theory of structure-sharing: Focusing on long-distance dependencies and parasitic gaps. In Miriam Butt and Tracy H. King (eds.), *Proceedings of the LFG2008 Conference*, 5–25. Stanford, CA: CSLI Publications.

Baltin, Mark and Paul Postal. 1996. More on reanalysis hypothesis. *Linguistic Inquiry* 27:127–145.

Bolinger, Dwight. 1975. On the passive in English. In A. Makkai and V. B. Makkai (eds.), *The first LACUS Forum 1974*, 57–77. Columbia, SC: Hornbeam Press.

Bresnan, Joan. 1982. The passive in lexical theory. In Joan Bresnan (ed.), *The mental representation of grammatical relations*, 3–86. Cambridge, MA: MIT Press.

Bresnan, Joan. 2001. *Lexical-functional syntax*. Oxford: Blackwell.

Bresnan, Joan, and Jonni Kanerva. 1989. Locative inversion in Chichewa: A case study of factorisation in grammar. *Linguistic Inquiry* 20:1–50.

Davison, Alice. 1980. Peculiar passives. *Language* 56:42–66.

Gazdar, Gerald, and Geoffrey Pullum. 1981. Subcategorization, constituent order and

the notion 'Head'. In Michael Moortgat, Harry van der Hulst, and Teun Hoekstra (eds.), *The scope of lexical rules*, 107–127. Dordrecht: Foris.

Gazdar, Gerald, Ewan Klein, Geoffrey Pullum, and Ivan A. Sag. 1985. *Generalized Phrase Structure Grammar*. Oxford: Blackwell.

Falk, Yehuda. 1983. Constituency, word order, and phrase structure rules. *Linguistic Analysis* 11:331–360.

Falk, Yehuda N. 2001. *Lexical-Functional Grammar*. Stanford, CA: CSLI Publications.

Farrell, Patrick. 2005. English verb-preposition constructions: Constituency and order. *Language* 81:96–137.

Hornstein, Norbert, and Amy Weinberg. 1981. Case Theory and preposition stranding. *Linguistic Inquiry* 12:55–91.

Kayne, Richard. 1981. ECP extensions. *Linguistic Inquiry* 12:93–133.

King, Ruth, and Yves Roberge. 1990. Prepositional stranding in Prince Edward Island French. *Probus* 2:351–369.

Kiparksy, Paul. 1988. Agreement and linking theory. Unpublished ms., Stanford University.

Law, Paul. 2006. Preposition stranding. In Martin Everaert and Henk van Riemsdijk (eds.), *The Blackwell companion to syntax, vol. III*, 631–684. Malden, MA: Blackwell Publishing.

Lødrup, Helge. 1991. The Norwegian pseudopassive in lexical theory. *Working Papers in Scandinavian Syntax* 47:118–129.

Maling, Joan, and Annie Zaenen. 1985. Preposition stranding and passive. *Nordic Journal of Linguistics* 8:197–209. [Cited from Joan Maling and Annie Zaenen (eds.), *Modern Icelandic Syntax (Syntax and Semantics 24)*, 153–164. San Diego, CA: Academic Press.]

Postal, Paul. 1986. *Studies of passive clauses*. Albany, NY: State University of New York Press.

Sag, Ivan A. 1987. Grammatical hierarchy and linear precedence. In Geoffrey Huck and Almerindo Ojeda (eds.), *Discontinuous constituency (Syntax and Semantics 20)*, 303–340. New York, NY: Academic Press.

Toivonen, Ida. 2003. *Non-projecting words. A case study of Swedish particles*. Dordrecht: Kluwer.

Tseng, Jesse. 2007. English prepositional passive constructions. In Stefan Müller (ed.), *Proceedings of the HPSG07 Conference*, 271–286. Stanford, CA: CSLI Publications.

Ziv, Yael, and Gloria Sheintuch. 1980. Passives of obliques over direct objects. *Lingua* 54:1–17.

Zwicky, Arnold M. 1987. Slashes in the passive. *Linguistics* 25:639–669.