

The Prepositional Passive in Lexical Functional Grammar

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1 Introduction

The prepositional passive is a typologically highly restricted phenomenon, being attested in only about a dozen languages, mostly in the Germanic family (Truswell 2008), including, of course, English, which is the focus of the present study. It is a variant of the regular passive, where instead of the active voice object of a verb being ‘promoted’ to subject in the passive, it is the object of a preposition which is so promoted:

- (1) a. Scott relies [on Logan].
b. Logan is relied on (by Scott).

For verbs like *rely (on)*, this may not seem overly problematic for a theory of the passive alternation: after all, the verb selects its preposition, and in terms of its semantics is probably best thought of as an intrinsically two-place predicate **rely-on**(x,y), so it seems that on some level the object of *on* is really the internal argument of *rely*, and this is just a case of idiosyncratic case-marking of some kind. However, the prepositional passive is not restricted to idiosyncratic prepositional verbs. For one thing, it also appears where the preposition itself is semantically contentful, and not merely acting as a case-marker:

- (2) a. Scott spoke to/about Jean.
b. Jean was spoken to/about (by Scott).

What is more, the prepositional passive is also possible with what look like adjuncts:

- (3) a. This bed has been slept in by so many people.
b. Has this pen been written with?
c. This bowl has been eaten out of every day.

The examples in (2) and (3) cannot be so easily dismissed as marginal or idiosyncratic cases, and require explanation.

2 Previous work

This phenomenon has been addressed within LFG on other occasions, most notably by Bresnan (1982), Lødrup (1991) and Alsina (2009). However, all of these analyses have shortcomings. Bresnan’s reanalysis approach suggests that prepositional objects should behave exactly like regular verbal objects once their preposition has been morphologically incorporated, which is not the case (Baltin & Postal (1996) illustrate this with reference to many different phenomena, such as heavy NP shift, ellipsis, and subdeletion, where prepositional objects behave differently from regular objects). Meanwhile, the structure-sharing accounts of Lødrup and Alsina make incorrect predictions about case-marking (subjects of prepositional passives do not match the case-assigning properties of the stranded prepositions, despite the structure-sharing requiring token identity of their f-structures), and also take the prepositional passive a long way formally from the regular passive, which, I argue, is not well motivated.

There has also been work on the prepositional passive in HPSG, most notably by Tseng (2006, 2007) and by Kim (2009). Although differing in formalism, the analysis I offer here is much indebted to the empirical observations of both, and by the insistence of Tseng that we should not view the prepositional passive as unduly alien.

3 Analysis

Expanding on discussion by others (e.g. Tseng 2006), I suggest that the prepositional passive is constrained as much by semantic as by syntactic considerations. This means that there may be over-generation on the syntactic side, but unwanted results will be filtered out by semantic constraints such as the Affectedness Condition on prepositional passive subjects (Bolinger 1977), which requires that they be true Themes, affected by the predicate. This seems like a reasonable position, as the exact restrictions on possible prepositional passives are unclear, but certainly do not appear to be purely syntactic in nature (see, for example, Ziv & Sheintuch (1981), for discussion of marginal prepositional passives which also include a direct object, where a semantic-pragmatic explanation is proposed).

I propose to treat the subjects of prepositional passives as related to OBLiques in the active, rather than true ADJuncts, which continue to be prohibited from promotion via passive (e.g. **The play was left after*). For many cases, this corresponds to the classes identified by Needham & Toivonen (2011) as *derived arguments*, e.g. instrumentals. But for others, such as *This bed has been slept in*, it does not—locatives are not among the types discussed by Needham & Toivonen (2011), nor indeed do all locatives allow prepositional passives: cf. **This bed has been slept beside*. It seems that the semantic constraints play a role here, interacting with lexical specifications: I suggest that certain verbs license very specific derived arguments, perhaps relating to a qualia structure in the style of Pustejovsky (1995).

The core move of the analysis is to make use of the connected semantic structures proposed by Asudeh & Giorgolo (2012) to account for mismatches in the alignment between grammatical functions and semantic arguments. That is, while Lødrup (1991) and Alsina (2009) treat the connection between the subject and the stranded preposition in the prepositional passive as syntactic, my contention is that it is best described at the interface between syntax and semantics, i.e. in the mapping between f- and s-structure.

3.1 Type I prepositional passives

Huddleston & Pullum (2002) break down prepositional passives into two types, Type I, where the preposition is selected idiomatically by the verb, and Type II, where it is not (and retains its usual semantics). This corresponds to the contrast between (1b) on the one hand, and (2) and (3) on the other.

Examples of Type I are relatively straightforward: as noted above, they are really cases of idiosyncratic argument mapping, since the preposition itself plays no semantic function. Instead of whatever default argument mapping for Patient-like arguments we assume (see Asudeh et al. (2014) and Findlay (2014) for suggestions), we assign these verbs their own esoteric mapping equations, e.g. (4) for *rely*:

$$(4) \quad (\uparrow_{\sigma} \text{ARG}_2) = \{(\uparrow \text{OBL}_{\text{ON}} \text{OBJ})_{\sigma} | (\uparrow \text{SUBJ})_{\sigma}\}$$

I assume that prepositional meaning constructors are optional, because of prepositions' use as idiosyncratic case-markers. Given this, the equation in (4), along with a constraining equation on

the verb requiring the presence of *on*, plus the Kibort-Findlay analysis of the passive (Asudeh et al. 2014), will account for the behaviour of Type I prepositional passives.

3.2 Type II prepositional passives

This sub-class is more challenging, since we wish to retain the standard semantics of the preposition. The only real issue, however, is the mapping from grammatical function to semantic argument: the preposition’s semantic argument is usually its object, but here it is the clause’s subject instead. If we can provide the extra mapping information needed to achieve this, then semantic composition can continue in exactly the same way as for the active. The simplest way to do this is to add the following annotation to the first PP on the English V’ rule:

$$(5) \quad \left(\begin{array}{l} (\uparrow \text{VOICE}) =_c \text{PASSIVE} \\ (\uparrow \text{SUBJ})_\sigma = (\downarrow_\sigma \text{ARG}_2) \end{array} \right)$$

This provides the relevant mapping information directly, mapping the clause’s subject to the preposition’s ARG₂ (I assume that some prepositions can take an ARG₁ when they are used predicatively, and so label the argument we are interested in as ARG₂). I suggest, however, that it may be more illuminating to include this information in the general passive template, which can be annotated on the V’ node itself, thus conceiving of the passive as a construction, rather than a specifically lexical property. This is a little more complicated, as it requires identification of the relevant oblique, namely the closest, so as to rule out (6b):

- (6) a. Victor has been spoken to about this.
 b. *Victor has been spoken about this to.

We achieve this by using a local variable (Crouch et al. 2012), naming the oblique we are interested in %A, and requiring of it that no other oblique f-precedes it within the VP (on this notion of ‘relativised’ f-precedence see Zaenen & Kaplan 1995). OBL_θ represents a disjunction over all OBL functions (i.e. OBL_θ ≡ {OBL_{GOAL}|OBL_{LOC}|...|OBL_{TO}|OBL_{ON}|...}).

$$(7) \quad \text{PASSIVE} := \begin{array}{l} (\uparrow \text{VOICE}) = \text{PASSIVE} \\ \text{[argument suppression} \\ \text{and other semantic or information structural details]} \\ \left(\begin{array}{l} \text{[P-passive specific} \\ \text{semantic-pragmatic constraints]} \\ (\uparrow \text{OBL}_\theta) = \%A \\ \neg(\uparrow \text{OBL}_\theta) <_f^{\text{VP}} \%A \\ (\uparrow \text{SUBJ})_\sigma = (\%A_\sigma \text{ARG}_2) \end{array} \right) \end{array}$$

4 Conclusion

The analysis I present has a number of advantages. Firstly, it adds no additional formal mechanisms to the LFG architecture (for example, no additional lexical rules). Secondly, it is very general, allowing for the productivity observed of the prepositional passive (Davison 1980; Riddle & Sheintuch 1983). Finally, it is an extension of the regular passive, rather than a replacement for it (differing from the structure-sharing approaches in this way). This accords well with findings that the prepositional passive shares morphological, semantic, and other properties with the regular passive (Bolinger 1977; Tseng 2006; Alsina 2009).

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