

PREPOSITION-STRANDING AND PASSIVE

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1. INTRODUCTION

The phenomenon of preposition-stranding has long been of interest to transformational theory. Although preposition-stranding is apparently rare in natural languages, it is quite free in English and the Scandinavian languages. In English, for example, preposition-stranding is allowed as the result of both WH-movement and NP-movement. This is illustrated in (1):

- (1) a. *What problems did Robin allude to?*
b. *What problems were alluded to.*

Let us refer to the construction illustrated in (1b) as the "prepositional passive." Various linguists have suggested that there is a correlation between the two instances of preposition-stranding shown in (1). Working within the theory of government and binding (GB), which posits a single transformational rule Move- α , subject to a single set of conditions, Hornstein and Weinberg (1981:55) present a unified account of preposition-stranding, as outlined in (2):

- (2) a. A universal Case-marking convention:
 NP \rightarrow [+ nom] if it is the subject of a tensed S
 NP \rightarrow [+ obj] if governed by V
 NP \rightarrow [+ obl] if governed by P
 b. A universal filter blocking oblique traces: * [_{NP}e_{oblique}]
 c. A language-specific rule of *syntactic* reanalysis:
 V + [P NP] \rightarrow [V + P]_v NP

The intent of the filter in (2b) is to disallow preposition-stranding. The reanalysis is what accounts for the preposition-stranding in both passive and WH-movement; it “crucially applies in the base preceding all transformations” (Hornstein and Weinberg, 1981: 64, n. 14), creating a complex verb.

Kayne (1981) follows Hornstein and Weinberg in postulating a language-specific reanalysis rule for English (but not French). His empty category principle (ECP) requires that empty categories be governed by N, V, or A. Since the category P is never a proper governor in any language, the reanalysis rule is needed to make the V a governor of the object of P (Kayne, 1981: 101). The ECP holds for both “Move-NP” into argument positions, and for “Move-WH” into non-argument positions.¹ Kayne’s account of preposition-stranding is outlined in (3):

- (3) a. The ECP: empty categories must be governed by N, V, or A
 b. A universal constraint that P is not a proper governor
 c. A language-specific rule of reanalysis making V a governor of the object of P

Both accounts treat all preposition-stranding as the result of reanalysis, and hence, all other things being equal, we would expect that WH-movement and passive should pattern alike with respect to preposition-stranding.

On the other hand, in a base-generated framework such as Bresnan’s Lexical-Functional Grammar (LFG), rules such as passive are defined on grammatical relations, whereas rules such as WH-movement are defined on constituent structure. While lexical reanalysis is necessary to account for the prepositional passives, it says nothing about the WH-movement cases, which are not sensitive to grammatical relations and which must be analyzed differently.

So both GB and LFG make use of a reanalysis rule to change the relation between the verb and the prepositional object. In LFG only OBJECTs can be passivized, and in GB only NPs governed by the verb can be passivized. Where the two theories differ is in whether reanalysis is also used for the long-distance cases. In LFG no claims are made about the relation between direct objecthood and long-distance control, whereas in GB, at least in Kayne’s (1981) version, Ps are universally nongovernors, and hence nonstrandable because stranding would lead to a violation of the ECP. Hence, reanalysis is needed even for the WH-movement cases of preposition-stranding.

Now, all things being equal, a unified account of preposition-stranding would be preferable to one that accounts for the phenomenon in two (or more) distinct ways. We show here that a unified account is in fact not empirically adequate. We show that Icelandic does not have prepositional passives, even though WH-movement freely strands prepositions. We further show that the contrast cannot be attributed to such factors as oblique (non-nominative) case marking in subject position, or to the notion of a "possible semantic word." Finally, we point out that Icelandic is not unique in exhibiting this dichotomy with respect to preposition-stranding, since prepositional passives are also ungrammatical in Swedish and Danish.

2. ICELANDIC DATA

Let's see how the unified analysis of preposition-stranding extends to modern Icelandic. We first note that WH-movement can freely strand prepositions in Icelandic, as in the other Scandinavian languages. An example is given in (4).

- (4) *Hann spurði hvern ég hefði talað við.*
 he asked whom (ACC) I had talked to

Thus, within the GB accounts of preposition-stranding, Icelandic must be assumed to have essentially the same rule of syntactic reanalysis that English has. Therefore, all other things being equal, we are led to expect that Icelandic will also have prepositional passives.

2.1. Prepositional Passives?

Now consider sentences such as those in (5), which all have a non-nominative NP in initial position and a stranded P in the VP.

- (5) a. *Þessa konu er oftast talað vel um.*
 that woman (ACC) is usually spoken well of
 b. *Þennan ref hefur aldrei verið skotið á.*
 that fox (ACC) has never been shot at
 c. *Þennan samning var mikið rætt um á fundinum.*
 that agreement (ACC) was much talked about at the-meeting

Such sentences could be analyzed in either of two ways: either they are simply topicalizations of prepositional objects, resulting in stranded Ps, or they are true prepositional passives in which the prepositional object has become a surface subject. How can we tell?

The first fact that one notices about such examples is the surface case marking. The clause-initial NP is not nominative but rather retains its oblique case marking, and the verb morphology is therefore in the unmarked third-person singular, neuter. However, this does not suffice to show that these NPs are not subjects. The same is true when passive applies to dative and genitive objects of verbs, as illustrated in (6).

- (6) a. *Honum var hjálpað.*
 he (DAT) was helped
 b. *Hans var saknað.*
 he (GEN) was missed

Yet, as we argue in Zaenen, Maling, and Thráinsson (this volume: 100–106), these preverbal oblique NPs are clearly treated like nominative subjects by the various syntactic rules that distinguish subjects from nonsubjects, for example, by raising and reflexivization. Obviously, then, we must look to see how sentences such as (5) behave with respect to those syntactic rules that distinguish between subjects and topics. The results for three such rules are given in (7)–(9), where the (a) examples are the results for an ordinary oblique passive for comparison.

2.1.1. RAISING

A first such test is subject-to-object raising.

- (7) a. *Ég tel honum hafa verið hjálpað í prófinu.*
 I believe him (DAT) to-have been helped in the-exam
 b.* *Ég tel Vigdís vera oftast talað vel um.*
 I believe Vigdis to-be most-often spoken well of
 c.* *Ég tel reffin aldrei hafa verið skotið á.*
 I believe the-fox never to-have been shot at
 d.* *Ég tel nýju bók Þórbergs hafa verið beðið eftir með óþreyju.*
 I believe new book Thorbergs to-have been waited for with impatience
 e.* *Ég tel þennan samning hafa verið rætt um á fundunum.*
 I believe that agreement to-have been talked about at the-meeting

The oblique passives in (6) can be embedded under so-called raising verbs, such as *telja* 'believe', as illustrated in (7a). By way of contrast, the sentences in (5) cannot be embedded under raising verbs, as illustrated in (7b–d). This fact indicates that the initial oblique NPs in (5) are not surface subjects.

2.1.2. REFLEXIVIZATION

A second test is reflexivization. Many speakers of Icelandic allow only subjects to be the antecedents of reflexive pronouns. For such speakers, we find the same sort of contrasts with respect to reflexivization as we did with respect to raising. Note that the reflexive is obligatory in (8a), but impossible or extremely marginal in (8b–d).

- (8) a. *Honum* var oft hjálpað af foreldrum *sínum*/**hans*.
 he (DAT) was often helped by parents his [+ refl]/*[– refl]
 b. *Hana* er talað vel um í *hennareigin landi*/í *landi* ?**sínu*.
 she (ACC) is spoken well of in her own land/in land her [+ refl]
 c. *Glæpamanninum* var beðið eftir heima hjá *honum*/**sér*.
 the-criminal (DAT) was waited for home chez him/*him [+ refl]
 d. *Pennan þingmann* var mikið rætt um af öllum andmælendum
 that representative was much talked about by all opponents
 hans/**sínum*.
 his/*his [+ refl]

2.1.3. TOPICALIZATION

Thirdly, many speakers of Icelandic do not allow topicalization in binding domains; in other words, they allow topicalization to occur in embedded *að* 'that'-clauses, but not under indirect questions, comparatives, relatives, and so on. For such speakers, we expect to find the contrasts illustrated in (9), and we do.

- (9) a. *Hann spurði hvenær henni* hefði verið hjálpað.
 he asked when she (DAT) had been helped
 b.**Hann spurði hvort Vigdís væri talað vel um*.
 he asked whether Vigdís was spoken well of
 c.**Hann spurði hversu lengi nýju bókinni* hefði verið beðið eftir með
 he asked how long new the-book had been waited for with
 óþreyju.
 impatience
 d.**Ég veit ekki hvers vegna þennan samning* væri svo mikið rætt
 I know not why that agreement was so much talked
 um.
 about
 'I don't know why that agreement was talked about so much.'

By the above three tests, the initial oblique NPs in (6) are grammatical subjects, but the initial obliques in (5) are not. For further tests that could be applied

with the same results, see Zaenen *et al.* (this volume: 100–106). Another difference between verbal objects and prepositional objects lies in the definiteness effect (or lack thereof) in impersonal constructions. As is well known, for ordinary impersonals formed from transitive verbs, the underlying object exhibits a definiteness effect, as illustrated by the contrast between (10a) and (10b).

- (10) a. *Það var skrifuð ný bók um setningafræði.*
 it was written new book about syntax
 ‘A new book about syntax was written.’
 b.**Það var skrifuð nýja bókin um setningafræði.*
 it was written new the-book about syntax
 c. *Það var talað oft um nýju bókina.*
 it was spoken often about new the-book
 ‘People often talked about the new book.’

No such definiteness effect holds for prepositional objects in impersonals formed from verbs taking PP-complements, as illustrated in (10c).

For all these reasons we conclude that the sentences in (5) must be derived by topicalization applied to impersonal passives, and not by the rule of (personal) passive. In Icelandic, therefore, WH-constructions, including topicalization, allow preposition-stranding, whereas passive does not.

3. WHY NOT P-PASSIVES?

How can we account for the contrast between the preposition-stranding in passives and in WH-constructions? The most obvious explanation would be in terms of case marking: Icelandic has a very productive case-marking system, whereas English has lost virtually all such marking, except in the pronominal system. In other words, we might try to attribute the lack of prepositional passives to an incompatibility between lexically assigned (non-nominative) case and grammatical subjecthood. However, given that dative and genitive objects can and do undergo passive in Icelandic, despite their distinctive case marking, this cannot be the right explanation.

Nor does the idea of a “possible semantic word” explain the contrast. Hornstein and Weinberg appeal to this notion to account for the well-known fact that WH-movement strands prepositions more freely than NP-movement does, as illustrated by the contrast shown in (11).

- (11) a. *Which problems did you talk to Harry about?*
 b.**Those problems weren’t talked to Harry about.*

As they note, previous analyses of preposition-stranding have restricted the rule of reanalysis to the NP-movement cases. However, Hornstein and Weinberg remove the semantic restriction from the reanalysis rule and place it on the rule of passive itself. We cannot go into the problems that this analysis leads to for English; at the very least, it predicts the ungrammaticality of double stranding such as *Which problems should little children not be talked to about?* and *Which book didn't he want to be read to out of?* which require incompatible reanalyses, as they note (Hornstein and Weinberg, 1981 : 74, n. 21).² But we would like to point out here the consequences of extending this analysis to Icelandic.

As a syntactic rule, the only constraint on reanalysis is continuity: the words must form a continuous sequence within VP. They argue that the passive in (11b) is ruled out because [talk to Harry about] is not a possible semantic predicate.³ But for Icelandic, even passives like [talk about] must be ruled out, presumably by appeal to the notion of "possible semantic word" or "natural predicate." But this means that the notion of "possible semantic word" will have to be considerably different in the two languages. In particular, the notion in Icelandic will have to be restricted so as to rule out exactly the class of prepositional passives. This is an unacceptable conclusion. In order to have any explanatory power, the notion of "possible semantic word" must be universal. Why should the semantic constraints on what is a possible word be different in English and Icelandic?

The difference between English and Icelandic can be accounted for easily by assuming that Icelandic lacks the *lexical* reanalysis rule that English has. In Zaenen and Maling (1983) we have argued that only OBJ passivizes in Icelandic. Hence, in our account, the ungrammaticality of the examples in (7)–(9) above is to be expected, on the assumption that prepositional objects have a different grammatical function. In English, on the other hand, there is a lexical analysis rule, argued for in Bresnan (1982), that reanalyzes the V + P as a complex V, and hence turns oblique objects of P into direct objects. Independent evidence for this rule comes from the rule converting participles to adjectives, stated in (12).

(12) PARTICIPLE-ADJECTIVE CONVERSION

Morphological change: $V_{[Part]} \rightarrow [V_{[Part]}]_A$

Operation on lexical form: $P\langle \dots (SUBJ) \dots \rangle \rightarrow \text{STATE-OF } P\langle (SUBJ) \rangle$

Condition: SUBJ = THEME of P

This rule takes the passive participle and the passive lexical form as its input. There are thematic restrictions on the rule which we cannot go into here.

If lexical reanalysis is the source of prepositional passives, then we would expect the participial forms of the complex verbs to be input to the rule in (12). As we do in fact find prenominal modifiers such as those in (13).

- (13) a. *a much talked about subject*
 b. *an often alluded to problem*
 c. *a well spoken of young lady*

If this analysis is right, and the difference between English and Icelandic is that Icelandic lacks the reanalysis rule, then we predict that if Icelandic has the participle–adjective conversion rule, it will *not* apply to sequences of V + P. Icelandic does seem to have such a conversion rule, as shown by the examples in (14).

- (14) a. *nýfallinn snjór* 'newfallen snow'
 b. *sokkna skipið* 'the sunken ship'
 c. *mikið lesin bók* 'a much read book'
 d. *óskrifuð lög* 'unwritten laws'
 e. *nýlagað kaffi* 'newly made coffee'

But the V–P reanalysis rule being language specific, Icelandic has no equivalent to the prenominal prepositional adjectives shown in (13):

- (15) a. *Vigdísi er talað vel um.*
 'Vigdís (ACC) is spoken well of.'
 b. **Þetta er [vel töluð um] kona.*
 'This is a well spoken of woman.'
 c. **Þetta er [vel umtöluð] kona.*⁴

This supports our claim that there is no reanalysis rule applying to V + P sequences. On the other hand, in LFG, syntactic binding (i.e., WH-movement) is not restricted to OBJECTS. Thus, we are not predicting anything about the possibility of preposition-stranding in WH-movement constructions.

It has often been noted that there seems to be a correlation between preposition-stranding and the existence of the so-called verb–particle construction (cf. Stowell, 1982; Maling, 1977). This construction does exist in Icelandic, as illustrated in (16). (Note that the particle *til* takes the genitive case when used as a preposition and *við* typically takes accusative case.)

- (16) a. *Hann hafði búið til matinn.*
 he had prepared PRT the-food (ACC)
 'He had prepared the food.'
 b. *Hann bætti einum kafla við.*
 he added one chapter (DAT) with
 'He added one chapter.'
 c. *Fólk bjóst við verðbólgu.*
 people expected PRT inflation (DAT)
 'People expected inflation.'

Since the NP following the sequence V-PRT can passivize as shown in (17), there is nothing wrong with the surface form of the prepositional passive, on the assumption that particles are intransitive prepositions.

- (17) a. *Maturinn hafði verið búinn til.*
the-food had been prepared PRT
b. *Einum kafla hefur verið bætt við/*viðbætt*
one chapter (DAT) has been added with/*withadded
'One chapter had been added.'
c. *Heimsókn forsetans hafði ekki verið búist við fyrr en*
visit the-president's had not been expected PRT before than
í apríl.
in April
'The president's visit had not been expected before April.'

Furthermore, the verb-particle construction has a prenominal form, in which the particle must be incorporated (prefixed) according to the word-formation rules of the language.

- (18) a. *Viðbætti kaflinn gefur bestu upplýsingarnar.*
added the-chapter (NOM) gives best the-information
'The added chapter gives the best information.'
b. *Óviðbúin heimsókn forsetans olli miklu*
unexpected visit the-president's caused much
fjaðrafoki.
flurry-of-excitement
'The president's unexpected visit caused much excitement.'

If the verb-particle construction is a prerequisite for the (diachronic) development of preposition-stranding in WH-constructions, its existence clearly does not ensure the development of prepositional passives.

4. PREPOSITIONAL PASSIVES IN OTHER SCANDINAVIAN LANGUAGES

It is not just Icelandic that has the "unexpected" (from the GB point of view) joint properties of allowing prepositions to be stranded in WH-movement constructions, including topicalization, but not in NP-movement constructions such as passive. The same is true of Swedish and Danish, where prepositional passives are ungrammatical or, at best, extremely marginal. (For Swedish see Körner,

1948, Andersson, 1977:133, and Ejerhed, 1977, 1979:61); for Danish see Herslund, 1984.)

- (19) a.**Hon skrattades at.* (Swedish)
 she was-laughed at
 b.**Handelsen talades om.*
 the-event was-talked about
- (20) a.**Han blev leet ad.* (Danish)
 he was smiled at
 b.**Han blev talt om.*
 he was talked about

In fact, the distinction between subjects and topics is clearer in Swedish and Danish than it is in Icelandic because of the obligatory presence of the dummy subject [*det* (Swedish), *der* (Danish)] in an impersonal passive, even in a topicalized or questioned version. This is illustrated in (21)–(22). (The Danish examples are from Herslund, 1984:49.)

- (21) a. *Henne skrattades det at.* (Swedish)
 her was-laughed it at
 ‘People laughed at her.’
 b. *Handelsen talades det om.*
 the-event was-talked it about
 ‘People talked about the event.’
- (22) a. *Ham blev der leet ad.* (Danish)
 him was it laughed at
 ‘People laughed at him.’
 b. *Ham blev der talt om.*
 him was it talked about
 ‘People talked about him.’

5. CONCLUSION

We have shown that a unified account of preposition-stranding is not empirically adequate for Icelandic. We conclude that an adequate theory of preposition-stranding must allow for two separate parameters: (1) whether prepositions are possible “governors” or “controllers” of empty categories and (2) whether or not it has a lexical reanalysis rule.⁵ The language-specific parameter of preposition-stranding is equivalent to the GB notion of Ps as proper governors; it determines whether preposition-stranding is allowed in long-distance dependencies. The second parameter determines whether prepositional passives exist.

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NOTES

¹Kayne (1981:100–101) claims that the ECP provides a unified account of four phenomena: “preposition-stranding restrictions and that-trace/NIC-trace restrictions, along with their QP counterparts, will turn out to be different aspects of the same phenomenon. In all of these, there is some empty category lacking a proper governor.” The Icelandic facts show that the four phenomena are not unified.

²See Susan Rothstein (1981) for further discussion of the problems the analysis poses for English.

³Although it is for them a possible “complex verb,” it should be noted that their notion of a “complex verb” is considerably more general than any heretofore proposed in the literature. As a syntactic rule, it can apply to any contiguous string of elements dominated by VP, as illustrated in (i), where [talk to Harry about] is the complex verb.

(i) *Which problems did you [talk to Harry about] [_{t_{obj}}]?*

Case marking follows reanalysis, thus turning otherwise oblique NPs into objective NPs to which movement rules can freely apply without leading to violations of the universal filter in (2b), and thereby allowing the stranding of P.

⁴There is a related participial adjective meaning ‘renowned’, as illustrated in (i):

(i) *Þetta er [mjög umtöluð] kona.*

‘This is a very renowned woman.’

Note that it takes the adverb *mjög* ‘very’ rather than *vel* ‘well’.

⁵Since bound anaphors such as the reflexive *sig* can occur as prepositional objects in Icelandic [cf. (8a)], it cannot be argued that the category P always blocks binding. McCloskey (personal communication) notes the following puzzle for any theory of possible governors in WH-constructions: in Irish and Polish, preposition-stranding is allowed by right-node raising but not otherwise. This may be true even for French (see Kayne, 1981).

REFERENCES

- Andersson, E. (1977). Verbfrasens struktur i svenskan—en studie i aspekt, tempus, tidsadverbial och semantisk räckvidd. *Publications of the Research Institute of the Åbo Akademi Foundation*, No. 18. Åbo.

- Bresnan, J. (1982). The passive in lexical theory. In *The Mental Representation of Grammatical Relations* (J. Bresnan, ed.), pp. 3–86. MIT Press, Cambridge, Mass.
- Ejerhed, E. (1977). The role of surface structure in semantic interpretation. In *Papers from the Trondheim Syntax Symposium* (T. Fretheim and L. Hellan, eds.), pp. 23–43. Department of Linguistics, University of Trondheim.
- Ejerhed, E. (1979). Verb-partikel-konstruktionen i svenska: syntaktiska och semantiska problem. In *Förhandlingar vid sammankomst för att dryfta frågor rörande svenskans beskrivning 11* (O. Josephson, H. Strand, and M. Westman, eds.), pp. 49–64. Stockholm 1978, Institutionen för nordiska språk, Stockholms universitet.
- Herslund, M. (1984). Particles, prefixes and preposition stranding. In *Topics in Danish Syntax*, *Nydanske Studier & Almen Kommunikationsteori NyS 14*, pp. 34–71. Akademisk Forlag, Copenhagen.
- Hornstein, N. and Weinberg, A. (1981). Case theory and preposition stranding. *Linguistic Inquiry* 12, 55–91.
- Kayne, R. (1981). ECP extensions. *Linguistic Inquiry* 12, 93–133.
- Körner, R. (1948). *Studier över syntaktisk nybildning i svenskan. I. De prepositionella passivbildningarna med hänsyn tagen till motsvarande nybildningar i danskan, norskan och engelskan*. Gleerupska univ. bokhandeln, Lund.
- Maling, J. (1977). *A Typology of Preposition Stranding*. Unpublished paper presented at GLOW conference, Amsterdam.
- Rothstein, S. (1981). *On Preposition Stranding*. Unpublished ms., MIT.
- Stowell, T. (1982). Conditions on reanalysis. *MIT Working Papers in Linguistics* 4, 245–269.
- Zaenen, A., and Maling, J. (1983). Passive and oblique case. In *Papers in Lexical Functional Grammar* (L. Levin, M. Rappaport, and A. Zaenen, eds.), pp. 159–191. Indiana University Linguistics Club, Bloomington.