Morphological Implications on Preposition Stranding and Split Infinitives

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Lee, Pil-Hwan. 2005. Morphological Implications on Preposition Stranding and Split Infinitives. *The Linguistic Association of Korea Journal, 13*(2), 43-67. This paper is an investigation of the direct relationship between morphological richness and the preposition-stranding (im)possibility. The (im)possibility in preposition stranding or in pied-piping of a preposition is directly related to the richness of morphological case. The basic assumption is that, the richer the morphology of a language is, the less a preposition can be stranded. It is because the function of a preposition is assumed to license the morphological case of its object, besides assigning the abstract case.

It is also argued that the rise of the split infinitive is attributed to the disappearance of the infinitival ending *-enne/-anne*. The non-occurrence of the split infinitive in OE and early ME is due to the same reason for the impossibility of the preposition stranding. *To*(still analyzed as a preposition) and its complement(still analyzed as a nominal element) were sticked together due to the strong adhesiveness between *to* and its complement, evidenced by the nominal ending *-enne/-anne*. Meanwhile, the split infinitive was introduced with the weakened bondage between *to* and its complement as a result of the disappearance of the *-enne* ending in Middle English.

This article will convince us that the loss or weakening of morphological cases is at least a prerequisite and necessary condition for P-stranding and split-infinitives, even if it is not proved be the necessary and sufficient condition for it.

Key words: preposition-stranding, morphological case, split infinitive, infinitival ending, passive morpheme

1. Introduction

This article is concerned with the historical development of preposition

stranding(P-stranding, henceforth) in English. Especially, the reason will be delved upon why this English-particular phenomenon was greatly expanded in a particular period, i.e. in the Middle English period. At the same time, split infinitives, which also appeared in Middle English, will be addressed. It will be argued that split infinitives are kind of P-stranded construction, suggesting that the expansion and emergence of the two constructions are due to the same causal factor, i.e. the weakening of English morphological endings.

In Old English the overtly moving element could not strand the preposition(P, henceforth) which governs it, so P had to pied-pipe its moving object. In the mean time, the covertly moving element or the deleted element under the identity with its antecedent always stranded its governing P. Here, we may ask several interrelated questions. First, what is the reason why the overtly moving element had to be pied-piped by its governing P? Second, conversely, why did the covertly moving element always strand its P? Third, what is/are the reason(s) for this situation changed greatly in Middle English? This article answers these questions from the morphological and functional perspectives.

And it will be also argued that split infinitives could be viewed as a kind of P-stranding at the time of its appearance, i.e. in Middle English. The argument is that the infinitival marker *to* retained its prepositional force and the infinitive was a kind of nominal element governed by the prepositional marker *to* even in Middle English. The nominal character of the infinitive is, rather arguably, shown by the infinitival ending(OE -*enne*/-*anne*, ME -*e*(*n*)). With the demise of this ending, split infinitives could be introduced into English. Ultimately, this paper is an investigation of the direct relationship between morphological richness and the (im)possibility of P-stranding and of splitting an infinitive.

2. Previous Studies on P-stranding

2.1. P-stranding in Old English

P-stranding is a marked phenomenon, observed in English and a few

Scandinavian languages and (limitedly) in Dutch only. Even in English, however, there is a big difference between ModE P-stranding and the one of OE and early ME. OE P-stranding is much more restricted in its application, which we will review here, paying attention to the relativization first. The most commonly used relativizer of OE was the inclinable particle *þe*'that'. In the *þe* relative clause, P-stranding was obligatory:

(1) Seo gesyhð *þe* we god **myd** geseon scylon is angyt
=The sight *that* we God **with** see shall is understanding
 The sight with which we shall see God is understanding'
 (*Solil*. 1 29.1)

Another relative complementizer was *þæt*'that', although it was used much less than *þe.* P-stranding was obligatory in the *þæt* relative clause, too. The null relativizer was also possible in OE, in which case P was obligatorily stranded:

(2) a. ða for he forð bi ðæm scræfe *ðæt* he **oninnan** wæs
 =then went he forth by the cave *that* he **within** was
 'then he passed by the cave that he was in' (*CP* 197.13)
  b. Ðonne is oþer stow (ø) elreordge men beoð **on**
 =Then is other place barbarous men are **in**
 'There is another place where barbarous people live'
 (*Marv*. 18.1)

  As in other Germanic languages, the demonstratives, i.e. *se* and its inflected forms, were used as relativizers in OE. Contrary to the cases shown (1) and (2), P-stranding was impossible in the *se*-relative clause. In other words, pied-piping of P was obligatory in this case. The *se*-type relative pronouns could be followed by the relative complementizer *þe.* Irrespective of the presence of the particle *þe*, the fronting relative pronoun was always pied-piped by its governing P:

(3) a. Syx dagas synd [*on* þæm] gebyrad þæt man wyrce
       =Six days are [*on which*] is-fitting that one work
       'There are six days on which it is fitting to work'
       (*St. Luke* 880)
   b. Eala ðu wundorlice rod [*on* ðære] *ðe* crist wolde ðrowian
       =Hail thou wonderful cross [*on which*] *that* Christ would
       suffer
       'Hail, thou wonderful cross, on which (that) Christ deigned
       to suffer' (*Alc.S.*XXVII.115)

According to the above observation, the generalization is that P-stranding
was obligatory only when there was no movement of a visible element.
The relativizers such as *þe* and *þæt* are assumed to be base-generated
in the complementizer position. We assume that, as in Browning(1987),
an invisible operator(Null Operator) is moved in these constructions,
rather than assuming that the relative pronoun actually moves to the
clause-initial position and then it is deleted under the identity with its
antecedent, as in Chomsky(1977) and Allen(1980a, 1980b). In the meantime,
if the object of P is overtly moved to the front, then P must
accompany the preceding object. Ultimately, there was no optional
P-stranding in OE, unlike in ModE which shows such optionality as
Who did you talk ***to***? vs. ***To*** *whom did you talk*? This observation is
borne out in other constructions such as infinitival relative clauses and
the so-called *tough* construction, which involve no movement of a
visible element. These constructions also show the obligatory
P-stranding, as follows:

(4)[1] a. ðeah he nu nanwuht elles næbbe ***ymbe*** to sorgienne
       =though he now nothing else not-have ***about*** to worry

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1) Note that in (4) P did not move to the initial position of the infinitival
clause. OE had the SOV base order, so the complements of a verb appeared
before the verb. Therefore, P in (4) didn't move from its base position.
(i) & Godde we scullen bihaten, *ure sunnen* to beten
   'and we must promise God to atone-for *our sins*' (*Brut*(Clg)9180)

> 'though he now have nothing else to worry about'
> (*Boeth*.XL 1 p.24.15)
> b. Wæs seo wunung ðær swyðe wynsum **on** to wicenne
>   =was the dwelling there very pleasant **in** to camp
>   'The dwelling there was very pleasant to camp in' (*Alc.S*.XXX.315)

On the contrary, topicalization and *wh*-question were involved with the obligatory pied-piping of P, because an overt element, such as a topic or a *wh*-phrase, was moved to the front in these constructions:

> (5) a. [**On** *þisne enne*] *god* we sceolon geleafan
>   =[**In** *this one*] *God* we must believe   (*ASL*.I,38)
>   b. [**Mid** *hwam*] mage we bicgan hlaf þisum folce;
>   =[**With** *what*] can we buy bread for this people; (*AHTh*.I,182,6)

The generalization that P-stranding was obligatory only when there was no movement of a visible element is easily evidenced in all of these constructions. And there was no optional P-stranding in OE.

2.2. Critical Reviews of Formal Accounts

Basically, P-stranding is a greatly marked phenomenon observed in only a few languages including English. So various language universal constraints have been proposed to prevent P-stranding in general. At the same time, the constraints allow language-specific escape hatches for the marked P-stranding. For example, Riemsdijk(1978) tries to account for the universal impossibility of P-stranding in terms of the Subjacency Condition, arguing that PP is a bounding node for Subjacency like S. For the languages allowing P-stranding, he assumes that there is an escape hatch through which a prepositional object can escape the PP without violating Subjacency. Bennis & Hoekstra(1984) say that P cannot govern the trace of its moved object under the basic assumption that a lexical element cannot govern its rightward element, ascribing P-stranding to the violation of the Empty Category

Principle(ECP). Meanwhile, the Ps of P-stranding languages can govern its object trace, because these languages generally have the SOV base order and the object trace appears to the left of P and so can be governed by it.

Meanwhile, Hornstein & Weinberg(1981), Kayne(1981b) and Lightfoot (1981, 1991) try to explain the general impossibility of P-stranding with the Case theory. Hornstein & Weinberg(1981) suggest that P assigns an oblique Case to its object and the Case is moved along the fronting object. Then, the trace in the object position, a variable, will be left without Case, violating the Chain Condition. Thus the general impossibility of P-stranding is caused. Meanwhile, in the P-stranded cases, P is combined to the preceding V by the process of reanalysis, and the combined complex V can assign a structural Case to the trace without causing any violation. Kayne(1981a) just assumes that P is not a proper governor for the ECP. So the trace of the prepositional object always violates the ECP. These kinds of accounts can all be said to be on the level of a mere statement of facts, even if we consider that they are products of immature theoretical development at the time.

Let us consider the studies on the OE P-stranding itself. Allen(1980a, b) is the representative and monumental study on this topic. She also starts her account by assuming that no element can be extracted from PP in general. So relativization, *wh*-interrogation or topicalization, etc is prohibited from PP. Her main argument is that such cases allowing P-stranding in OE are not involved in movement out of PP. In the P-stranded case, the prepositional object is deleted under the identity with its antecedent, the so-called unbounded deletion. The deletion under identity can occur between the elements inside and outside of PP. The problem with this account is that OE relativization or *wh*-interrogation was also subject to the island constraints, which are the constraints applicable only to moving processes.[2] For the P-stranding caused by the movement of a personal pronoun or the

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2) Allen(1980b) argues that deletion, if it is related to the binding theory, can be regulated to be sensitive to the island constraints. But the details are not given and the picture is still unclear.

r-pronoun, PP-Inversion/Locative Inversion and PP-Split/Locative Split are postulated as the means for escaping PP. In the meantime, Chomsky & Lasnik(1977) propose the filter such as $^*[_{COMP}$ [*wh*-, P___]...] to account for the general ban on the extraction from PP. However, it seems that Allen's and Chomsky's explanations do not have the proper explanatory adequacy, either, although the accounts are based on the 70's and 80's syntactic developmental stage.

van Kemenade(1987) assumes the movement of a non-phonetically realized clitic for the P-stranded cases of OE. OE personal pronouns and *r*-pronouns could be extracted from PP through clitic movement.[3] She also assumes, like Kayne(1981a, 1981b), that the trace of the prepositional object violates the ECP because P is not a proper governor. But clitics can avoid the ECP violation by being adjoined to P before leaving PP. Then the adjoined trace will be proper-governed by the verb. V is assumed to proper-govern its complement PP and the head of PP, i.e. P and the adjoined element to P.[4] van Kemenade's account for the OE P-stranding shown in the examples of (1), (2) and (4) is that in this case an invisible null clitic, i.e. *pro* is moved out of PP, without causing the ECP violation. *Pro* has ø-features for person, gender, case and number like personal pronouns, but it is just invisible. So it can freely move out of PP like personal pronouns. It has been accepted to posit *pro* in the subject position in OE because the position could actually be null, identified by the rich verbal inflection(normally the third person singular ending). But we do not have any morphological evidence for positing *pro* in the object position in OE.

To conclude, the universal ban on P-stranding and its restricted allowance are not properly accounted for in the previous formal approaches.

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3) For the OE clitic movement of personal pronouns, refer to van Kemenade (1987, pp. 108-41).

4) But the trace in the original position will still violate the ECP. van Kemenade does not mention this trace.

3. P-stranding and Morphological Cases

In this section it will be shown that, irrespective of the explanatory power of the formal accounts reviewed in the preceding section, a new functional and morphological account is possible and more plausible.

  The basic assumption is that P-stranding is directly related to the richness of morphological cases, especially to those of the prepositional objects. P has its own meaning and syntactically assigns Case to its object(or licenses the case form of the object). To assign its case, P should govern its object. The notion of government has been generally defined in terms of structural configuration. However, the notion is reviewed functionally here. P is a governor and its object is a governee. The governing force between the two elements can be different. If the prepositional object is adjacent to its governing preposition, the governing force is strong. The strong governing force is realized through the morphologically manifested case form on the object. In other words, the morphologically realized case form of the prepositional object is a kind of indicator of the governing power of P. So, if the governing force of P is strong, then its object has a morphologically rich case form. In this kind of language, P-stranding tends to be generally prohibited because P strongly governs its object. Thus the object cannot move away from the governing preposition. Therefore, the language which has a rich morphological system tends not to have P-stranding. Old English was one of such languages.

3.1. OE Morphological Case and Case-government by Preposition

OE (pro)nouns had four different kinds of cases such as nominative, genitive, dative and accusative. And demonstratives, *wh*-interrogatives and adjectives had one more case, i.e. instrumental. For example, *se*-demonstratives, which were used as relatives in OE and so could be the object of P as in (3), had the richly inflected forms as follows:

(6)　　　　　Masculine　　　Feminine　　　Neuter　　　Plural

    Nom.　　sē, se　　　　　　sēo　　　　　　þæt　　　　　þā

    Gen.　　　þæs　　　　þ**ǣ**re, þāre　　　þæs　　　þ**ǣ**ra, þāra

    Dat.　　þ**ǣ**m, þām　　þ**ǣ**re, þāre　　þ**ǣ**m, þām　　þ**ǣ**m, þām

    Acc.　　　þone　　　　　　þā　　　　　　þæt　　　　　þā

    Ins.　　þon, þ, þē

Wh-interrogatives also had the same rich morphological paradigm, showing the different inflected forms according to the gender and case:

(7)　　　　　　　Masculine(<Feminine)　　Neuter

    Nom.　　hwā　　　　　　　　　　hwæt

    Gen.　　　hw**ǣ**s　　　　　　　　　hw**ǣ**s

    Dat.　　hw**ǣ**m, hwām　　　hw**ǣ**m, hwām

    Acc.　　hwone　　　　　　　　　hwæt

    Ins.　　hw**ǣ**m, hwām　　　　　hwy

Besides these pronominal elements, nouns also had the complicatedly inflected forms. Nominal inflections were determined by three systems of morphosyntactic categories: number, case and gender. Old English nouns had two numbers, four cases and three genders. And they were classified according to the declension to which they belong. Declension refers to the set of forms all belonging to a single grammatical category which shares a way of forming a stem.[5] Anyway, the nominal objects of P had the complicatedly inflected forms showing their morphological richness.

What is more important is that OE P could have three different case forms on its object(genitive, dative and accusative). The case form was generally determined by which semantic(thematic) role was assigned to the object. Morphological case(technically saying, oblique Case) was determined by Ө-role. For example, "as in other IE(Indo-European) languages, many prepositions implying movement or destination in space

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5) However, the distinction between declensions became obscure even in the Old English stage, due to phonological changes.

or time are used with the accusative: *for* 'before', *geond* 'throughout', *in* 'into', *ofer* 'beyond', *on* 'into, against', *ongean* 'towards', *þurh* 'through', *wið* 'against, towards, along', *ymbe* 'around'"(Quirk & Wrenn, 1957, p. 61).[6] "Again as in other IE languages, many of these prepositions were used also with the dative when the situation is static, though the selection of case with these prepositions does not consistently rest on this mobile-static distinction"(ibid.).[7] "No preposition in OE takes the genitive exclusively and only a few take this case at all; note however *andlang þæs fulan broces* 'along the dirty stream'"(ibid. p. 64).[8]

Anyway, it is sufficiently demonstrated that the elements which could be used as a prepositional object had a rich morphological paradigm on OE. According to our assumption that a richly manifested morphological system is the indicator of the strong governing force of P towards its object, the prepositional object was strongly governed and so "held" by its governing preposition in OE. In other words, the relation between P and its object was much stronger in OE than that in Modern English. Thus the overt movement of a prepositional object was always pied-piped by its governing P in OE.

3.2. Morphological and Functional Explanation of P-stranding

We have argued that the (im)possibility in P-stranding or in pied-piping of P is directly related to the richness of morphological cases. In other words, the richer the morphology of a language is, the less P can be stranded. It is because the function of P is assumed to license the morphological case of its object, besides assigning the abstract case. Ultimately, it is difficult for the prepositional object to be detached from

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6) Accusative is used in expressions of extent in time (how long?) and space (how far?) and motion toward (where to?). (Traugott, 1992, p. 206)

7) Dative case is typically associated with the experiencer role, with an animate goal (the indirect object), and with other NPs regarded as `in the scene' but participating in it only minimally. (Traugott, 1992, p. 204))

8) The genitive case is associated with the stimulus/source role, particularly when an experiencer NP is present. It is also associated with the possessor role in a possessive phrase. (Traugott, 1992, p. 205))

its governing P in a language with a rich morphological system. On the contrary, if a prepositional object is detached from P, then its morphological case form will be weakened, showing the loosened force from P. This is quite natural, considering the common sense that if the distance is widened between the two elements, the force is also weakened. It is the physically proven truth. The following ModE examples clearly evidence the argument:

(8) a. This is the person [*to whom*] you talk.
    b. *This is the person [*to who*] you talk.
    c. [*For whom*] is she working?
    d. *[*For who*] is she working?
(9) a. *Who/Whom* did you talk *to*?
    b. the man *who/whom* I talk *to*

In (8) the prepositional object appears as a morphologically manifested objective case form *whom*, showing the strong governing force by P. When it is detached from the governing P, however, the morphological manifestation is weakened. Under the abstract Case theory, any (pro)nominal object, irrespective of the morphology, is assumed to have an abstract Case. Even the invisible object, the so-called trace, is also assigned Case:

(10)(=9a) *Who$_i$/Whom$_i$* did you talk *to* t$_i$[+Case]?

In (10) t is the trace of *who(m)* and is assigned a semantic role and Case by *to* or *talk to*. Although *who(m)* is co-indexed with its own trace, it does not form a chain with it. The trace, termed as a variable, itself forms a single-membered chain. So the Case assigned to the trace is not delivered to *who*. Therefore, *who(m)* has the liberty of taking the form of either *who* or *whom*.

In this vein, P and its object should be positioned adjacently in a language with rich morphology. Old English is such a language. P pied-pipes the morphologically distinctively-marked object when the

object is moved, to license its rich morphology. That is, if P does not pied-pipe the preceding object, the morphological form of the object will not be licensed. It can be predicted that the case form of the object could be differently manifested from that of the original position if P is not pied-piped, as in (10). It is contrary to the OE fact. To prevent such potential loosening of the case form of the preceding object, P cannot be stranded. This is the reason why OE did not allow P-stranding in general. But, in the cases where there is no overt movement of the object or the object is invisibly moved, P is always stranded. This is quite a natural consequence according to our argument because the invisible element is morphologically null and so need not be governed by P. The movement which is not required is maximally constrained in a language.[9]

3.3. Changes since Middle English

In OE P-stranding was obligatory only when there was no movement of a visible element and there was no optional P-stranding. However, P-stranding was extended to the overt movement of the prepositional object in Middle English. And prepositional passives also became possible in this period. In other words, P-stranding came to be established as a general and common phenomenon. One thing to note in this connection is that *wh*-words began to be used as relative pronouns instead of *se* (*þe*)-demonstratives in this period. Thus *wh*-words have double function both as a relative pronoun and as an interrogative word. From the beginning or middle of the 13th century, P-stranding was possible in the case of movement of this *wh*-word, unlike the OE examples in (3):[10]

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9) It is Chomsky's(1995) Economy Principle.

10) "We begin to find examples of P-stranding in *wh*-relatives and *wh*-questions at the outset of the thirteenth century." (Kemenade, 1987, p. 208) "..., with the first recorded example of it(i.e. P-stranding) from the middle of the thirteenth century" (Bergh & Seppänen, 2000, p. 302).

(11) a. And getenisse men ben in ebron, *Quilc* men mai get wundren
     on[11]
     'And giant men are in Hebron, *which* one may still
     wonder ***at***' (*Gen.&Ex.* 3715-16, c. 1250/a. 1325)
   b. Nuste nan kempe, *whæm* he sculde slæn ***on***,
      'No soldier knew *whom* he should strike ***at***'
      (*Brut*(Clg) 13718-19, early C13)
   c. But to kyng Alla, *which* I spake ***of*** yoore/That for his
      wyf wepeth and siketh soore
      (The Man of Law's Tale, c. 1390)

And P-stranding is observed in the topicalization and passive
constructions roughly at the same time, which contrasts with the OE
example like (5a):

(12) a. ...ah *þe gode* ich ga aa bisiliche ***abuten***,...
        =but *the good* I go always busily ***about***
        'but the righteous ones I always was against constantly'
        (*St.Marg.*(1)(Bod) 30.35-6)
   b. *heo* schal beo greattre ibolle, leafdiluker *leoten* ***of*** þen a leafdi
      of hames
      =she shall be greater honourd, lady-liker *thought* ***of*** than
      a lady of homes
      'she shall be more greatly honoured, thought of as more
      ladylike than a housewife'   (*AW* 58.7)

From the middle of the 14th century P-stranding increases in all of
these constructions and came to be completely rooted into English at
the end of the 15th century.[12] Then what is/are the reason(s) for this
extension of P-stranding? According to our argument that the

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11) Actually, (11a) is the first attested example.
12) "After its modest beginning in Middle English, the stranding option thus
became a real alternative to pied piping in the Early Modern period and has
remained part of the language ever since,..." (Bergh & Seppänen, 2000, p. 309)

(im)possibility in P-stranding or in pied-piping of P is directly related to the richness of morphological cases, this extension should be connected to the morphological changes of English. Conclusively saying, the extension of P-stranding in ME was due to the weakening of English morphology, which in chain caused the weakening of the governing power of P for its object. Finally, the weakened governing power of P allowed P-stranding in the constructions which did not allow P-stranding before the weakening.

In the ME period, the morphological cases of nouns are weakened to have only two different forms like possessive and common cases. *What* and *which* are not inflected any more,[13] although *who* has two inflected forms like *whom* and *whose*.[14] The possessive form does not appear after P, so it is irrelevant in the discussion of P-stranding. Now the prepositional object, irrespective of its grammatical category, is not formally distinguished any more.

Furthermore, P does not select the case form of the governed object. OE prepositions selected three different case forms but such case distinction disappeared from English because of the disappearance of the oblique case marking by P. Genitive objects disappeared completely and all the prepositional objects are objective, not distinguishing dative and accusative. To put it differently, the case form of the prepositional object became invariant; common case in nouns and objective case in pronouns. It should be remembered in this connection that in English there are only six word pairs showing the subjective and objective contrast; *I/me, we/us, he/him, she/her, they/them* and *who/whom*. At all events, the prepositional object does not change its form any more, so P need not pied-pipe the moving object to license its case form. And the adhesive power between the two elements became greatly weakened. Thus the object could be more easily detached from the governing

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13) So the possessive of *which* is expressed by using *whose*(e.g. the house *whose* roof is red) or the preposition *of*(e.g. the house *the roof of which* is red).

14) But the objective form *whom* is being replaced by the common form *who* when it is detached from the governing verb or preposition. For this fact, refer to Lee(2000).

preposition. This process was the extension of P-stranding in Middle English.[15] Actually, the extension of P-stranding was a gradual process, since the morphological weakening itself gradually proceeded in English.[16]

4. Split Infinitive as P-stranding

This section is an investigation on the origin of the split infinitive and its direct relationship with P-stranding. It is argued that the non-occurrence of the split infinitive in OE and early ME is due to the same reason for the impossibility of the P-stranding for the same period. And its introduction in ME(around 1300) is also due to the same reason for the introduction of P-stranding at that time. It is because the *to*-infinitive is analyzed as a prepositional phrase(PP) for the period. The morphological evidence for the PP status of the *to*-infinitive is the infinitival ending -*enne*/-*anne*(or the -*n*- part in the middle). We assume that the *to*-infinitive was a PP until the disappearance of the infinitival ending, although *to* had already lost its prepositional meaning ("purposive") much earlier.

The so-called split infinitive is the construction where the infinitival marker *to* and the base verb are separated by an intervening element like an adverbial, as follows:

(13) a. We ask you to *please* remain seated.
    b. He prepared to *silently* accompany her.
    c. No one claims to *completely* understand it.

The split infinitive was created into English roughly in the 13th(van der

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15) Another evidence for the direct relation between the morphological richness and the P-stranding (im)possibility is the fact that P-stranding was more regular in the northern dialect, as in the works by Richard Rolle of Hampole(Allen, 1980a, p. 227; Bergh & Seppänen, 2000, p. 302). It is well-known that the northern dialect of ME lost its morphological richness earlier than the southern one(s).

16) For the historical survey on the percentage change of P-stranding example from the different periods of English, see Bergh & Seppänen(2000).

Gaaf, 1933; Visser, 1963-73) or 14th century(Jespersen, 1940; Mustanoja, 1960; van Gelderen, 1989). Although this construction was introduced in the 13th century, it was unstable and not used widely(van der Gaaf, 1933, p. 15). It came to be used widely and generally in the 18th and 19th centuries, when a prescriptive objection was raised to the general use of this construction. But it is clear that this construction cannot be put away as ungrammatical in Present-day English. Then we need to explain why and how this construction was created in the Middle English period.

To begin with, we accept the traditional idea proposed by such scholars as Lightfoot(1979, 1991) and Fischer(1996a) that originally the infinitival marker *to* was P and the infinitive governed by *to*(i.e. the inflected verb part) was a nominal element.[17] Therefore, the *to*-infinitive of OE and early ME is categorically analyzed to be PP. If this analysis is valid, then the split infinitive was a kind of P-stranding at the time of its creation. To put the point another way, the split infinitive was created when the adhesive power between *to* and the infinitive was weakened. Such weakening was again caused by the loss of the infinitival ending -*enne*/-*anne* and their later forms.

4.1. *To* as a Preposition

English *to*-infinitive was gradually changed from a nominal to a verbal element, and the marker *to* has been changed from P to a simple grammatical function word. This change is an example of grammaticalization.[18] The following examples, where *to*-infinitive and

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17) As to form, then, the Anglo-Saxon had two infinitives: (1) the uninflected, or simple, infinitive in -*an* (occasionally written -*on*, -*un*, -*en*, and in Northumbrian -*a*, with loss of *n*), which in origin is the petrified nominative-accusative case of a neuter verbal noun; and (2) the inflected, or gerundial, or prepositional, infinitive, made up of the preposition *to* plus the dative case of a verbal noun ending in -*anne* (-*enne*, occasionally -*onne*; and, with simplification of the double consonant, -*ane*, -*ene*). (Callaway, 1913, p. 2)

18) However, the infinitival marker *to* of Present-day English is not a pure grammatical marker without any lexical meaning. For this point, see Fischer

the normal PP are coordinated with each other, clearly show the prepositional character of the marker *to*:

> (14) Ut eode **to** his gebede oððe **to** leorni**anne** mid his geferum
>   =Out went **to** his prayer or **to** study with his comrades
>   '(He) went out to give his prayer or to study with his comrades' (Bede 162, 7:C139) (quoted from Fischer(1996a))

Meanwhile, other prepositions like *at*, *till*(in the northern dialect), *unto* and *for* were used as infinitival markers in Middle English, along with *to*:

> (15) a. þe hondes gonnen *at erne* (c1300 King Horn(Ld.) 906)
>   b. Josep was wont *at weind* (*Curs. M.* (Cott.) 12543)
> (16) a. Huer wiltu þæt we gearuige þe *til eottanne* Eastro[19]
>   (*Lindisf. Gosp.*, Mt. 26.17)
>   b. He praid þe god men þat þar wer To lith a quil his word *til her* (*Curs. M.* (Cott.) 5330)
> (17) a. Godd hase sent fore of lufe þat es gude desyre and a grete will **un‑to** *plese* Hyme
>   (c1340 Hampole, *Prose Treatises* (EETS) IX, 32, 30)
>   b. þare come downe a aungell ... **Ynto** *comforthe* ihesu well still
>   (c1400 *Northern Passion* (Camb. MS, Gg 5, 31)
> (18) naild on þe rod he[Peter] was, Als **for** *be* he self it chas(als **to** *be* him selven ches, Gött. MS)
>   (*Curs. M.* (Cott.) 20914)

Such examples are indirectly evidencing the prepositional status of the marker *to*. So it seems that *to* maintained its categorial status as P for a while even after the loss of its purposive meaning. Especially, it is argued that the prepositional character of *to* continued until the creation of split infinitives, i.e. to the 13th century. Of course, it is extremely

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(1996a, 1996b) and Lee(2005).

19) Note that the infinitival ending is ‑*anne* in this example as in *to*‑infinitives.

difficult to decide on the exact dates for the categorial change of *to* from P to a grammatical marker or for the change of *to*-infinitive from a nominal to a verbal element. Nevertheless, we have some indirect evidence for the argument. The main evidence for this argument is the persistence of the infinitival ending -*enne*/-*anne*, which survived as a weakened form like -*en*(*e*) roughly until the 13th century.

4.2. -*enne*/-*anne* as a Nominal Ending

OE *to*-infinitive is analyzed as PP because of its nominal ending -*enne*/-*anne*. The -*enne*/-*anne* ending was a dative case ending of a noun in origin. So it can be assumed that, as long as this ending survives, the *to*-infinitive was PP. The infinitival ending -*enne* had various spelling variants like -*anne*, -*onne*, -*enna*, -*ennæ*, -*enni* and -*enno*. And the ending -*enne*/-*anne* survived as a weakened form like -*en*(*e*) roughly until the 13th century. Here, the consonant -*n*(*n*)- part is important. The assumption is that the -*n*(*n*)- part is evidencing the nominal character of the *to*-infinitive and again the prepositional character of *to*. The vowel in inflectional endings was universally weakened into a schwa -*e*-[-ə-] in Middle English, so it cannot be used as a reliable morphological evidence. However, it cannot be doubted that the consonant -*n*(*n*)- part of the infinitival ending is the direct descent of the dative ending. In this sense, this -*n*(*n*)- part is quite different from the -*en* ending descending from the uninflected infinitive ending -*an*.

Here, we have some syntactic evidence to argue that -*enne*/-*anne* is a nominal ending. That is to say, the ending was just like the argumental affix -*en* of a passive sentence, so it could function as an argument bearing a semantic role and Case. In OE the explicit passive form was not used in the *to*-infinitive construction. To put it more accurately, [*to*+ *beon*/*wesan*/*weorðan*'be'+ past participle] was not used in OE at all. Instead, the active *to*-infinitive form could convey the passive meaning in the proper context:

(19) a. Moyses forbead swyn *to etenne*
　　　 =Moses forbade pigs to eat
　　　 'Moses forbade the eatings of pigs' (*ÆLS*(Maccabees) 85)
　　b. næs þær ... wæteres drync *to brucanne*
　　　 =not-was there ... of-water drink to use
　　　 'there was no drink of water that could *be used*' (*And* 23)
　　c. ælc ehtnys bið *earfoðe* to þolienne
　　　 =each persecution is *hard* to endure (*ÆCHom* II 42.313.110)
　　d. þas þing sint *to donne*
　　　 =these things are to do
　　　 'these things must/ought *to be done*' (*Lch* II(2)22.1.8)
　　e. hine ... of þære byrig gelæddon *to stænenne*
　　　 =him ... from the city led to stone
　　　 '[they] led him out of the city *to be stoned*'
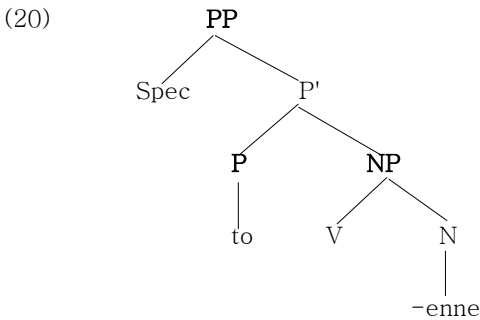　　　 (*ÆCHom* I, 3 46.32)

Then what is the reason why the active infinitive could convey the passive meaning in OE? For this point, Kageyama(1992) says that the infinitival marker *to* functions as an external argument absorbing the accusative case assigned by the main verb. But such an analysis cannot answer why *to* ceased to function as an argument since the ME period. Instead, we will argue that the ending *-enne/-anne* was an external argument absorbing the accusative case, just like the argumental affix *-en* of a passive sentence.[20] According to Baker *et al.*(1989, p. 219), the passive morpheme *-en* is an argument. So it should bear a semantic role and Case as an argument, but it does not bear such properties as an affix of a verb. So it absorbs the semantic role and Case which the verb assigns to its object before they are delivered to the object. Thus *-en* becomes the argumental affix. Ultimately, the passive ending *-en* is

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20) However, the case-absorption by the ending *-enne/-anne* is optional, as follows:
(i) nis me earfoðe to geþoi**anne** *þeodnes willan*
　　not is for-me difficult to endure *the lord's will*
　'(it) is not difficult for me to endure the lord's will' (*Guthlac* A, B 1065)

an affix morphologically but it is an argument syntactically.

If the infinitival ending −*enne*/−*anne* functions like the passive affix −*en*, then the possible [*to*+ *beon/wesan/weorðan*‘be’+ past participle] structure would be a kind of double passive, having two passive morphemes, as in [to+ be**onne** (ge)−**en**]. Notice that the *to beonne* sequence was not impossible in OE. But it was the *to*−infinitive form of the main verb *be.* At the very least, the infinitival ending −*enne*/−*anne* was an argument which could be used as a passive argument. Irrespective of this kind of syntactic elaboration, the passive character of the *to*−infinitive is automatically explained if the infinitive part is assumed to be a nominal element, because a nominal element is voice−neutral. For example, *his* can be interpreted as either a subject or an object in the examples like *his picture* and *his murder.* Thus, the nominal character of the *to*−infinitive is confirmed in various ways. This could support our argument that the *to*−infinitive was a kind of PP until the complete loss of the infinitival ending, especially of the consonant −*n*(*n*)− part. This conclusion is in line with Lightfoot(1979, 1991) and Fischer(1996a). We posit the following structure for the *to*−infinitive clause of OE and early ME:

(20)
```
                  PP
                /    \
            Spec      P'
                    /    \
                   P      NP
                   |     /   \
                  to    V     N
                              |
                            −enne
```

Here the ending −*enne* is N, functioning as the head of the infinitive, which is the nominal object of the infinitival marker *to.* And the entire *to*−infinitive is PP.

4.3. Loss of the Ending *-enne/-anne* and Appearance of Split Infinitives

In ME both the ending of the uninflected infinitive, i.e. *-an* and the one of inflected infinitive, i.e. *-enne/-anne* disappeared together. The ending *-an* changed into *-en* and then into *-e* and disappeared completely. Likewise, the ending *-enne/-anne* changed in the following way; *-enne/-anne* > *-enne* > *-en*(*e*) > *-e* > ø. So the ending *-en* could be formally interpreted as either the uninflected ending or the inflected one at one time. Nevertheless, the presence of the infinitival marker *to* can be a crucial factor in deciding which ending is involved. So the ending *-en* after *to* is still analyzed as the nominal ending directly descending from the *-enne/-anne* ending. As a consequence, if the ending after *to* has the *-n*(*n*)*-* part inside, then it still functions as a nominal. When the *-n*(*n*)*-* part disappeared roughly in the 13th century, however, the remaining *-e* part did not play any important role in indicating the grammatical category of the infinitive, because *-e* could be attached any grammatical category without any specific reason and most of the inflectional endings were collapsed into *-e* just before the complete loss. With the loss of the *-n*(*n*)*-* part from the infinitival ending, the infinitive lost the morphological evidence showing its nominal character. This loss happened roughly in the 13th century. The introduction of split infinitives coincides with the loss of this ending, just as the extension of P-stranding coincides with the general weakening of English nominal endings.

In the meantime, P-stranding is also observed in Danish and Swedish as well(Takami, 1991, Chapter 8):

(21) a. Hvade$_i$ talde du med hende *om* t$_i$? (Danish)
      =What talked you with her *about*
      'What did you talk with her *about*?'
   b. Vad$_i$ talade du med henne *om* t$_i$? (Swedish)
      =What talked you with her *about*
      'What did you talk with her *about*?'

An interesting thing to note here is that these languages also have the split infinitive construction Mustanoja, 1960, p. 515):

(22) a. Att *även* tänka det är dumt.
        'To *even* think that is stupid.'
    b. Det är bra att *inte* åka dit.
        'It is good to *not* go there.'

These two constructions are very exceptional, observed only in a few languages. According to our analysis, the two constructions can appear only in a language where the inflectional endings were lost or at least weakened. There are only a few such languages, including English. Danish and Swedish also are such languages with the weakened inflectional paradigm(Roberts, 1993, pp. 266-68).

5. Closing Remarks

This paper is an investigation of the direct relationship between the morphological richness and the P-stranding (im)possibility. The (im)possibility in P-stranding or in pied-piping of P is directly related to the richness of morphological cases. The basis assumption is that the richer the morphology of a language is, the less P can be stranded. It is because the function of P is assumed to license the morphological case of its object, besides assigning the abstract case.

It is also argued that the rise of the split infinitive is again attributed to the disappearance of the infinitival ending -*enne/-anne*. The non-occurrence of the split infinitive in OE and early ME is due to the same reason for the impossibility of the P-stranding. *To* and its complement were sticked together due to the strong adhesiveness between *to* and its complement. Meanwhile, the split infinitive was introduced with the weakened bondage between *to* and its complement as a result of the disappearance of the -*enne* ending in Middle English.

It is hoped that this article convinces us that the loss or weakening of morphological cases is at least a prerequisite and necessary condition

for P-stranding and split-infinitives, even if it is not proved to be the necessary and sufficient condition for it, and at the same time that the morphological and functional accounts can be of great use and importance in explaining syntactic changes in a language.

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