

# A Note on Preposition Pied-piping and Preposition Stranding in WH-exclamatives\*

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## 1. Introduction

According to McCawley(1988), WH-exclamatives are one of the major types of exclamatives. Examples of WH-exclamatives in English are shown in (1a, b).

- (1) a. How hungry we were!  
b. What a hard time we were having! (McCawley (1988:713))

WH-exclamatives in English can be classified into two subtypes. One contains *how* as in (1a) and the other contains *what* as in (1b). In this paper, I will call the former how-type exclamatives (how-type E's) and the latter what-type exclamatives (what-type E's).

WH-exclamatives are similar to WH-questions in that the WH-phrase containing *how* or *what* in WH-exclamatives moves to the clause-initial position from its base-generated position by WH-movement. In (1a) and (1b), for example, *how hungry* and *what a hard time*, respectively, undergo WH-movement.

In this paper, I will inquire into WH-movement in WH-exclamatives by investigating preposition pied-piping and preposition stranding in WH-exclamatives in English.<sup>1</sup> In section 2, I will briefly look at the meaning of WH-exclamatives. In section

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<sup>1</sup> In previous studies, it is pointed out that WH-movement in WH-exclamatives shows the same properties as WH-movement in WH-questions in some respects. Ross (1986) points out that the movement of the WH-phrase containing *how* in WH-exclamatives is constrained by the same island conditions as WH-movement in WH-questions. According to Terunuma (1996), the movement of the WH-phrase containing *what* in WH-exclamatives is also

3, I will investigate preposition pied-piping and preposition stranding in WH-exclamatives in English. In section 4, I will examine whether Takami's (1992) More/Less Important Information Condition, which is proposed as a condition on preposition stranding in WH-questions, can be modified to account for the observations in section 3. I will show that Takami's More/Less Important Information Condition, if modified, partly accounts for the data in section 3, but leaves some of the data unexplained. Concluding remarks will be given in section 5.

## 2. The Meaning of WH-exclamatives

As mentioned in section 1, WH-exclamatives are similar to WH-questions in form. With respect to function, however, WH-exclamatives differ from WH-questions. While WH-questions are typically used "to express lack of information on a specific point, and (usually) to request the listener to supply this information verbally" (Quirk et al. (1985:386)), WH-exclamatives are standardly used to express the speaker's surprise concerning a degree: when an entity manifests some property to a remarkably high extent and the speaker is surprised at the degree, the speaker can express his or her surprise by uttering a WH-exclamative. For example, (2a) is used to express the speaker's surprise concerning the degree to which the story referred to manifests terribleness. (2b) is used to express the speaker's surprise concerning the degree to which the place referred to manifests beautifulness.

- (2) a. How terrible a story he told! (Imai and Nakajima (1978:192))  
 b. What a beautiful place Havana is! (Imai and Nakajima (1978:196))

The exclaimed property, namely, the property which is manifested to a remarkably high extent, may or may not be expressed by words in WH-exclamatives. Which case each WH-exclamative falls under depends on whether the element modified by *how* or *what* in the WH-exclamative contains a gradable word or not. When the modifiee of *how* or *what* contains a gradable word as in (2a, b), the exclaimed property is expressed by the gradable word, that is to say, the exclaimed property is the attribute indicated by the gradable word. Since *how* in (2a) modifies the gradable Adj *terrible*, terribleness is interpreted as the exclaimed property in (2a). Similarly, since *what* in (2b) modifies the phrase *a beautiful place* which contains the gradable Adj *beautiful*, beautifulness is interpreted as the exclaimed property in (2b). On the other hand, when the modifiee of

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constrained by island conditions. Terunuma (1996) moreover points out that the WH-trace in WH-exclamatives as well as the WH-trace in WH-questions can license a parasitic gap.

*how* or *what* does not contain a gradable word as in (3a, b), the exclaimed property is not expressed by words in the sentence.

- (3) a. How he approached me! (Bolinger (1972:189))  
 b. What a telescope it is! (Bolinger (1972:69))

In (3a) and (3b), *how* and *what* modify the nongradable V *approach* and the phrase *a telescope*, which contains no gradable word, respectively. (3a) is used to indicate that a person's manner of approaching manifests some property to a remarkably high extent, and (3b) is used to indicate that a telescope manifests some property to a remarkably high extent. Neither (3a) nor (3b), however, specifies the property which is manifested to a remarkably high extent. In WH-exclamatives such as (3a, b), the exclaimed property should be inferred from the context.

### 3. Preposition Pied-piping and Preposition Stranding in WH-exclamatives

It is claimed in some previous studies that both preposition pied-piping and preposition stranding are possible in WH-exclamatives in English. (4a, b) are the examples of preposition pied-piping and (5a, b) are the examples of preposition stranding.<sup>2</sup>

- (4) a. In what poverty these people live! (Quirk et al. (1985:834))  
 b. It's amazing in what a big house he lives. (Grimshaw(1979:283))  
 (5) a. How miserable a hovel they live in! (Imai and Nakajima (1978:192))  
 b. What a mess we're in! (Quirk et al.(1985:834))

According to Quirk et al.(1985:834), however, preposition pied-piping is rare in WH-exclamatives in English.

In order to investigate preposition pied-piping and preposition stranding in WH-exclamatives in English more closely, I elicited acceptability judgments for several sentences from four native speakers of English.<sup>3</sup> As a result, I found a certain pattern of

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<sup>2</sup> Quirk et al. (1985) point out that preposition pied-piping is allowed in the how-type E in (i).

(i) For how many years did I live in that dreamworld of fantasies and false hopes!  
 (Quirk et al. (1985:834))

In the how-type E in (i), Subject-Aux Inversion occurs. According to Quirk et al.(1985:834), Subject-Aux Inversion in how-type E's is possible only in literary English. Thus, (i) is not acceptable in colloquial English.

<sup>3</sup> All the sample sentences in the acceptability judgment test and each informant's judgments on them are given in the Appendix.

acceptability judgments concerning preposition pied-piping and preposition stranding in WH-exclamatives in English. I will report on the pattern of acceptability judgments below.

As (6a-d) and (7a-d) show, how-type E's in which a preposition is pied-piped with the WH-phrase have a low acceptability status, while the parallel how-type E's in which the preposition is stranded at the end of the sentence are perfectly acceptable.

- (6) a. ??On how small a table Mary put her engagement ring!  
 b. ??To how many people John gave a book!  
 c. ??With how many instruments the gang opened the safe!  
 d. ??On how rainy a day she arrived!
- (7) a. How small a table Mary put her engagement ring on!  
 b. How many people John gave a book to!  
 c. How many instruments the gang opened the safe with!  
 d. How rainy a day she arrived on!

The same difference in acceptability can also be observed between what-type E's with a pied-piped preposition and what-type E's with a stranded preposition. When the exclaimed property is not expressed by words, the difference in acceptability is sharp, as shown in (8a-d) and (9a-d).

- (8) a. ??On what a table Mary put her engagement ring!  
 b. ??To what a man John gave the book!  
 c. ??With what an instrument the gang opened the safe!  
 d. ??On what a day she arrived!
- (9) a. What a table Mary put her engagement ring on!  
 b. What a man John gave the book to!  
 c. What an instrument the gang opened the safe with!  
 d. What a day she arrived on!

When the exclaimed property is expressed by words, the difference in acceptability tends to lessen as shown in (10a-d) and (11a-d).<sup>4</sup>

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<sup>4</sup> In the what-type E's in (4a, b), which are claimed to be acceptable, the modifiee of *what* contains a gradable word. The gradable words contained in the modifiee of *what* in (4a) and (4b) are the N *poverty* and the Adj *big* respectively. According to my informant, (4a, b) sound awkward, while (ia, b) are perfectly acceptable.

- (i) a. What poverty these people live in!  
 b. It's amazing what a big house he lives in.

- (10) a. (?)On what a small table Mary put her engagement ring!  
 b. ?To what a stupid man John gave the book!  
 c. ?With what a simple instrument the gang opened the safe!  
 d. ?On what a beautiful day she arrived!
- (11) a. What a small table Mary put her engagement ring on!  
 b. What a stupid man John gave the book to!  
 c. What a simple instrument the gang opened the safe with!  
 d. What a beautiful day she arrived on!

To sum up, WH-exclamatives in which a preposition is pied-piped with the WH-phrase are in general unacceptable, although the acceptability of what-type E's with a pied-piped preposition tends to improve slightly when the modifiee of *what* contains a gradable word. In contrast, the parallel WH-exclamatives in which the preposition is stranded at the end of the sentence are perfectly acceptable.<sup>5</sup>

#### 4. Discussions

In the rest of this paper, I will consider the data observed in section 3 in relation to Takami's (1992) More/Less Important Information Condition. In section 4.1, I will introduce Takami's More/Less Important Information Condition. In section 4.2, I will examine whether it can be modified to account for the data observed in section 3.

##### 4.1 Takami's (1992) More/Less Important Information Condition

It has been pointed out that preposition stranding in WH-questions in English is possible only under limited conditions. According to Takami(1992), for example, preposition stranding is allowed in (12a) but is not allowed in (12b) if it is assumed that writing a letter is a common everyday action and that the person referred to, namely, John, does not have a peculiar characteristic of burying letters whenever he receives one.

- (12) a. Which party did John write the letter after?  
 b. ??/\*Which party did John bury the letter after? (Takami (1992:31))

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<sup>5</sup> As an exception, one of our informants allowed preposition pied-piping in both how-type E's and what-type E's. Since the informant remarked that he regarded preposition pied-piping in WH-exclamatives as possible because he found such examples in literary English, his acceptance of preposition pied-piping in WH-exclamatives might relate to the difference between colloquial English and literary English.

In order to account for the difference in strandability of prepositions in WH-questions, Takami(1992) proposes the following pragmatic principle which makes use of the functional notion of "more/less important information".

(13) More/Less Important Information Condition

An NP can be extracted out of a PP only when the NP may itself be interpreted as being more important than the rest of the sentence.

(Takami (1992:71))

The difference in acceptability between (12a) and (12b) is, for example, accounted for by the condition in (13) in the following way. In (12a), since writing a letter is a common everyday action, the speaker does not put any special emphasis on the phrase *write the letter*. The speaker's attention is instead put on the PP. As is often the case with prepositional phrases, the complement NP is more important than the head P in the PP. The complement NP of the PP is in consequence interpreted as being more important than the rest of the sentence, and thus (12a) is correctly predicted to be acceptable by the condition in (13). In (12b), in contrast, burying a letter is so unusual and unexpected that the speaker pays attention to the phrase *bury the letter*. That is, *bury the letter* rather than the complement NP of the PP is interpreted as being more important than the rest of the sentence in (12b). The condition in (13) thus correctly predicts that (12b) is unacceptable.<sup>6, 7</sup>

4.2. *Preposition Pied-piping and Preposition Stranding in WH-exclamatives and Takami's(1992) More/Less Important Information Condition*

Let us now consider which element conveys more important information than the rest of the sentence in the case of WH-exclamatives. Although Takami (1992) does not formally define the notion of "more/less important information", he seems to consider that the most important information is the information which the speaker wants to communicate most to the hearer. Regarding information as propositional, I will take the

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<sup>6</sup> Takami(1992) argues that the difference in functional importance between the PP's in (12a, b) has several syntactic and semantic manifestations. See Takami(1992) for details.

<sup>7</sup> (12b) turns out to be acceptable if it is known that the person referred to, namely, John, has a peculiarity of burying letters when he receives one. Takami(1992) argues that this also follows from the condition in (13) : Since John's burying a letter is expected in this context, the speaker does not pay attention to the phrase *bury the letter*. The speaker's attention is instead put on the PP, in which the complement NP is more important than the head P. Thus (12b) in this context is correctly predicted to be acceptable by the condition in (13).

most important information to be the proposition which the speaker wants to communicate most to the hearer.

As mentioned in section 2, the speaker uses WH-exclamatives to express his or her surprise, when an entity manifests some property to a remarkably high extent and the speaker is surprised at the degree. Then, the proposition which the speaker of WH-exclamatives wants to communicate most to the hearer is that the degree to which an entity manifests some property is remarkably high. For example, let us consider the WH-exclamatives in (14a, b).

- (14) a. How small a table Mary put her engagement ring on!  
 b. What a small table Mary put her engagement ring on!

Both (14a) and (14b) are used to express the speaker's surprise concerning the degree to which the table referred to manifests smallness. The proposition which the speaker wants to communicate most to the hearer by uttering the WH-exclamatives in (14a, b) is not that Mary put her engagement ring on a certain table, but that the table is remarkably small.

The proposition which the speaker of WH-exclamatives wants to communicate most to the hearer, that is, the proposition that the degree to which an entity manifests some property is remarkably high, is conveyed by the WH-phrase containing *how* or *what* in WH-exclamatives. For example, in (14a) and (14b), it is *how small a table* and *what a small table* that convey the proposition that the table referred to is remarkably small.

Thus, if we regard the most important information as the proposition which the speaker wants to communicate most, the WH-phrase containing *how* or *what* is more important than the rest of the sentence in WH-exclamatives. The fact that (15a, b) can be used in the context in which (14a, b) is used gives evidence of this claim.

- (15) a. How small a table!  
 b. What a small table!

Based on the claim that the WH-phrase containing *how* or *what* conveys the most important information in WH-exclamatives, let us consider a modified version of Takami's (1992) More/Less Important Information Condition in (16).

- (16) In the case that the complement NP of a preposition undergoes movement,  
 (i) the preposition is stranded at the end of the sentence when the NP is interpreted as being more important than the rest of the sentence, and  
 (ii) the preposition is pied-piped with the NP when the NP is not interpreted as more important than the rest of the sentence.

Takami's More/Less Important Information Condition in (13) is a condition on preposition stranding, and it does not make any prediction for preposition pied-piping. The modified version of Takami's More/Less Important Information Condition in (16), on the other hand, is a condition on the proper use of preposition pied-piping and preposition stranding.

The condition in (16) accounts for a part of the data observed in section 3. We observed that WH-exclamatives in which a preposition is pied-piped with the WH-phrase generally have a low acceptability status, while the parallel WH-exclamatives in which the preposition is stranded at the end of the sentence are perfectly acceptable. (17a, b), (18a, b) and (19a, b) are the examples which are repeated from section 3.

- (17) a. ??On how small a table Mary put her engagement ring! (= (6a))  
 b. How small a table Mary put her engagement ring on! (= (7a))
- (18) a. ??On what a table Mary put her engagement ring! (= (8a))  
 b. What a table Mary put her engagement ring on! (= (9a))
- (19) a. (?)On what a small table Mary put her engagement ring! (= (10a))  
 b. What a small table Mary put her engagement ring on! (= (11a))

As claimed above, the WH-phrase containing *how* or *what* conveys the most important information in WH-exclamatives. Accordingly, when the WH-phrase containing *how* or *what* is the complement of a preposition in WH-exclamatives, the complement of the preposition is interpreted as being more important than the rest of the sentence. The condition in (16) then correctly predicts that the WH-exclamatives in which the preposition is pied-piped with the WH-phrase are unacceptable and that the WH-exclamatives in which the preposition is stranded at the end of the sentence are acceptable.

The condition in (16), however, leaves some data on preposition pied-piping and preposition stranding in WH-exclamatives unexplained. First, the condition in (16) does not account for the difference in acceptability between (18a) and (19a) : A problem remains as to why the acceptability of the what-type E's with a pied-piped preposition varies depending on whether the modifiee of *what* contains a gradable word or not. Second, as mentioned in note 5, one of our informants accepted preposition pied-piping in WH-exclamatives, which is inconsistent with the prediction that the condition in (16) makes. Although the acceptance of preposition pied-piping in WH-exclamatives seems to be exceptional, it calls for an explanation.<sup>8</sup>

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<sup>8</sup> In section 4.2, we considered the problems concerning preposition pied-piping and preposition stranding in WH-exclamatives in terms of the functional notion of "more/less important information". Tancredi (personal communication), however, suggests to me that



## 5. Concluding Remarks

In this paper, I have reported on the results of an acceptability judgment test on preposition pied-piping and preposition stranding in WH-exclamatives, and have examined whether Takami's (1992) More/Less Important Information Condition can be modified to account for the reported data. I have shown that a modified version of Takami's More/Less Important Information Condition partly accounts for the data on preposition pied-piping and preposition stranding in WH-exclamatives. I have also shown, however, that some of the data still remain unexplained. An entire explanation of the reported data awaits further research.

## Appendix

As mentioned in section 3, I elicited acceptability judgments on preposition pied-piping and preposition stranding from four native speakers of English. The sentences used in the acceptability judgment test are shown in (A.1)-(A.20).

- (A.1) a. On which table did Mary put her engagement ring?  
b. Which table did Mary put her engagement ring on?
- (A.2) a. To which man did John give the book?  
b. Which man did John give the book to?
- (A.3) a. With what instrument did the gang open the safe?  
b. What instrument did the gang open the safe with?
- (A.4) a. On what day did she arrive?  
b. What day did she arrive on?
- (A.5) a. On how small a table did Mary put her engagement ring?  
b. How small a table did Mary put her engagement ring on?
- (A.6) a. To how many people did John give a book?  
b. How many people did John give a book to?
- (A.7) a. With how many instruments did the gang open the safe?  
b. How many instruments did the gang open the safe with?
- (A.8) a. On how rainy a day did she arrive?  
b. How rainy a day did she arrive on?
- (A.9) a. On what a table Mary put her engagement ring!  
b. What a table Mary put her engagement ring on!

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preposition pied-piping and preposition stranding in WH-exclamatives might be discussed better in terms of implicature. This possibility will be investigated in future research.

- (A.10) a. To what a man John gave the book!  
b. What a man John gave the book to!
- (A.11) a. With what an instrument the gang opened the safe!  
b. What an instrument the gang opened the safe with!
- (A.12) a. On what a day she arrived!  
b. What a day she arrived on!
- (A.13) a. On what a small table Mary put her engagement ring!  
b. What a small table Mary put her engagement ring on!
- (A.14) a. To what a stupid man John gave the book!  
b. What a stupid man John gave the book to!
- (A.15) a. With what a simple instrument the gang opened the safe!  
b. What a simple instrument the gang opened the safe with!
- (A.16) a. On what a beautiful day she arrived!  
b. What a beautiful day she arrived on!
- (A.17) a. On how small a table Mary put her engagement ring!  
b. How small a table Mary put her engagement ring on!
- (A.18) a. To how many people John gave a book!  
b. How many people John gave a book to!
- (A.19) a. With how many instruments the gang opened the safe!  
b. How many instruments the gang opened the safe with!
- (A.20) a. On how rainy a day she arrived!  
b. How rainy a day she arrived on!

The informants were asked to put a mark on each of these sentences in the following way : o if the sentence is totally acceptable as an English sentence, ? if the sentence is acceptable but sounds somewhat awkward, ?? if the sentence is doubtful, and \* if the sentence is unacceptable.

The nationalities, sex distinctions and ages of our informants and the results of the acceptability judgment test are shown below.

PREPOSITION PIED-PIPING AND STRANDING IN WH-EXCLAMATIVES

Informant A : American, Male, 32 years old

Informant B : American, Male, 26 years old

Informant C : American, Female, 28 years old

Informant D : British, Male, 51 years old

|        |   | A  | B  | C | D  |        |   | A   | B  | C | D  |
|--------|---|----|----|---|----|--------|---|-----|----|---|----|
| (A.1)  | a | o  | o  | o | o  | (A.11) | a | ??  | ?? | ? | o  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | o  |
| (A.2)  | a | o  | o  | o | o  | (A.12) | a | ??  | ?? | o | o  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | o  |
| (A.3)  | a | o  | o  | o | o  | (A.13) | a | (?) | ?? | o | -  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | -  |
| (A.4)  | a | o  | o  | o | o  | (A.14) | a | ?   | ?? | o | -  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | -  |
| (A.5)  | a | o  | o  | o | o  | (A.15) | a | ?   | ?? | * | -  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | -  |
| (A.6)  | a | o  | o  | o | o  | (A.16) | a | ?   | ?? | o | -  |
|        | b | o  | o  | o | o  |        | b | o   | o  | o | -  |
| (A.7)  | a | o  | o  | o | o  | (A.17) | a | ??  | *  | * | o  |
|        | b | o  | o  | o | o  |        | b | o   | ?? | o | ?  |
| (A.8)  | a | o  | o  | o | o  | (A.18) | a | ??  | *  | * | ?? |
|        | b | o  | o  | o | o  |        | b | o   | ?? | o | o  |
| (A.9)  | a | ?? | ?? | ? | *  | (A.19) | a | ??  | *  | * | o  |
|        | b | o  | o  | o | ?? |        | b | o   | ?? | o | o  |
| (A.10) | a | ?? | ?? | ? | o  | (A.20) | a | ??  | *  | * | o  |
|        | b | o  | o  | o | o  |        | b | o   | ?? | o | o  |

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