

*Mouses, Formal Markedness, and Functional Specialization**

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1. Introduction

This paper is concerned with a case in which the regular plural *mouses* is exceptionally used for the plural of *mouse*. Comparing the functional range of *mouses* with that of *mice*, the present paper shows that *mice*, which is the conventional plural of *mouse*, is ambiguous and can be used to refer to either small furry animals or computer pointing devices, while the unconventional plural *mouses* is specialized to denote the latter. Based on this observation, I propose a descriptive generalization in terms of “formal markedness” and “functional specialization” which says roughly that the formal markedness of a grammatical form is in proportion to its functional specialization.

2. Facts

The noun *mouse*, which mainly refers to a rodent, does not follow the productive plural formation rule in English, which attaches the suffix *-(e)s* to a noun stem to form its plural; the plural of *mouse* is formed through mutation and is pronounced as *mice*, not as *mouses*. This lexical specification is conventionalized in English, as seen in the following dictionary definition of *mouse*:

- (1) plural *mice*
a small furry animal with a pointed nose and a long tail that lives in people's houses or in fields' (LDOCE⁴)

The following grammatical contrast offers another piece of evidence for the conventionality of the lexical specification in question:

- (2) a. Mice are small furry animals with a long tail that live in people's houses or in fields.
b. *Mouses are small furry animals with a long tail that live in people's houses or in fields.

As indicated, we have to use *mice* for the plural of *mouse* ((2a)) and cannot use *mouses* for that purpose ((2b)). This appears to be a hard-and-fast rule at first sight.

There is, however, an exceptional case in which the regular plural *mouses* can be used. The word *mouse* acquired another usage around

the mid of the 20th century in which it metaphorically refers to a small computer pointing device.¹ Interestingly, *mouses*, as well as *mice*, is commonly used for the plural of *mouse* in this extended usage, which is seen in the following dictionary definitions of *mouse* as a device:

- (3) a. pl. also *mouses*
a small device that is moved by hand across a surface to control the movement of the cursor on a computer screen
(OALD⁶)
- b. Inflected forms: pl. *mice* or *mouses*
Computer Science A hand-held, button-activated input device that when rolled along a flat surface directs an indicator to move correspondingly about a computer screen, allowing the operator to move the indicator freely, as to select operations or manipulate text or graphics.
(AHDEL⁴)
- c. The plural *mouses* can be used for meaning 2.
2 A *mouse* is a device that is connected to a computer. By moving it over a flat surface and pressing its buttons, you can move the cursor around the screen and do things without using the keyboard.
(COBUILD⁴)

The possibility of using *mouses* as well as *mice* for devices is also confirmed by the acceptability of the following examples:

- (4) a. Mice are small objects connected to a computer by a wire, which you move with your hand to give commands to the computer.
- b. Mouses are small objects connected to a computer by a wire, which you move with your hand to give commands to the computer.

Although *mice* is preferred to *mouses*, it is still possible to use the latter for devices, according to my informant. This makes a sharp contrast with what is the case with the use of *mouses* for animals; *mouses* can be used for devices, but not for animals, while *mice* can be used for either animals or devices.^{2, 3} What, then, does this fact tell us about the relation between the forms and functions of *mice* and *mouses*?

3. A Generalization in Terms of Formal Markedness and Functional Specialization

I first consider what formal characterization *mice* and *mouses* each receive. Here I introduce the notion of “formal markedness.” In this paper, I equate the notion of “formal markedness” with that of “formal normalcy” (see Levinson (2000) among others for a markedness-as-normalcy approach).^{4, 5} More precisely, I take “formally marked” as “abnormal with reference to the grammatical convention of a given language,” and “formally unmarked” as “normal with reference to the grammatical convention of a given language.” A grammatical form is characterized as marked if it is in conflict with the grammatical convention of a given language that the corresponding unmarked form is in accord with.

As seen in section 2, most if not all speakers of English know that the plural of *mouse* is *mice*, which constitutes a morphological or, more generally, grammatical convention of English. The plural *mice* is in accord with the convention and is characterized as an unmarked form. On the other hand, the plural *mouses* is characterized as deviant from that norm and counts as a marked form.⁶ Thus, in the case of *mouse*, the irregular plural *mice* is regarded as unmarked and the regular plural *mouses* as marked. This is what is generally called “markedness reversal” (see Battistella (1996) and references cited therein); namely, what is generally unmarked is contextually rendered marked and accordingly, what is generally marked unmarked.

Let us proceed to consider what functional characterization *mice* and *mouses* each receive. On the meaning side, *mice* is ambiguous and can refer to either animals or devices. I repeat the relevant examples here:

- (5) a. Mice are small furry animals with a long tail that live in people’s houses or in fields. (= (2a))
- b. Mice are small objects connected to a computer by a wire, which you move with your hand to give commands to the computer. (= (4a))

By contrast, *mouses* refers exclusively to devices, not to animals. The relevant contrast is repeated below:

- (6) a. Mouses are small objects connected to a computer by a wire, which you move with your hand to give commands to

the computer. (= (4b))

- b. *Mouses are small furry animals with a long tail that live in people's houses or in fields. (= (2b))

Mice is functionally more general than *mouses*, or, conversely, *mouses* is functionally more specific than *mice*.

To sum up, the formally marked *mouses* is functionally more specialized than the formally unmarked *mice*; the formal markedness of *mouses* is in proportion to its functional specialization. This is schematized as follows:



In our notation, words in italics represent grammatical forms, those in small capitals grammatical conventions, and those in capitals functions; stars and roots indicate the marked/unmarked status of a grammatical form with reference to a relevant convention; and solid lines indicate the functional range of an expression. As depicted in (7), the functional range of *mouses*, which is marked, is narrower than that of *mice*, which is unmarked.

Based on the paradigm in (7), I propose the following descriptive generalization:

- (8) *Generalization about the Correlation between Formal Markedness and Functional Specialization*

If a grammatical form is marked with reference to the grammatical convention of a given language, then the function of that form is more specialized than that of the corresponding unmarked form(s).⁷

Henceforth, I will abbreviate this generalization simply as "FMFS."

4. Independent Evidence for the FMFS

An independent support for the FMFS comes from Konno's (2004a, b, 2005:ch.3) analysis of the *if you be* construction, exemplified by sentences like *If you please be a good girl, I'll buy you whatever you want* (Konno (2004b:39)). For details of the syntax and semantics of the construction, see Konno (2004a, b, 2005:ch.3). As the very name suggests, the *if you be* construction contains nonfinite *be* as the main verb of the protasis. The occurrence of the bare stem *be* is against the general tendency for the main verb of *if*-clauses (or finite clauses in

general) to agree with the subject. In this sense, the *if you be* construction is considered to be formally marked.

The FMFS predicts that because of its formal markedness, the *if you be* construction is functionally specialized. This is in fact the case. Observe the following contrast:

- (9) a. If you be nice, I'll give you a big kiss.
b. ?If you be naughty again, I'll slap you.

(Konno (2004b:44))

Our knowledge of the world tells us that example (9a) describes a desirable situation, while example (9b) describes an undesirable one. The acceptability contrast in (9) shows that the *if you be* construction can describe desirable situations but cannot describe undesirable ones.

This is in sharp contrast with what is the case with the ordinary or unmarked conditional construction:

- (10) 'If you're a good girl/boy I will love you';, 'I will overpower you if you are naughty.';

(The British National Corpus (BNC))

As shown, the ordinary conditional construction can describe either desirable or undesirable situations (Akatsuka (1998)).

To recapitulate, the *if you be* construction, which is formally marked, is functionally more specialized than the ordinary conditional construction, which is formally unmarked. This is summarized into the following schema:

- | | | | |
|-----------------------------|-------------|---|------------------------------------------|
| (11) The <i>if you be</i> — | DESIRABLE | ➤ | The ordinary conditional
construction |
| construction | UNDESIRABLE | | |
| (*AGREEMENT) | | | (√AGREEMENT) |

What is depicted in schema (11) is in total agreement with what is predicted by the FMFS.

There is another important consequence concerned with (11). Recall here our discussion on the *mouses/mice* opposition in section 3. It made clear the validity of the FMFS at the lexical level. The schema in (11) tells us that the FMFS also holds at the clausal level. Thus, we can say that the FMFS holds true beyond the syntactic level and further that it is a synchronically valid generalization.⁸

5. The FMFS as an Independent Pragmatic Principle

Two caveats are in order here about the FMFS. The FMFS is

consistent with the general view that “marked choices are all used with specific effects (Battistella (1996:134)).” Also consistent with the view is the so-called “division of pragmatic labor” (Horn (1984), Levinson (2000)), which says roughly that unmarked forms receive unmarked interpretations and, accordingly, marked forms receive marked interpretations.⁹ Since the FMFS and the division of pragmatic labor both employ the notion of markedness,¹⁰ one might suppose that either of them is reducible to the other. The most likely assumption would be that the FMFS derives from the widely acknowledged notion of the division of pragmatic labor. However, this is not the case; in fact, there are three important things that differentiate the former from the latter.

Recall here the paradigms observed so far, repeated below for ease of reference:

- (12) *Mouses* — DEVICE \nearrow *Mice*
 (*IRREGULARITY) ANIMAL \nearrow (*IRREGULARITY)
 (= (7))
- (13) The *if you be* — DESIRABLE \nearrow The ordinary conditional
 construction UNDESIRABLE \nearrow construction
 (*AGREEMENT) (*AGREEMENT)
 (= (11))

As far as these oppositions are concerned, the existence of the use of a marked expression for a certain purpose does not “block” (Aronoff (1976)) or “preempt” (Clark and Clark (1979)) that of an unmarked expression for that same purpose, and vice versa. Thus, our marked/unmarked oppositions do not involve the division of pragmatic labor.¹¹ It is this kind of marked/unmarked oppositions without blocking effect that the FMFS is intended to capture.

A second difference concerns the way the two generalizations employ the notion of markedness. The FMFS employs that notion only formally, while the division of pragmatic labor employs it both formally and functionally; that is, the FMFS is more flexible than the division of pragmatic labor in the sense that the former does not specify the direction of functional specialization, while the latter does.

For a better understanding of this point, let us take the paradigm in (13) for example. It is widely assumed that in a positive/negative opposition, the positive counterpart is semantically unmarked and the

negative counterpart semantically marked (Horn (1989)). Accordingly, desirable situations are considered to be semantically unmarked, while undesirable ones are viewed as semantically marked. Given this semantic contrast, the division of pragmatic labor would predict that the formally unmarked ordinary conditional construction will describe desirable situations by default, while the formally marked *if you be* construction will be specialized to express undesirable ones. But, as discussed in section 4, this is not the case; the ordinary conditional construction can readily describe either desirable or undesirable situations and the *if you be* construction only desirable ones. The division of pragmatic labor cannot capture the relevant contrast correctly, while the FMFS accommodates it well.

Finally, recall that one of the principles that derive the division of pragmatic labor requires that marked messages represent marked situations. Thus, if one wishes to capture our paradigms in terms of the division of pragmatic labor, one has to claim that the semantic markedness of devices ((12)) and desirable situations ((13)) are higher than that of animals and undesirable situations, respectively. Notice, however, that it remains totally unclear on what grounds the former concepts can be regarded as more marked than the latter.

The FMFS can capture our paradigms as a natural class, while the division of pragmatic labor cannot. From this follows the conclusion that the explanatory targets of the FMFS are different from those of the division of pragmatic labor. That is to say, neither one is reducible to the other. In this way, the FMFS is different from the division of pragmatic labor and should be postulated as an independent principle governing linguistic use.

6. The FMFS as a Unidirectional Generalization

The other caveat about the FMFS is that as is clear from the definition in (8), it is a unidirectional generalization. Accordingly, its reverse does not always hold; namely, the functional specialization of a grammatical form does not necessarily presuppose the formal markedness of that form. Let me demonstrate this point by comparing the two "causative" verbs *prevent* and *prohibit*, which constitute a syntactic class in that they take complements of the form [NP *from* V-ing] (hereafter "*from* V-ing complements"), as illustrated below:

expression has a specialized function without anything formally marked.

7. Summary

I have been concerned with a simple but significant case in which the regular plural *mouses* is exceptionally used for the plural of *mouse* and argued that the functional range of *mouses*, which is formally marked, is narrower than that of *mice*, which is formally unmarked. Generalizing this observation, I have proposed the FMFS. I have further argued that the FMFS should be regarded as an independent and unidirectional generalization.

NOTES

* This paper is an extended version of chapter 2 of my doctoral dissertation submitted to the Institute of Literature and Linguistics at the University of Tsukuba in January 2005. In the course of developing the idea to be presented, I have benefited greatly from discussions with Manabu Kusayama. I am also grateful to Yukio Hirose, Masaru Kanetani, Yuko Kobukata, Masao Okazaki, and Mai Osawa for their helpful comments on earlier versions of this paper. Finally, my special thanks go to Eleanor Olds Batchelder for kindly acting as an informant.

¹ The first citation of this usage in the OED² is dated 1965.

² In this relation, the following quote from the article by Mark Israel, “*Mouses vs Mice*,” is worth mentioning (the article is on the web at <http://alt-usage-english.org/excerpts/fxmouses.html>):

Wired Style: Principles of English Usage in the Digital Age (ed. Constance Hale, HardWired, 1996, ...) says: “What’s the plural of that small, rolling pointing device invented by Douglas Engelbart in 1964? We prefer *mouses*. *Mice* is just too suggestive of furry little creatures. But both terms are common, so take your pick. We actually emailed Engelbart to see what he’d say. His answer? ‘Haven’t given the matter much thought.’

...

Markus Laker reports from the U.K.: “In the early eighties, a few people did selfconsciously say *mouses*, but the traditional plural *mice* gained ground rapidly and is now more or less universal here.”

As is clear from the discussion so far and the above quote, either *mouses* or *mice*

can be used to refer to pointing devices.

³ See Pinker (1999:147-187) for a “reanalysis” account of why irregular words sometimes behave regularly.

⁴ For lists of other advocates of this approach, see Battistella (1996:10, 137, n.5) and Haspelmath (2003).

⁵ In this paper, I will restrict myself to this criterion for evaluating the markedness of an expression. This is not to say that the notion of markedness should correspond to only that of normalcy. For other criteria, see Battistella (1996), Haspelmath (2003) and references cited therein.

⁶ My informant’s preference for *mice* over *mouses* (recall the discussion on the examples in (4)) can be attributed to this marked status of the latter.

⁷ Recently, I became aware of the dissertation by Hilferty (2003), who, though in different terms, independently makes essentially the same point (Hilferty (2003:199)):

“[C]ore-grammar constructions ... have a broader range of pragmatic uses than do constructions from the periphery.”

The above remark, though indirectly, adds credence to my proposal.

⁸ Konno (2004c) argues that the FMFS is valid also in Japanese, which, together with the argument in this paper, suggests the possibility that the FMFS is a crosslinguistically valid generalization.

⁹ Although Horn’s and Levinson’s approaches are largely coextensive, there are also some differences between them, as Levinson himself points out (2000:137). The differences are, however, irrelevant to my main concern here and I will not go into their details.

¹⁰ Note in passing that the FMFS employs the notion of markedness more narrowly than the division of pragmatic labor. On this point, see the discussion in section 3 and Levinson (2000:137).

¹¹ A factor which seems to be related to the lack of blocking effect is the relatively low conventionality of *mouses*. In fact, if a speaker conventionalizes the use of *mouses* in question highly, that knowledge seems to block the use of *mice*, as seen in the following specification:

- (i) plural *mouses*
a small object connected to a computer by a wire, which you move with your hand to give instructions to the computer
- (LDOCE⁴)

For a discussion of the correlation between conventionality and blocking, see Hirose (2000).

¹² One might wonder why *prohibit* should have this implicature and regard it as a constructional effect of the form [_S NP₁ V₁ NP₂ *from* V₂-*ing* (NP₃)] in the sense of Goldberg (1995). But it is lexical semantic in nature, which is supported by the fact that the implicature in question obtains even when *prohibit* does not occur in the above syntactic frame. Observe:

- (i) The teacher prohibited his attendance at the course, so when he was there anyway, he was sent out of the room.
(cf. *The teacher prevented his attendance at the course, so when he was there anyway, he was sent out of the room.)

Thus, the issue is lexical semantic, not constructional, in nature. For more details, see Konno (2002, 2005:ch.7).

¹³ The term “unsuccessful causation” might sound contradictory, but I use it for want of a better term.

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