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# A Pragmatic/Semantic Explanation to the Polysemy of the Preposition *of*\*

Miki M. HANAZAKI

## 0. Introduction

Teaching a foreign language often provides students of linguistics with some topics for research. My case is not an exception: the students of mine who are Japanese and are learning English have many difficulties in acquiring the command of English, prepositions being one of the most difficult items to learn.

I, in this paper, will try to explain the various uses of the preposition *of* — I will claim that its diverse uses can, in fact, be treated as a case of polysemy, and will try to construct a unified theory explaining its polysemy — with the aim of contributing to English education; with a unified theory explaining a preposition, we can reduce the amount of memory work that learners of English must invest. I believe, also, that this paper will serve as a part of the research concerning the linguistic relativity<sup>(1)</sup>; following the assumption of cognitive anthropology, which states that the exploration of the everyday language data will clarify how the people of that language perceive their outer world, I believe that explaining the phenomenon of the preposition *of* will give us some hint for rethinking the relationship between language, thought and culture.<sup>(2)</sup>

To capture how the preposition *of* is used in everyday language, I have collected language data from daily conversation; some from

conversation actually held among native Americans (of course I asked for their permission to use the recordings as my data), some from talk shows on American T. V. (non-celebrities arguing with each other), and some from LL Corpus. Together, I have collected 298 data of the preposition *of* out of eight hours' conversation.

Through examining the data, as a consequence, we will see the following two points: 1. the various uses of the preposition *of* are best explained by taking it as a case of polysemy, and 2. although the preposition *of* seems to have many meanings, all of them can be captured in a diagram at the center of which its prototypical meaning is located.

#### 1. Levels and Methods of Analysis —Previous Studies—

We, in this paper, are to explore the everyday language data to explain the diverse uses of the preposition *of*, as we have made it clear in the previous chapter. In spite of much difficulty acquiring them, the prepositions are, as Zelinsky-Wibbelt says, a “category which had long been neglected in linguistic inquiry.”<sup>(3)</sup> (Zelinsky-Wibbelt 1993: 1) Jackendoff even says, “people seem never to have taken prepositions seriously.” (Jackendoff 1973: 345) If there are only few studies of prepositions, the studies concerning the preposition *of* are far fewer. There must be many reasons causing this inattention. To discuss the reason for this as a whole is beyond the scope of this paper; the fact that, under the structuralist climate, a great amount of attention was given to the formalism is clearly one of the reasons. In this chapter, we will seek the most suitable level and method of analyzing the various uses of the preposition *of* through sketching the very sparse previous studies, and as a consequence, we will see that its diverse uses are best explained by treating the preposition *of* as a polysemous word.

In linguistic inquiry, there are four possible levels to study the language data. Those are 1. sound level, i.e., phonological level, 2. word level, i.e., lexical level, (Notice I am using the word “lexical” instead of “semantic.” Here, the “lexical level” refers to the level in which attention is given purely to the word without referring much to the context.)<sup>(4)</sup>, 3. sentence level, i.e., syntactic level, and 4. above-sentence level, i.e., pragmatic and semantic level. (As I have mentioned in Note 4, under the assumption of non-autonomy of language, I will treat semantic and pragmatic level as the same level.) Among the four levels mentioned above, we will examine the data in the fourth level, i.e., pragmatic/semantic level.

Firstly, among the four levels mentioned above, we can say that neither studies in the phonological level nor those in the lexical level will enable us to draw the whole picture of how the preposition *of* is used in daily conversation. No research of prepositions or polysemy is carried out in these levels. On the one hand, sound level, i.e., phonological level, is clearly not sufficient, for we are concerned with the usage or the meaning of the preposition. Also, on the other hand, the word level, i.e., lexical level, seems insufficient to capture this phenomenon, for the meanings are, as Jakobson says, “defined by various combinations of surrounding words involving both their formal and their real reference.” (Jakobson 1936: 344) Focusing on the sound or exclusively on words will not lead us to the full explanation of the phenomenon that we are concerned here.

Secondly, between the remaining two levels, we can also argue that the syntactic level, too, is inappropriate in explaining the whole phenomenon. One of the very few studies that has tried to describe this situation of the preposition *of* from a syntactic point of view is Chomsky (1968). Chomsky (1968) argues for the “lexicalist hypothe-

sis,” namely “great many items appear in the lexicon with fixed selectional and strict subcategorization features, but with a choice as to the features associated with the lexical categories noun, verb, adjective.” (Chomsky 1968 : 8) To put it shortly, he says that all the information is stored in the lexicon, and the syntax chooses the information needed to make a sentence.

He treats the preposition *of* in the same way. He says :

(The verbs or the nouns that take *of* after them) will be distinguished from (those that do not take *of*) by the strict subcategorization feature [— PP]... (and) the preposition is an inherent part of the prepositional phrase, but not the object. (ibid. : 42 (note for ibid. : 23)) (brackets mine)

And then he continues to say that

The preposition of (is) inserted by a general rule applying to N -NP constructions. (ibid. : 23) (underline his, bracket mine)

To summarize his treatment of the preposition *of*, it would be as follows: *of* is “an inherent part of the prepositional phrase,” and the information whether a word (a verb or a noun) will take an *of* phrase after itself is stored in the lexicon of each word. When “general rule” is applied to the base structure, where lexicons are inserted, the preposition *of* is inserted if necessary.

An example by Chomsky himself illustrates his idea clearly : under this hypothesis together with the “general rule of agent-postposing” (ibid. : 22), he says (1c) is made from (1a) :

- (1a) The base structure of a complex noun  
 Det - N - NP - by  $\Delta$  (all from *ibid.*: 23)
- (1b) insertion of lexicons into the base structure  
 [the enemy's] - [destroy, +N] - [the city] - by  $\Delta$
- (1c) syntax applied (Notice the fact that *of* is inserted)  
 the destruction **of** the city by the enemy (bold mine)

To account for the irregularity that some verbs or nouns take the preposition *of* after the word (*approve of John*) but some do not (*\*read of John*), the “lexicalist hypothesis” seems effective. However, this hypothesis is far from being “economical” in Chomsky’s sense<sup>(5)</sup>: if we are to take the “lexicalist hypothesis,” the information stored in the lexicons is enormous, not “minimal.” Moreover, there is no mention, in this paper, of the preposition *of* which is “inserted” after an adjective, or a conjunction, or an adverb, or, moreover, not following any word, as in (2) ~ (5) from my data ;<sup>(6)</sup>

- (2) It’s very big of you. (of after an adjective)
- (3) She said she didn’t wanna come because of my father.  
 (of after a conjunction)
- (4) I say this despite of the fact that I am his fan.  
 (of after an adverb)
- (5) Of course, they all want this. (of in the sentence initial)

As a matter of fact, my data show that the preposition *of* can appear after almost all of the grammatical categories except prepositions, auxiliaries, and determiners, and it also can appear in the sentence initial as in (5). Being aware of this fact, Chomsky says, in another book, that *of* is an exception that needs to be stipulated. (Chomsky

1986 : 192)

If this is the case, sticking to the syntactic explanation will cause much more information in the lexicons, each corresponding to the “covert” *of*, which will appear in overt syntax if “general rules” are applied, in certain but not all nouns, verbs, adjectives, conjunctions, and adverbs. And what about the preposition *of* in the sentence initial? The more operative analysis of this irregularity of the appearance of the preposition *of* would be to abandon the explanation from the syntactic level, and try to approach the situation through another level of analysis, an analysis from the meaning of the word; instead of saying that the preposition *of* is “semantically empty” (Chomsky 1986 : 192), we should recognize the preposition as, as Crume (1935) says, “a word that indicates a (semantic) relation between the (word before the preposition)... and another word (after the preposition).” (Crume 1935 : 87, brackets mine)

The recent linguistic studies are also along this line of thought : in contrast to statements about prepositions which classify them as structure or function words, contributions to the semantics of prepositions have demonstrated that they exhibit specific semantic meanings. (See for example, Benett 1975, Brugman 1988.)

A strong support for studying this phenomenon of the preposition *of* from the semantic/pragmatic level comes from a critical review of another previous study. Recently, a collection of papers entitled The Semantics of Prepositions was published. However, probably because of the fact that the preposition *of* is “allegedly so ambiguous” (Jakobson 1936 : 346), only one paper out of 14 papers in this volume takes it up as a topic, i. e., a paper by Rauh (1993).

She, first of all, claims the existence of “lexical prepositions” in this paper (Rauh 1993 : 101) : the properties of these “lexical prepositions”

are just as those of lexical categories in their syntactic properties (it can be fronted, can make a cleft sentence, can be coordinated, can be replaced by a proform, can be specified by a specifier, and can assign Case) and semantic properties (it has the position as a head, can determine co-occurrence restrictions, can be semantically substituted by a proform, can metaphorically extend its meaning, and can assign and can be assigned a theta grid), hence they construct a lexical category.

Let me cite one of her examples, i. e., *above*. The syntactic and semantic behaviors of the PP are just as those of an NP, *his friend*; (from *ibid.*: 102 ~ 111, italic mine)

(6a) Bill recognized *his friend*.

(7a) The bug flew *above the wall*.

(6b) *His friend*, Bill recognized. (can be fronted)

(7b) *Above the wall*, flew the bug.

(6c) It was *his friend* that Bill recognized.

(can make a cleft sentence)

(7c) It was *above the wall* that the bug flew.

(6d) Bill read \**his friend*.

(has semantic properties of the head)<sup>(7)</sup>

(7d) The bug crawled \**above the wall*.

(6e) *his friend* — he, \*it

(semantically substituted by a proform)

(7e) *above the wall* — there, \*then

She also continues to show how similar other syntactic and semantic properties of a PP are to those of other lexical categories.

With many examples and much evidence, her arguments concerning

the “lexical prepositions” are clear and convincing. However, questions arise as to her explanation of “non-lexical prepositions” and there are considerable doubts as to her description concerning the preposition *of*.

She, secondly, claims to distinguish “lexical prepositions” from “non-lexical prepositions,” and lists criteria for distinguishing the two. One of her criteria involves a specifier: she says, a “lexical preposition,” *before*, can be specified by a specifier *right* as in (8) but a “non-lexical preposition,” *by* in *by the pound*, cannot as in (9), which shows that “non-lexical prepositions” are not the “head” of the construction;

(8) John came right *before Mary did*. (ibid.: 104, italic mine)

(9) Bill bought coffee (\*right) *by the pound*.

(ibid.: 128, italic mine)

The distinction of “lexical” and “non-lexical” prepositions have defects in itself, which we will come back later, but let us first concentrate on the lack of conviction concerning the preposition *of*: she does not offer a unified view of it. In this paper, which is as long as 51 pages, she mentions the preposition *of* only three times, and that in three different sections. Firstly, she mentions *because of* and argues this to be a “lexical preposition” on the ground that it “exhibits all the properties of lexical prepositions.” (ibid.: 126) Secondly, she cites *out of shape* and claims this to be a “non-lexical preposition” basing her claim, most of all, on the fact that *out of shape* cannot take specifiers as can be seen in (10), therefore it “is not the head of the construction” (ibid.: 128);

(10) Bill is (\*right) *out of shape*.

This *of* is, according to her, “a preposition in a fixed phrase.” (ibid. : 127) Thirdly, she takes up *of* as in *the book of John* and says this is a “non-lexical Case-marking” preposition. To sum up her arguments, there are three types of the preposition *of*, i. e., a lexical preposition, a non-lexical preposition in fixed phrases, and non-lexical Case-marking prepositions. We should say that dividing the preposition *of* into three kinds is far from being a unified theory of it, and assuming iconicity, there must be a unity in its meanings.

Also, we can criticize her criterion for distinguishing the “lexical” and “non-lexical” prepositions. The examples of “non-lexical prepositions” that she gives are, among others, *out of shape*, *by the pound*. Indeed, these seem to be fixed phrases. How about *take care of*, *get rid of*, *instead of* from my data? These do not have a restriction as to the word after the phrase, another criterion for distinguishing the two, hence she may claim these to be “lexical prepositions.” However, they are usually taught as “fixed phrases” in English class rooms, and moreover, adding the specifier cited above, *right*, another criterion of hers, to these, or even to the lexical preposition given by her, *because of*, is unacceptable.<sup>(8)</sup>

(11) She hasn't (\*right) *took care of* me.

(12) She said she didn't wanna come (\*right) *because of* my father.

We must say that her arguments of distinguishing the “lexical” and “non-lexical” prepositions are weak. Rather, as she says herself, fixed phrases must have been made by “reducing their degree of markedness,” (ibid. : 132) thus all of the preposition *of* should be treated as “lexical prepositions” ; what she claims to be “non-lexical prepositions”

are the “extension” or the “elaboration” of one value.<sup>(10)</sup> In other words, we should treat the preposition *of* as a polysemous word.

So far we have decided to explain the various uses, viz., the polysemy, of the preposition *of* in the semantic/pragmatic level. Still, there is one more thing to decide: the method of analysis. A critical review of another previous study will suggest the most suitable method for studying the polysemy of the preposition *of*.

Langacker, in his paper entitled “The meaning of of and of of-periphrasis,” discusses the polysemy of the preposition *of*. (Langacker 1992) In this paper, he modifies his theory developed in a paper published beforehand which states that the preposition *of* “profiles an inherent-and-restricted subpart”<sup>(11)</sup> (Langacker 1990 : 111) : Although the preposition *of* in (13) and (14) seem to profile a “subpart,” in other words, indicate a part/whole relationship, those in (15) ~ (17) seem to contravene the explanation that they indicate such a relationship :

(13) the bottom of the jar

(Langacker 1990 : 111, also in Langacker 1992 : 485)

(14) the tip of my finger (the rest from Langacker 1992 : 486)

(15) a ring of gold

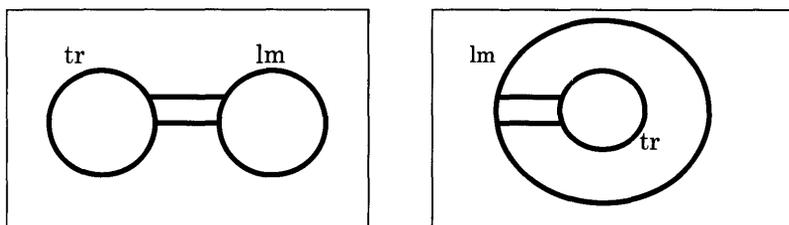
(16) the state of California

(17) an acquaintance of Bill

In the 1992 paper, he extracts the schematic value shared even with (15) ~ (17) and argues that the preposition *of* “*profiles* a relationship between two entities, such that one of them (its trajector, or subject) constitutes an ... *intrinsic* relationship to the other (its *landmark*, or object).” (Langacker 1992 : 484, italics and brackets his) He also claims that the preposition *of*, which denotes the part/whole relationship, is

“reasonably considered prototypical”. (ibid.: 487) He, then, diagrams the schema of the preposition *of* and the prototypical value of it as Figure 1 and 2 respectively :

FIGURE 1 : the schematic value of *of*    FIGURE 2 : the prototypical value of *of*



(ibid.: 487)

The double line indicates the “intrinsic” relationship between the trajector (tr) and the landmark (lm), and the heavy lines, profile.

His arguments are clear and sound, offering as many as three supports for this theory.

He continues to say that if we assume the schematic value of the preposition *of* as in Figure 1, it is possible even to explain the *of* between a nominalized verb and a noun as those in (18) :

- (18) the chirping of birds ; the consumption of alcohol ;  
       the destruction of the Iraqi army                    (ibid.: 486)

He combines the schematic value of the preposition *of* and the schematic value of the reification of an event to give an explanation to the *of*'s in (18). (For more details, see Langacker 1992.)

However, I must say there is one deficit in Langacker's theory, i.e., a lack in the variety of the data. Probably because he tried too hard to argue that “the study of grammar can no longer be insightfully pursued without considering its inherently symbolic nature,” (ibid.:

501) in other words, to oppose to the idea of autonomy of language and to the idea that the preposition *of* is a semantically empty grammatical marker, he only takes up *of* which is likely to be considered from a syntactic point of view. In concrete terms, just as Chomsky (1968) explains only the preposition *of* in an N-NP construction, Langacker offers 34 examples of the preposition *of* ; 28 of them are those in an N-NP construction, and the rest in a nominalized verb-NP construction. As we saw earlier, my data show that the preposition *of* can appear not only after nouns or nominalized verbs, but also after verbs, adjectives, adverbs, conjunctions, and even in the sentence initial as in (2) ~ (5).

From this observation, it is clear what we must do in order to draw the whole picture of the polysemy of the preposition *of* : we must analyze not only those after nouns or verbalized nouns, but those in the everyday language data and see how they are related to the schematic value or the prototypical value suggested by Langacker.

When we are to give an explanation to a linguistic phenomenon in which one particular linguistic construction has many meanings, some meanings being the extension of others, the best approach to the phenomenon is to adopt the “bottom-to-top” model. (For example, using this “bottom-to-top” model, Taylor (1995) is successful in giving an explanation to why past-tense has many meanings.) This “bottom-to-top” model is described in the works of Langacker. He says :

Another fundamental concern is ... the problem of specifying which elements (read as meanings here) are allowed to occur in particular constructions ... A natural solution is available in cognitive grammar owing to its usage-based or “bottom-to-top” character, i. e., its emphasis on specific expressions and the extraction therefrom of low-level (abstraction)... as well as

those representing higher levels ... (Langacker 1991: 6-7, brackets mine)

In other words, this “usage-based” or “bottom-to-top” model will enable us to explain why more than one meaning can occur in one particular linguistic construction by putting emphasis on the specific expressions, i. e., data from daily conversation, and extracting “low-level abstractions” from them. If we limited the data to the preposition *of* after nouns or verbalized nouns at the first hand, we would not be able to see the whole phenomenon; by putting emphasis on the daily data and see how they are related by extracting the “low-level abstractions” out of them, we would be able to picture the whole phenomenon. (For a more detailed support for adopting the “bottom-to-top” model in such research, see Hanazaki 1998b.)

To summarize the arguments put forth so far, in this chapter, we have tried to seek the most suitable level and method for conducting a study explaining the various uses of the preposition *of* through a brief sketch of previous researches. We have come to the following conclusions; 1. we must approach the phenomenon in the semantic/pragmatic level, i. e., treat the preposition *of* as polysemous, and 2. we must treat all the preposition *of* as “lexical prepositions,” i. e., either as the prototypical value or its extensions, and this is done by analyzing the everyday language data using the method of “bottom-to-top” model.<sup>(12)</sup>

In the next chapter, following the “bottom-to-top” model, we will explore the everyday language data of the preposition *of* through extracting the “low-level abstractions” out of the data, and see how it extends in meanings.

### 3. Analyzing the Polysemous *of*

In this chapter, in order to picture the whole phenomenon of the polysemy of the preposition *of*, we will analyze the preposition through three stages using the “bottom-to-top” model: we will, first of all, extract the “low-level abstraction” out of the data, i. e., categorize the data into different types; secondly, we will see how each type is similar and different from the others; and lastly, we will see how each “low-level abstraction” is related to each other, and will picture the whole network of the polysemous preposition *of*.<sup>(13)(14)</sup> These stages follow Norvig and Lakoff (1987), who analyze the polysemy of a verb, *take*, by extracting “low-level abstractions,” i. e., dividing the data into types, and picturing the relation between the types around its prototypical meaning.

If we divide my 298 data of the preposition *of* into types in order to extract “low-level abstractions,” the data can roughly be divided into 12 types.<sup>(15)</sup> (Notice that, by the definition of prototypes, these classifications are not a strict one, but the data form a continuum.)<sup>(16)</sup> We will call each type Type 1, Type 2 ... respectively. The followings are some examples for each type; (Each one is named by its meaning, and the number of them in my data is given.)

Type 1 — partition — 125 of them in the data

(19) That is the biggest day of my life.

(20) He is a member of the Conservative Party.

Type 2 — genitive — 65 of them in the data

(21) I felt like the black sheep of the family.

(22) Take advantage of it.

Type 3 — in the “area” — 12 of them in the data

(23) We know that there’s a strong division of opinion.

(24) There is no point of asking for this particular date.

Type 4 — quantity — 7 of them in the data

(25) I'll have plenty of time to deal with them.

(26) Take them in a glass of water.

Type 5 — the state of the following word —

8 of them in the data

(27) I don't understand why it is so wrong of me to go away.

(28) It's very big of you. (= (2))

Type 6 — source, from — 25 of them in the data

(29) We were put out of the situation.

(30) He received mercy of the Home Secretary.

Type 7 — cause — 6 of them in the data

(31) He died of cancer.

(32) She said she didn't wanna come because of my father.

(= (3))

Type 8 — material, ingredient — 7 of them in the data

(33) He made a frame of wood.

(34) He has a heart of stone.

Type 9 — class and an example — 9 of them in the data

(35) We're having this meeting of CSC assistant.

(36) We've had this continuing increase in crimes of violence.

Type 10 — subject matter, about — 11 of them in the data

(37) It's a debate of rights and wrongs.

(38) They've got quite a good opinion of him.

Type 11 — concession — 5 of them in the data

(39) We went for a walk in spite of the fog.

(40) I say this despite of the fact that I am his fan. (= (4))

Type 12 — of course — 18 of them in the data

(41) Of course, they all want this. (= (5))

Let us, next, see how each type is similar and different from other types.

Type 1 — partition — is what Langacker claims to be the “reasonably considered prototypical” meaning of the preposition *of*, i. e., the word before *of* is a “subpart” of the word after it (Langacker 1990 : 110, 1992 : 487) ; in (19), *a day* is a “subpart” of *my life*, and in (20), *a member* is a “subpart” of *the Party*. We can safely assume Type 1 to be the prototype of the preposition *of* ; not only I but also the five native Americans whom I asked felt it natural to affirm this type to be the prototype ; also, the number of this type in my data, which is overwhelmingly more than any other type, supports to declare Type 1 to be the prototype of the preposition *of*.

Type 2, 3, 4 and 5 are related to Type 1, for these types, too, entail some notion of inclusion.

Among the four types connected to Type 1, Type 2 — genitive — entails some kind of “inclusion,” but differs from Type 1 in the following respect ; the word before the preposition *of* is not the “subpart” of, or, in other words, does not have a part/whole relationship with the word after it, rather the two words are in a possessed/possessor relationship ; in (21), *the family* “has” *a black sheep*, and in (22), *it* “has” some kind of *an advantage*. We can say that the prototypical value of the preposition *of* is “transposed” into possessed/possessor frame.<sup>(17)</sup> (See Hanks (1990) for the idea of “transposition.”)<sup>(18)</sup>

Type 3 — in — is also tied to Type 1 in that it entails some kind of “inclusion,” but differs in that the two words before and after the preposition *of* are not in a part/whole relationship : instead, the word before *of* is in the “area” of the word after it. The notion “area” is used in Radden’s (1989 : 448) sense of “the thematic context or field within which an event is seen” ; thus in (23), there is a *division* within the

“context” of *opinion*, and in (24), there is *no point* within the “field” of *asking*. Type 3 is a metaphorical extension of Type 1, for the “whole” is extended to include “context” by the metaphor of treating context as a “CONTAINER.”<sup>(19)</sup> (Lakoff and Johnson 1980 : 99)

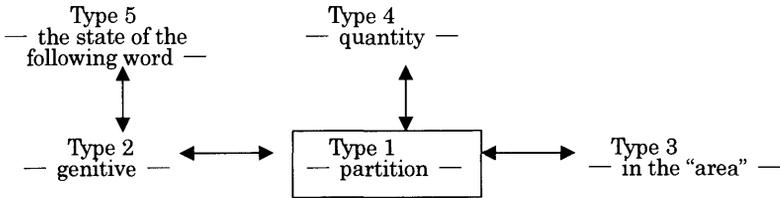
Langacker (1992) gives a suggestion to how Type 4 — quantity — is related to Type 1. He, in explaining the preposition *of* in *some of the peas*, says, “I analyze certain quantifiers as nouns that profile a mass characterized as constituting some proportion of a larger, reference mass. Hence *some of the peas* portrays the mass designated by *some* as a limited but non-zero portion of the larger mass identified as *the peas*.” (Langacker 1992 : 484-485) The same holds for (25) and (26), too ; in (25), *plenty* is a limited but non-zero portion of *time*, and in (26), *a glass* is a limited but non-zero portion of *water*. With this observation, we can say that Type 4 is close to Type 1 in that the word before *of* is a “part” of the word after the preposition, however, it differs from Type 1 in that it is a “transposed” version of Type 1 into a quantity frame ; the word before *of* is not a “subpart” of the after-word, but a smaller portion of it.

Type 5 — the state of the following word — is linked to Type 1 through Type 2 in that the word after the preposition *of* seems to “have” the character of the word before it ; in (27), *I* “have” the character of *wrong*, and in (28), *you* “have” the character of *pig*. It differs from Type 2 in that it focuses more on the state of the word after the preposition *of*, rather than the possession ; in other words, this type reduces the focus on the “inclusion” or the “possession” relationship and puts more focus on, i. e., profiles, the state.

So far, we have seen how Type 1, 2, 3, 4, and 5 are related to each other through seeing how they are similar and different to each other. If we connect the related types by a line, it will be as FIGURE 3 ; (Once

again, let me remind the reader that, by definition of prototype, the types do not strictly divide the data but form a continuum.)

FIGURE 3: The Relationship between Type 1, 2, 3, 4, and 5



The □ around Type 1 indicates that this type is the prototypical meaning of the preposition *of*.

We will continue to see the similarities and differences between the types that are not discussed yet.

Type 6, 7, 8, 9, and 10 differ from the types described above in that they do not entail a notion of “inclusion.” In these types, if we call the word before the preposition *of* *A*, and that after it *B*, i. e., *A of B*, *A* is not “included” in *B*, rather the situation seems opposite to “inclusion”; some denote a notion of “separation,” and others, the relationship that *A* is described by *B*.

The notion of “separation” is expressed most in Type 6 — source — among the five types to be discussed here; in (29), *out* entails a notion of “separation from” *the situation*, and in (30), *mercy* “comes out from” *the Home Secretary*.

Type 7 — cause — is closely related to Type 6. Dirven explains the relationship of — source — and — cause —; he says, an “image schema of separation from a source is so apt to become metaphorized into the expression of cause” (Dirven 1993: 96); in (31), *his death* seems to “come from” *cancer*, and in (32), *my father* was the “source” that caused the situation of *mother not coming*.

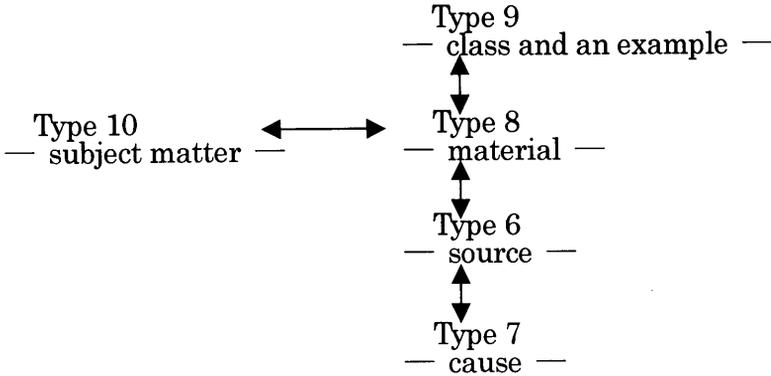
Type 8 — material, ingredients — is also connected to Type 6. The relationship between products and materials is one manifestation of the notion of “separation”; in (33), *a frame* is something “from” or the “product” of *wood*, and in (34), *his heart* is, metaphorically, a “product” made “from” *stone*. In other words, this type involves the “transposition” of the frame.

We can say that Type 9 — class and an example — is linked to Type 8 in that Type 9 profiles the thing/the kind relationship more than Type 8. The two words before and after the preposition *of* in Type 8 denote a relationship of a thing/the kind; *wood*, in (33), denotes the “kind” of a *frame*, and *stone*, in (34), indicates the “kind” of *heart*. So are the two words in Type 9; the *CSC*, in (35), is the “kind” of *meeting* to be held, and *violence* is the “kind” of *crimes* that is increasing in (36). Type 9 differs from Type 8 in that it does not profile the meaning of “separation.”

Just as Type 9, Type 10 — subject matter — is related to Type 8 in that the two words before and after the preposition *of* have a relationship of a thing/the kind; in (37), the *debate* that is held is the “kind” that will talk about *rights and wrongs*, and in (38), *they* may have many kinds of *good opinions*, but this opinion is a “kind” about *him*. This Type 10 differs from Type 8 in that it does not profile the “separation” notion as much as Type 8, and from Type 9 in that it involves the notion of “area” discussed above; the *debate* is that in the “context” of *rights and wrongs*, which suggests that this type is close to Type 3. (We will come back to this later.)

We are now able to draw the relationship between the five types above, i. e., Type 6, 7, 8, 9, and 10. Just as FIGURE 3, if we connect the closely related ones with a line, it will be as FIGURE 4;

FIGURE 4 : Relationship between Type 6, 7, 8, 9, and 10



We have, so far, discussed ten types of the preposition *of* ; those types that are yet to be discussed are Type 11 and 12. The expressions included in these types are those that are likely to be taught as “fixed phrases” in English classes. However, we can dispose of the idea of treating them as something to be remembered, if we see how closely they are related to another type ; Type 11 is closely connected to Type 9, and Type 12 to Type 3.

Concerning Type 11, *in spite of* is usually treated as “one phrase” but when we think of each word literally, we can say this also denotes a thing/the kind relationship as in Type 9. *Spite* means *malice* ; “if you do something nasty out of spite, you do it because you want to hurt or upset someone” (“spite” in *Cobuild.*), hence *in spite of the fog* (39) can be glossed, literally, as *in malice of fog*, i. e., a relationship of a thing and the kind. Another example is (40) ; *the fact that I am his fan* is a “kind” of a situation which seems to contravene *this*. From this observation, we can say Type 11 is related to Type 9 ; its repeated use reduced its markedness, and consequently, has become a “fixed phrase.”

Same kind of explanation can be offered to Type 12 : *of course* is

used “to suggest that something is normal, obvious, or well-known.” (“*of course*” in Cobuild) In other words, *of course* suggests that something is “in” the course of things, hence we can say that Type 12 is related to Type 3, i. e., the word before the preposition *of* is “in” the “area” of the word after it. Once again, the repeated use of the phrase has led it to become a “fixed phrase.”

Having explained how each type is similar and different from the others, we will move to the last stage of analyzing the polysemy of the preposition *of* : picturing its whole network of the polysemy. We can carry this out by putting FIGURE 3 and FIGURE 4 together, and by adding Type 11 and 12 in the picture.

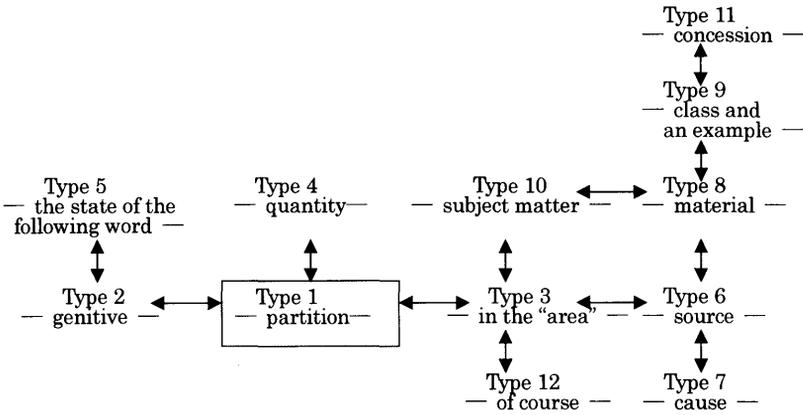
We can reasonably argue that Type 3, 6 and 10 connect FIGURE 3 and FIGURE 4. We have already seen the closeness between Type 3 and 10. Type 3 and 6 are also linked by a line based on the fact that they both imply a direct contact in “area”: — separation — requires a direct contact beforehand and this “separation” is from an “area”; in (29), “separation” from the *situation*, and in (30), “separation” from the *Home Secretary*.

With these observations, we can say that FIGURE 3 and FIGURE 4 are connected as in FIGURE 5, which shows the whole network of the polysemy of the preposition *of*.

We can list two strong supports for FIGURE 5 ; firstly, the data of the first appearance of each type of the preposition *of*, according to OED, supports FIGURE 5 ; and secondly, the pattern of extension supports FIGURE 5.

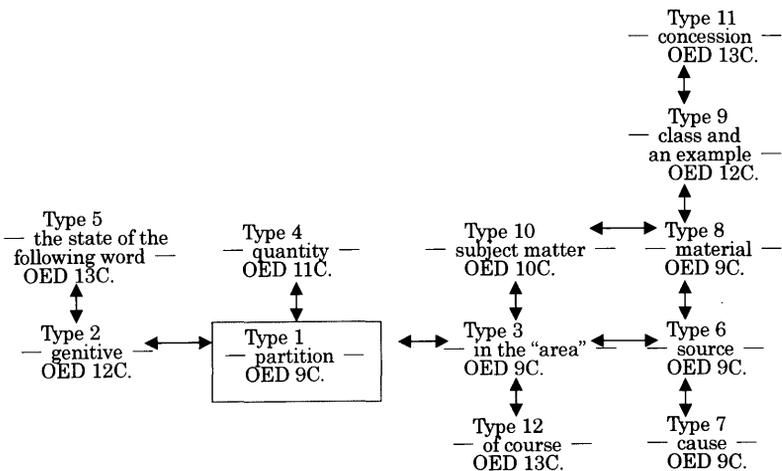
OED tells us that “the primary sense (of the preposition *of*) was ‘away’ ‘away from,’ a sense now obsolete, except in so far as it is retained under the spelling *off*. All the existing uses of *of* are derivative.” (“*of*” in OED, bracket mine) This fact alone may serve as a

FIGURE 5 : The Whole Network of the Polysemy of the Preposition *of*



support for FIGURE 5 in that OED clearly states the “uses of *of* are derivative,” but if we add the information when each type of the preposition *of* first appeared to FIGURE 5, as in FIGURE 6 we can see that the extensions of its meaning coincide with these dates, which strongly supports FIGURE 5.

FIGURE 6 : The Development of the Meaning  
of the Preposition *of* According to OED



Also, the pattern of development supports FIGURE 5. According to Lindstromberg, “During the period of Norman-French conquest of England ... English ... was altered by the use of *of* to translate into English certain French constructions that hitherto had had no exact counterparts in English ... For example, among the many uses of the French preposition *de* there was (and is) that of indicating ‘partness’ eg. *le centre de la ville = the center of this town* ... and this played a role in the eventual evolution of *of*.” (Lindstromberg 1997: 195, bracket, italic, bold his) If we see FIGURE 6 from this point of view, interestingly enough, we can find that extensions of meanings centering around Type 6, the original meaning of the preposition *of* discussed above, appeared, mostly, before 1066, and those centering around Type 1, after 1066. Going further into this point requires another paper, but, at least, from here, we are able to say that this fact may suggest a change in the prototypical meaning and supports the idea that extensions of the meaning center around its prototypical meaning, hence FIGURE 5.

We have, in this chapter, tried to analyze the polysemous preposition *of* by picturing the whole network of the word, and have come to the conclusion that although *of* has many meanings, all of the meanings can be captured in a diagram at the center of which its prototypical meaning is located; all the meanings can be treated either as a prototypical meaning or its extensions.

### 3. Concluding Remarks

This paper has tried to explain the “unusually complex” (Lindstromberg 1997: 195) uses of the preposition *of* by a unified theory. In chapter 1, we have seen that the various uses of the preposition *of* are best explained by taking it as a case of polysemy. In chapter 2, we have

built a unified theory explaining the polysemous preposition *of* by capturing the word in one network, i. e., the prototypical meaning and its extensions.

With this conclusion, we can say that one of the aims of this paper has been fulfilled. A unified theory for an “unusually complex” preposition must be a help for better English education. Of course, ample room is left for studying other prepositions as well as other phrases now generally treated as the things a learner must remember.

Another objective of this paper, i. e., to serve as a part of the research concerning linguistic relativity, is also attained. We have seen that meanings are extended by metaphorizing or transposing the frame. This suggests a hint for rethinking the relationship between the way of speaking and the way of thinking. However, this too, leaves outspread scope for future research.

### Notes

- \* I am grateful to many people for their insightful comments, especially Professor Norimitsu Tosu, Tamao Araki, Naohiro Tatara, and Kazuo Hanazaki among others.
- (1) Linguistic Relativity, here, means a tentative hypothesis that there is a relationship between language, thought and culture. (See Hanazaki 1998a.) I do not intend the so-called “strong version” of the Sapir-Whorf Hypothesis, which is usually abandoned. (See Tosu 1998 for example.) Just to mention, the so-called “strong version” of the Sapir-Whorf hypothesis is not what Sapir nor Whorf intended. This can be seen in their own writings. (See for example, Sapir 1929 : 162, Whorf 1939 : 134, and Lee 1997 : 30.)
- (2) See for example Taylor (1969) and the papers in the book.
- (3) Zelinsky-Wibbelt says that there are only “lonesome riders” of about 6 who studied prepositions in spite of the “positive and realist” climate. (Zelinsky-Wibbelt 1993 : 2)
- (4) There are some controversies as to the distinction between seman-

tics and pragmatics. If we do not believe in the autonomy of language, the semantics, i.e., the meaning, cannot be separated from its contexts in which it is used, i. e., the pragmatics. For more detailed arguments against the autonomy of language, see Croft (1995).

- (5) Of course, I mean “economical“ or “minimal” in the way syntacticians want them to mean. (See Chomsky 1995.)
- (6) Chomsky (1986) takes up the preposition *of* after an adjective as in *John is uncertain of the time* (1986 : 89). He argues that it is “inserted to assign Case.” (1986 : 89) However, just above this example, he gives another example, i. e., *John is uncertain about the time*, and explains this in the same way, i. e., “a preposition is inserted assigning Case.” He offers no explanation why the preposition *of* must be inserted instead of any other preposition.
- (7) *Above* in (7d) is unacceptable because *crawl* implies “a contact with the surface” (Rauh 1993 : 108) whereas “above is marked as expressing distance.” (ibid. : 108) This fact shows that the preposition *above* restricts the co-occurrences, hence has the semantic properties of the head.
- (8) I, myself, judge these to be unacceptable. I, also, have assured my judgment by asking 5 native Americans : none of them said these are acceptable.
- (9) We can also treat what she calls “non-lexical Case-marking prepositions” as “lexical prepositions” assuming iconicity. We will come back to this later. (See, also, Note 6.)
- (10) The words “extension” and “elaboration” are used in Langacker’s sense. (Langacker 1988 : 51-53)
- (11) Langacker (1990) tries to oppose to the idea that the preposition *of* is inserted by “the general rule” of N-NP constructions, an explanation offered from a syntactic point of view, and says that the preposition *of* is also a lexical item, whose central meaning is “A is a part of B,” in *A of B*. He bases his arguments on the following sets of the preposition *of*.
  - (i) the bottom of the jar      (all from Langacker 1990 : 111)
  - (ii) ? the label of the jar
  - (iii) ? the lid of the jar

The acceptabilities of (ii) and (iii) are lower than (i) because *label* and *lid* is not so much a part of the *jar* as the *bottom*. His attempt

to picture the preposition *of* in the diagram whose center is the prototypical value, i. e., “A is a part of B”, is worth noting. However he only cites 3 pages concerning the preposition *of* in the book and he treats only those after a noun.

- (12) After all, there is no linguistic form without meaning, as the most basic assumption of cognitive grammar states, and assuming iconicity, there must be a unity in the variety of its meaning.
- (13) In extracting the “low-level abstractions,” there are two types of approaches: 1. an approach suggested by Brugman (1981) and Lakoff (1987), i. e., prototypes are extracted as the “low-level abstraction” out of the data, and the extension is explained by metaphor, metonymy and changes in image schemas; and 2. an approach suggested by Langacker (1988), i. e., out of the data, we must extract schemas, which allow vertical extensions, and prototypes, which allow horizontal concretization. I will adopt the former approach, for the distinction between a “schema” and a “prototype” is sometimes redundant, and also because I believe the explanation based on metaphors is closer to the natural way of perceiving the outer world. (For more detail, see Kawakami et al. (1996).)
- (14) There are two methods of picturing the relationship between the prototypes: 1. a method suggested by Brugman (1981), i. e., a method that will picture the prototypes by its components; and 2. a method suggested by Norvig and Lakoff (1987), i. e., a method that will divide the data into types and picture the network through drawing the relationship between types. Between these two methods, I will adopt the latter method, for the former method is open to the same objections argued against the componential analysis. (See Tosu (1981) for example.)
- (15) I divided the data into 12 by examining which preposition other than *of* has the most similar meaning. For example the meanings of the utterances categorized in Type 3 will not change much if we used the preposition, *in*, in stead, and those of Type 6, *from*. I also consulted the categorization suggested by Gogen-Jiten, Quirk et al. (1985), and Lindstromberg (1997).
- (16) I am arguing here that meanings are elaborated and extended from its prototypical meaning. By definition, there are entries on the continuum: it is impossible to categorize all of the data strictly.

- (17) Hanks (1990) says that many referential indexes in speech involve calculating a referent in the narrated event ( $E^N$ ) from a contextual element in the speech event ( $E^S$ ). I take this idea of “transposition” in a broader sense with the idea that one element in speech involves changes in frames.
- (18) It is worth noting here that this idea of “transposition” is very close to what Cognitive Grammar names “changes in image schema.”
- (19) Lindstromberg (1997) also argues that this preposition *of* is a manifestation of the THING IN THE CONTAINER metaphor suggested by Lakoff and Johnson (1980).

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