A Study of Semantic Extensions of Spatial Expressions in English and Japanese

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Abstract

Metaphor is not only a device of poetic imagination and rhetorical flourish, but it is also bases of our languages, thoughts and actions. That is to say, metaphor is pervasive in everyday life, and thus we are always in lots of metaphors and use them unconsciously. The purposes of this thesis are to investigate the processes of semantic extensions and semantically extended scopes of *big*, *small*, *ookii* and *chiisai*, and to find the differences between English and Japanese by comparing the investigation data. As I had to collect lots of examples for my investigation, I collected examples from dictionaries, online newspapers, literary works, web sites and so on. After that, I categorized those examples according to what I called 'aspects'. After the investigation and categorization, I organized the aspects systematically, and the semantically extended scopes of *big*/*small* and *ookii*/*chiisai* are specified clearly. Through this research, I obtained the following result: The essential concept of *big*/*small* in English and *ookii*/*chiisai* in Japanese are the same, but the framings to perceive things are different in English and Japanese. I hope this consideration and the processes of semantic extension revealed in my dissertation can be applied to the investigation of other adjectives.

Contents

Chapter 1: Introduction

Introduction to this thesis

What is metaphor? Lakoff answered this question in his book, Metaphors We Live By, as follows:

"Metaphor is for most people a device of poetic imagination and rhetorical flourish—a matter of extraordinary rather than ordinary language," and "metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system in terms of which we both think and act, is fundamentally metaphorical in nature."　　(Lakoff and Johnson 2003: 3)

That is, we are always in lots of metaphors and use them unconsciously. Without metaphors, we can only make dull and obscure conversations.

I have an eye on *big* and *small* to investigate the metaphors which lurk in everyday lives. The reason why I choose *big* and *small* as research objects is that I, as a second language learner, think that they can modify a broad range of nouns. I also choose '*ookii*' and '*chiisai*' in Japanese, as comparison objects, because they are almost always used for the Japanese translation of *big* and *small*. In summary, I target at *big* and *small* in English and '*ookii*' and '*chiisai*' in Japanese for my investigation, and I compare the data of their semantic extensions. I plan to find the differences between English and Japanese by comparing them.

Notice of the next two claims in order to read this thesis. The first claim is that the core meanings of *big*, *small*, '*ookii*' and '*chiisai*' are 'to represent the sizes of three-dimensional physical objects', and the other meanings are generated by the linkage between each aspect which is included in nouns and *big*, *small*, '*ookii*' or '*chiisai*'. Therefore, the core meaning of *big* and *ookii* is 'to represent the bigness of

three-dimensional physical object' and the core meaning of *small* and *chiisai* is 'to represent the smallness of three-dimensional physical object'.

The dictionary (Oxford Dictionary of ENGLISH) says that the meanings of 'big' are 'of considerable size or extent', 'larger than other items of the same kind', 'grown-up', 'elder', etc. But in my study, I restrict the meanings of *big*, *small*, *ookii* and *chiisai* within their core meanings. I consider these core meanings as prototypical meanings, and the other meanings are generated by the linkage between the aspects and the prototypical meanings. (About 'aspect', see Terms and Definitions.) I investigate the semantic extensions of *big*, *small*, *ookii* and *chiisai*, based on these concepts. These are based on the following hypothesis: All of the meanings which are contained in words are not originally inherent in themselves, except the prototypical one. They are generated on the basis of the processes of various semantic extensions.

The second claim is that 'the essential concepts of *big* and *small* in English and *ookii* and *chiisai* in Japanese are the same.' If they were fundamentally different concepts, no one would choose them as the translations of each other. Thus I investigate English and Japanese on the assumption that core meanings of *big*/*small* and *ookii*/*chiisai* are the same. And I also investigate whether this claim is valid or not.

In summary, the purposes of this thesis are to investigate the processes of semantic extension and semantic scopes of *big*, *small*, *ookii* and *chiisai*, and to find the differences between English and Japanese by comparing the processes of semantic extension and semantic scopes of *big*/*small* and *ookii*/*chiisai*. This investigation is based on the following two premises; the core meanings of *big*, *small*, '*ookii*' and '*chiisai*' are 'to represent the sizes of three-dimensional physical objects', and the other meanings are generated by the linkage between each aspect which is included in nouns and *big*, *small*, '*ookii*' or '*chiisai*' and 'the essential concepts of big and small in English and

ookii and *chiisai* in Japanese are the same'.

Terms and Definitions

In this part, I introduce my own terms and fundamental definitions, which are important to read on. For a start, I define the most basic concept, 'metaphor'. I cite the definition of metaphor from Lakoff and Johnson (2003).

"The essence of metaphor is understanding and experiencing one kind of thing in term of another." (Lakoff and Johnson 2003: 5)

Based on this, I define metaphorical extension as follows.

'Metaphorical extension is a kind of semantic extension which uses a transcript (in other words, a *mapping*) from a source domain to a target domain'.

However, I set the following restrictions.

1. A certain similarity between a source domain and a target domain is needed.

2. A source domain and a target domain are not the same.

3. A component which is transcribed is a part of source domain, not the entire source domain.

4. A concept is transcribed to a target domain unidirectionally in principle.

First, 'a certain similarity between a source domain and a target domain is needed'.

All of the metaphors are based on similarities between two things or concepts. Then, what kind of similarities do we need for using metaphors? Subjective similarities are mainly needed rather than objective similarities. (For your detailed information, see Chapter.2, Matsumoto 2003)

In my study, the similarities are the one between the prototypical meanings of 'big', 'small', '*ookii*' and '*chiisai*' and the extended meanings in a target domain. Thus the similarities refer to 'physicality' in almost all of the cases.

Second, 'a source domain and a target domain are not the same.' It means that a gap is needed between two domains. If they were the same, it would be no longer a metaphor; rather it would be 'literal'. Thus two concepts would become the same concepts. For instance, there is the conceptual metaphor, TIME IS MONEY. If this were not a metaphor, that is, if we were in the world in which TIME IS MONEY was a literal expression, 'time' would be regarded as 'money' itself. A metaphor using TIME IS MONEY would no longer be a metaphorical expression; it would be a literal expression. That is why a gap is needed between two things or concepts for there to be a metaphor. This consideration plays no part in my study, but it is needed in the general theory of metaphor for considering other metaphors.

Third, the conceptual structure which is transcribed to a target domain from a source domain is a part of its structure in principle, not the whole structure. As to 'transcribing a part of structure', you can grasp that meaning, if read a following citation.

"The very systematicity that allows us to comprehend one aspect of a concept in terms of another (e.g., comprehending an aspect of arguing in terms of battle) will necessarily hide other aspects of a concept. In allowing us to focusing on other aspects of a concept (e.g., the battling aspects of arguing), a metaphorical concept can keep us from focusing

on other aspects of the concept that are inconsistent with that metaphor." (Lakoff and Johnson 2003: 10)

As can be seen, when certain aspects of a concept are highlighted, other aspects which are inconsistent with that metaphor are suppressed. This indicates 'transcribing a part of structure'.

But if the whole structure is transcribed, what will be happen?

"It is important to see that the metaphorical structuring involved here is partial, not total. If it were total, one concept would actually *be* the other, not merely understood in terms of it."(Lakoff and Johnson 2003: 13)

This consideration also plays no part in my study, but it is needed in the general theory of metaphor for considering other metaphors.

Fourth, 'a concept is transcribed to a target domain unidirectionally in principle.' I explain this in detail in Chpater.2 Literature Review, Matsumoto (2003), thus I introduce this restriction briefly. In short, a transcript from a source domain to a target domain is unidirectional. If you exchange the source domain for the target domain, a structure which is transcribed is different from the structure before exchanging. Different structures are transcribed in each case. For instance, what PLANTS ARE PEOPLE transcribes is different from what PEOPLE ARE PLANTS transcribes. However, there is one exception. Metaphors which transcribe images (*e.g.* He has a pear shape.) have bidirectional transcripts. For instance, the image of human shape which is transcribed to the domain of fruit shape is the same as the image of pear shape which is transcribed to the domain of human shape. That is, the same image is transcribed in both

cases.

At the end of this section, I define my own term 'aspect'. This is a feature of a noun. And this is also the part which the adjectives modify. The categorization in my study is based on this 'aspect'. For example, the category 'the aspect of event' is a collection of the nouns which have the aspect of event.

Note that nouns have several aspects in them. For instance, the word 'class' has [group][number][container] ([group] indicates the aspect of group) as its aspects. (This is just for an example, 'class' has other aspects including these.) In some cases, you may think that my categorization is incorrect. I have paid attention to categorization, but it is not easy to categorize words accurately, because they have several aspects. I will not investigate each noun closely to check all aspect in the noun, since this problem does not match the keystone of this study.

The category name which I set as an aspect is a prototypical word in each category. When 'big' can modify this prototypical word, all of the words in that category can be modified by 'big'. I name this 'The Superordination Hypothesis'. The Superordination Hypothesis; when a word W can be modified by a word A, (i.e. an adjective) all the words in the same aspect can be modified by A. For instance, when the word 'event' in 'the aspect of event' can be modified by 'big', all of the words in 'the aspect of event' can be modified by 'big'.

An outline of this thesis

This thesis is composed of six chapters. I introduce overviews of each chapter.

In Chapter 1, 'Introduction', I will state the gist of my study, important terms and

definitions in this thesis and the outline of this thesis.

In Chapter 2, Literature Review, I will present important excerpts from five papers in the literature. They are *Metaphors We Live By* (Lakoff and Johnson 2003), *Women, Fire, and Dangerous Thing* (Lakoff 1987), *Ninchiimiron* (Cognitive Semantics) (Matsumoto 2003), *The Stuff of Thought* (Pinker 2007) and *The Language of Metaphor* (Goatly 1997). I also present my ideas and opinions which are based on each important excerpt.

In Chapter 3, 'Prototypical Meaning and Semantic Extensions in English (*big* and *small*)', I investigate the processes of semantic extension and semantic scopes of *big* and *small*. This chapter and the next chapter are the main contents of this study.

In Chapter 4, 'Prototypical Meaning and Semantic Extensions in Japanese (*ookii* and *chiisai*)', I investigate the processes of semantic extension and semantic scopes of Japanese words, '*ookii*' and '*chiisai*'.

In Chapter 5, 'Comparison of English and Japanese', I make comparison between the two results of investigation in the previous two chapters, and I make a conclusion which is based on that comparison.

In Chapter 6, 'Conclusion', I make overall conclusion of my study.

Supplemental Explanation

I extracted many examples from references and some web pages for data. Moreover, other examples were quoted from some dictionaries including E-DIC and *Eijiro on the Web*, an online dictionary. The examples without reference are made by me, and they are checked by native speakers. The other examples have references, so see References.

In Chapter 3 and 4, a subcategory which follows the main category, has consecutive number in its title. (e.g. 3.5.5.1 is the subcategory of 3.5.5)

In Japanese examples, '*ookina*' and '*chiisana*' appear in the sentences. They are just different forms of '*ookii*' and '*chiisai*', and they mean the same things.

Chapter 2: Literature Review

Metaphors We Live By (Lakoff and Johnson 2003)

This book is fundamental for studying, considering and examining metaphors. Lots of consideration in my thesis is based on Lakoff and Johnson's ideas.

The authors stated what metaphors are as follows;

"Metaphor is for most people a device of poetic imagination and rhetorical flourish—a matter of extraordinary rather than ordinary language," and "metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system in terms of which we both think and act, is fundamentally metaphorical in nature." (Lakoff and Johnson 2003: 3)

They researched how we use language and how we perceive things. As for me, I investigate the words 'big' and 'small' in English, and '*ookii*' and '*chiisai*' in Japanese on the basis of their ideas. The objects of study are to investigate their usage in everyday life and what physical experiential basis, logic or processes the words have in their extensions.

Lakoff and Johnson define the essence of metaphor as follows;

"The essence of metaphor is understanding and experiencing one kind of thing in term of another."   (Lakoff and Johnson 2003: 36)

I use this definition as a basis of my metaphor theory. In addition to this definition, I make my own definition of my study. (For your reference, see Terms and Definitions in

Chapter.1)

Another idea which I borrow from Lakoff and Johnson (2003) is 'conceptual metaphor'. Conceptual metaphor is a superordinate concept of each metaphor as a linguistic expression. I can also say 'conceptual metaphors generate each metaphorical expression.' When a concept in 'source domain' is transcribed to another concept in 'target domain', then each linguistic expression in source domain can use in target domain. For example, because we have ARGUMENT IS WAR metaphor as a conceptual metaphor, we can describe argument in terms of war. (e.g. He *attacked every weak point* in my argument.) Note that all of the elements of 'war' cannot be transcribed to argument. The argument has victory or defeat, attack and defense, and strategies, but he has no logistics, infantrymen or tanks. Metaphor highlights some sides and hides other sides simultaneously. The reason why particular sides are hidden is that they do not have physical experiential basis in the physical world.

Other examples of conceptual metaphor which I cite from their book are EVENTS ARE OBJECT, SIGNIFICANT IS BIG, SOCIAL GROUPS ARE CONTAINERS, and THE MIND IS A CONTAINER.

Women, Fire, and Dangerous Thing (George Lakoff 1987)

This book was written in period of transition of cognitive science, and it mainly deals with how we categorize the words. Categorizing from the viewpoint of an objectivist is stated as follows;

'Categories on the traditional view are characterized solely by the properties shared by their members. That is, they are characterized (a) independently of bodily nature of the beings doing the categorizing and (b) literally, with no imaginative mechanisms

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(metaphor, metonymy, and imagery) entering into nature of categories. (Lakoff 1987: xi ~ xii)

On the objectivist view, the world is objectively construed, and independent of the understanding of any organism. That is, they consider the world that it excludes subjectivity. In such a world, to categorize literally means that categorizing is to be done, based on objective meaning which is led by manipulation of abstract symbols.

   In opposition to objectivist, Lakoff and the people who sides with Lakoff have different, new idea as follows;

'In the new view, our bodily experience and the way we use imaginative mechanisms are central to how we construct categories to make sense of categories.' (Lakoff 1987: xii)

I consider the process of semantic extensions and physical experiential basis based on the latter view in this study.

   About the importance of categorization, Lakoff states as follows;

"There is nothing more basic than categorization to our thought, perception, action, and speech." and "An understanding of how we categorize is central to any understanding of how we think and how we function, and therefore central to an understanding of what makes us human."   (Lakoff 1987: 5, 6)

I do not deal much with categorization mainly, thus I will not verify these statement. But when you categorize something, you have to keep these ideas in mind.

When I categorize each aspect and each example, I refer to the ideas of prototype theorists (Rosch, Berlin, etc.), gestalt perception and image formation. However I categorize the aspects based on the idea of metaphorical basis mainly.

Toward the end of this book, Lakoff examines 'anger', a kind of emotion, as case study. In this study, I make 'aspect of emotion' as a new category. That case study is very useful to consider the metaphorical extension and the logic of transcript from source domain to target domain in 'aspect of emotion'. According to the case study, "Anger is conceptualized as a mass, and takes the grammar of mass noun, as opposed to count nouns." and "Anger thus has the ontology of mass entity". In 4.5.7, I explain the aspect of emotion in detail, but to deal with emotion as a mass entity will cause the difference between Japanese and English in metaphorical extensions.

Ninchiimiron **(Cognitive Semantics) (Matsumoto You 2003)**

Broad knowledge about cognitive semantics is put together in this book in Japanese. This book gives me a better grasp of cognitive semantics. I will quote five ideas from this book.

Firstly, the author states cognitive semantics as follows;

'Cognitive semantics is a semantic theory that semantic problems are considered by the connection between perception and cognition'.   (Matsumoto 2003: 3 translated by Komata)

He presents three important points which cognitive semantic theorists have in common. (a) Considering word's meaning as a product of external cognition. (b) Do not distinguish semantic meanings and encyclopedic meanings strictly. (c) Word's meanings

are based on experiences. I agree with (a) and (c) as they are. However, as to (b), I stand on my claim that all of the meanings except for a prototypical one are generated by linkages of prototypical meaning and various aspects. Therefore, I claim that semantic meanings and encyclopedic meanings are the same because they are generated by the same processes.

Secondly, I quote an idea of the issue of polysemy in analysis. 'Big, small *ookii* and *chiisai*' are kinds of polysemic words on the encyclopedic view. Thus I consider next three issues. (d) To establish prototypical meaning, (e) to clarify interrelationships of meanings, (f) to make the integrated models and frameworks of meanings.

As to (d), he states;

'If you categorize several meanings of polysemic word, all of the meanings does not have to have the same importance, it means that you are on the premise that meanings do not have to be equal. You establish fundamental, most conventional and most recognizable meaning as prototypical meaning'.　(Matsumoto 2003: 141 translated by Komata)

My work is based on this idea.

As to (e) he states;

'In analysis of polysemic words, you have to clarify the connection among the several meanings in a single polysemic word, because you can see the interrelationships among them'.　(Matsumoto 2003: 141 translated by Komata)

I use metaphor theory mainly for explaining logic of semantic extension. To seek

balance between this idea and 'unidirectionality of metaphor', I establish prototypical meaning as a source domain, and extensional meanings as target domains. I will clarify the connection by considering unidirectional transcript from source to target, and the logic about why transcripts occur.

As to (f), he states; 'The issue is that you have to specify the position and connection of meaning in the whole system of polysemic words.'   (Matsumoto 2003: 141 translated by Komata)

I think that this issue is solved by making semantic extension maps.

Thirdly, I quote the definition of metaphor, which he gives. He defines metaphor as follows;

'Metaphor is a figure of speech that is based on similarities between two things or concepts, which explains a thing or concept with expression of other thing or concept. However, the similarities are not subsisted in two things or concepts. They are found by subjective view of speakers who connects two things or concepts metaphorically.' (Matsumoto 2003: 76 translated by Komata)

Subjective similarities are ones which we see in metaphorical expressions and which are not objectively real. For instance;

'"Sally is a block of ice. (Searle 1979)" In this sentence, the coldness of a block of ice compares to Sally's impassiveness. You cannot find objective similarities between coldness and impassiveness.'   (Matsumoto 2003: 193 translated by Komata)

According to this evidence, the similarities between two things or concepts are found which are based on subjective views, and we make metaphors based on subjective similarities rather than objective similarities. Considering that metaphors are created in our thought, it is reasonable that subjective similarities have big influence on the metaphors and objective similarities do not. As a result of this, some people can understand a metaphor but the others cannot understand the same metaphor. (*e.g.* Someone understands the metaphorical expression 'he is a lion', others does not understand the same phrase.)

Concerning the previous quotation, I quote unidirectionality of metaphorical transcript fourthly.

'The unidirectionality of metaphorical transcript means that there is no metaphor which transcribes the same conceptual structure in the opposite direction. This restriction bring you to the idea that metaphors are not simply based on similarities between two things or concepts, because 'similar' means 'bidirectional' (A is similar to B causes B is similar to A.) (Matsumoto 2003: 233 translated by Komata)'

The author explains undirectionality with an example of conceptual metaphor, ARGUMENT IS WAR. You can be criticized with the terms of 'war', but you cannot be damaged in real combat with the terms of 'argument'.

Sometimes it seems at first glance that the metaphor transcribes concepts bidirectionally, but in such a case, different factors are transcribed into each other. What PLANTS ARE PEOPLE, a kind of conceptual metaphor, transcribes is different from what PEOPLE ARE PLANTS transcribes. I will pay attention to these points when I consider metaphorical extensions.

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Lastly, I quote the idea of creative metaphor and mundane metaphor. The former refers to metaphors in poetic expressions and literary works, and the latter refers to metaphors in everyday life. The reason why we can understand literary metaphors which are not conventional is that creative, literary metaphorical expressions are based on mundane metaphor. This logic agrees on my idea that literary metaphor and mundane metaphor are on the same continuum (one side is literary metaphor and the other side is mundane metaphor.), and more literary a metaphor is, higher extension tolerance it has.

The Stuff of Thought (Steven Pinker 2007)

Steven Pinker is a cognitive psychologist. His ideas give theoretical support to my study. They are 'cognition of dimension about objects and space', 'the process of coinage' and 'the basis of metaphor in interpreting'.

Let us look at the first, 'cognition of dimension about objects and space'. In my study, I define the prototypical meanings of *big*, *small* '*ookii*' and '*chiisai*' so as to modify a size of a three-dimensional physical object, from which their meanings are extended metaphorically. And I categorize nouns which are modified by them into three-dimensional, two-dimensional 2/3-dimensional, one-dimensional and zero-dimensional group. Pinker's idea is helpful to the categorization;

"The reference object, in contrast, has to have a certain geometry for a preposition to apply." (Pinker 2007: 183)

He also states;

"The dimensionality of an object is also the aspect of its geometry that modifiers see

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when they combine with it in a phrase." (Pinker 2007: 183)

These ideas agree with my ideas well, thus when I consider nouns which are modified by *big*, *small* '*ookii*' and '*chiisai*', I draw upon his ideas.

Now I look at the second idea, 'the process of coinage'. He states that a metaphor, which is 'dead' right now, used to be alive when it was born. I think that the process of metaphorical extension is similar to the process of creation of coinage, because both processes create new meanings. Pinker introduces the idea of Alan Metcalfe, a past president of the American Dialect Society, to consider the difference between the words in fashion and the words out of date. Alan's idea is the following; 'why some words succeed and others fail'. Here is his summary; "Frequency, Unobtrusiveness, Diversity of users and situation, Generation of other forms and meanings" (Pinker 2007: 308). My first idea that the reason for why new meanings occurred and took root is a little bit near to Alan's idea. But Pinker contradicted him as follows;

"All words originate with a single coiner, so they all begin life with a Frequency and Diversity of 1. The fact that some words increase their frequency and user diversity is the phenomenon we are trying to explain," (Pinker 2007: 308)

I have considered the process of metaphorical extension, but I have not considered the reason why frequency increases. In his book, he dealt mainly with nouns, while I dealt mainly with adjectives. But I hypothesize as follows based on Pinker's idea: when a metaphorical extension occurs to 'big', there are some thinking processes which I propose in this thesis. (See Chapter.3 and 4, for your actual, detailed information.) Then, that processes are reasonable and fit in the speakers' thinking processes. And since the

processes have typicality, frequency and extendability increases. As a result of increase, new metaphorical extensions occur, and inappropriate meanings are cut off. Along these lines, the usage and meanings of 'big' are cultivated, and 'big', as we know it is born today. Incidentally, Pinker states as follows;

"we still can't predict when a new word will take root. The remaining parts of mystery will lead us to a new of thinking about culture and society". (Pinker 2007: 311-312)

Lastly, I look into his idea about 'the basis of metaphor in interpreting'. Before talking about two bases, I introduce his interpretation of metaphor. He interpreted metaphor as follows; "Though metaphors are omnipresent in language, many of them are effectively dead in the minds of today's speakers, and living ones could never be learned, understood, or used as a reasoning tool unless they were built out of more abstract concepts that capture the similarities and differences between the symbol and symbolized." (Pinker 2007: 276)

And he states two theories; "killjoy theory, which says that most metaphors are dead metaphors, and messianic theory, which is based on the idea that TO THINK IS TO GRASP A METAPHOR— the metaphor metaphor." (Pinker 2007: 238) He supports messianic theory, the metaphor metaphor rather than killjoy theory. This is expressed in "the ubiquity of metaphor in everyday language is truly a surprising discovery" and "Even the killjoy has to admit that metaphors were alive in the minds of original coiner and compelling to the early adopters". (Pinker 2007: 239) And I can interpret from latter sentences that he thinks that when metaphors were created, they were alive, but now they are dead. This is a helpful idea to my study, because 'big' may have a similar

process.

Now I take up two bases of metaphor in interpreting. The first is 'the metaphor metaphor'. In 'the metaphor metaphor', he took up the idea of framing as an effective step. To come right to the point, 'framing' means the viewpoint which we are going to choose. This is similar to the situation in which we use one metaphor, and not another, to understand a concept. The idea of 'framing' and its metaphorical interpretation affect my interpretations about metaphors. For instance, if you say 'big fight', what aspect you focus on is depend on what kind of framing you use. This causes different nuances of meaning.

The second basis which I take up is a basis of conceptual metaphor. About conceptual metaphor, Pinker states as follows;

"Of course, the sources of most of the metaphors in Lakoff's vast collection aren't just objects, space, time, and causation. But many of them are other plausible obsessions for a hominid ancestor, such as conflict, plants, and diseases. And even the more complex ones can be built out of more basic concepts." (Pinker 2007: 242)

This idea about conceptual metaphor is important for interpreting regular metaphors, and it helps understand conceptual metaphors, therefore we must keep this idea in our mind.

Lastly, I take up his idea about the difference between conceptual metaphors and literary metaphors. He compares George Lakoff's view of 'poetic metaphors and conceptual metaphors being the same' and Ray Jackendoff's of 'poetic metaphors being different from conceptual metaphors'. Then, he agrees with Jackendoff's view. In addition, he makes mention of the difference between scientific metaphors, whose usage

is highly restricted, and literary metaphors and states as follows;

"Multiple, partial, emotionally charged similarities add to the richness of poetry, but they detract from understanding in science." (Pinker 2007: 264)

Judging from this sentence, if I put scientific metaphor and literary metaphor on the same continuum, then multilayered, partial and emotional similarities decreases as we move from literary metaphor to scientific metaphor.

In my study, I also have to deal with literary metaphors. Pinker says that conceptual, regular metaphor is different from literary metaphor, but I do not agree. In my opinion, only the metaphoricality of a noun which is modified by an adjective increases. There is little difference between mundane metaphors and literary metaphors as to the part which is modified by an adjective. The factor which has been modified by an adjective in the source domain is transcribed into target domain in toto. I think that whether a metaphor is categorized as mundane or literary depends on the context in transcribing.

Now the problem is the reason why there is no difference and why a category of metaphor differs in contexts. As to 'no difference', it has roots in the difference between the properties of noun and adjective. In my opinion, the function of adjective is to invest an attribute. To take 'big' for example, 'big' invests the attribute of being larger than other items of the same kind in the aspect which is modified by *big*. This structure is transcribed to target domain from source domain in toto. This is a series of metaphorical extension. 'Big' has influence on the aspect in source domain, and the process of attribution occurs in source domain. After that, 'big' and the noun which has been modified by *big* are transcribed from source to target, thus there is no difference in the part which is modified by 'big', whether mundane metaphor or literary metaphor.

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Next I explain about the reason why the category of metaphor differs up to the context of target domain. This is caused by the difference between the context of everyday life and the context of literary works. All of the literary works have their own contexts, and they differ in each literary work or each genre naturally. There are infinite contexts, so to speak. It is the author who makes the context, and the tolerance of context depends on the author himself, that is, it is open-ended. On the other hand, the contexts of everyday life are generalized and can be shared among us though they are not the same. A context of metaphor in the literary works is different from the context in everyday life. (How much it differs depends on its genre. For instance, comparing a context of a fantasy fiction to a context of a detective novel, the former is more different from the context in everyday life.) That is why we sometimes have a hard time in interpreting a metaphor in a literary work. I think that the difference <u>creates</u> the case that we cannot interpret a literary metaphor with the context in everyday life. When there is the difference and you cannot completely grasp the overall contexts in a literary work, you may use the context in everyday life. Thus you may have difficulty in interpreting.

To sum up, I hypothesize as follows. When a metaphorical extension occurs, a target domain is in the context of everyday life, that metaphor is viewed as a mundane metaphor. But if a target domain is in a literary context, it is viewed as a literary metaphor.

The Language of Metaphor (Andrew Goatly 1997)

In this book, the following three ideas are mainly considered; 'what do we use metaphors for?', 'how does metaphor structure our thinking?' and 'how are metaphors are expressed in texts?'

I mainly quote two ideas from this book. The first idea is what he called 'Root Analogy'. This is a database, to which he added his analyses. The database is composed of *Metaphor We Live By* (Lakoff and Johnson 1987), *Women, Fire and Dangerous Things* (Lakoff 1987), *The Body in the Mind* (Johnson 1987), *More than Cool Reason: A Field Guide to Poetic Metaphor* (Lakoff and Tuner 1989) and *From Etymology to Pragmatics: Metaphorical and Cultural Aspect of Semantic Structure* (Sweetser 1990). He defines the term 'Root Analogy', but this is similar to Conceptual Metaphor. One of the root analogies which I quote is ORGANIZATION/SYSTEM = OBJECT. This concept is helpful to consider 'aspect of system' in my study.

Secondly I quote his categorization of metaphors. He categorizes metaphors into five groups; 'Dead', 'Buried', 'Inactive' (which include 'Sleeping', 'Tired') and 'Active'. 'Sleeping' and 'Tired' is at each pole on the continuum of 'Inactive'. I think that 'big', 'small' '*ookii*' and '*chiisai*' would be on this continuum. (I cannot state where the accurate positions are.) I introduce Goatly's definition of 'Sleeping' and 'Tired' metaphor.

"VICE₁ and VICE₂ have no historical etymological connection. I put them in this list simply to demonstrate that language users are capable of making metaphorical connections, constructing folk etymologies, in spite of historical facts. Presumably the personification of abstract vices (VICE₁) has led to phrases like *in the grip of a vice* meaning 'addicted to depravity', thereby creating possible Grounds for a metaphorical connection. LEAF and CRANE seem equally capable of metaphoric reawakening, as the Grounds of comparison involving shape are relatively salient. These might be dubbed Sleeping metaphors." (Goatly 1997: 33)

*VICE₁ means 'depravity', and VICE₂ means 'a gripping tool' in his figure. The term

'Grounds' refers to 'the similarities and/or analogies involved'.

"Fox, my final example, may be the most likely to involve a sense of double reference. So it could be regarded as a clichéd metaphor, near the border of lexicon, though still inside it. These last three examples I shall label as <u>Tired</u> metaphors." (Goatly 1997: 33)
* Other examples of Tired metaphors which he gave were SQUEEZ and CUT.

The reason why I focus on 'Inactive' metaphor is this. Though the meaning of 'big', 'small' '*ookii*' and '*chiisai*' are conventional now, they were Active metaphors when they were extended on my hypothesis*. (*These words only have one meaning, but in the processes of semantic extension, domains which are modified by those words increases. As a result we regard those words as polysemy.) Now they have been changed into Inactive metaphors, which have conventional meanings. That is to say, there is a possibility that a word which has conventional meanings now used to be Active metaphor, from the viewpoint of the process of semantic extension. This would be an important idea for considering other words.

Goatly shows the examples in which a lot of Active metaphors are included. He gives examples like these, Conversation, Popular Science, Magazine Advertising, Modern Novels and Modern English Lyric Poetry. On the other hand, he also gives an example which includes a lot of Inactive metaphor. It was only in National News Report. The fact that there are lots of Active metaphors in literary works gives me the following idea. There are processes by which unconventional meanings in a literary work are transformed into conventional meanings. They mean that Active metaphors transforms into Inactive metaphors. The processes which occur in literary metaphors occur in mundane metaphors as well. What I mean is this; if you ask me 'Is there any difference

between a literary metaphor and a mundane metaphor?' I will answer by saying that. I consider both metaphors to be the same kind on the same vector, except for the difference of their expandabilities.

Chapter 3: Prototypical Meaning and Semantic Extensions in English (*big* and *small*)

3.1 Introduction: Standards of Spatial Expressions

Now I go on to the main topic of this study, the analyses and categorization of *big* and *small*. Before cutting to the chase, I consider one other related topic. It is about the standard points of *big* and *small*. As is not only often the case with *big* and *small* but also with *long*, *high* or *heavy*, these adjectives have their standards in the applicality. The question is that how the standard points are fixed.

Suppose I prepare an ant and an elephant, that ant is 'big' and the elephant is 'small'. Compare this ant and this elephant, as to absolute sizes. It is usually clear that a 'small elephant' is bigger than a 'big ant'. From this supposition, we realize the following facts. We do not mix up all things and put all things on the same criterion. That is, we use *big* and *small* comparatively, not absolutely.

Going on to the next question, what kind things do we compare when we relatively use *big* and *small*? In a simple comparison, (e.g. This building is *bigger* than my house.) we can find comparison targets with ease. 'Building' and 'house' are the comparison targets in the example. But what kind of thing is compared to 'big ant' in the previous example? It is unclear. I stated that we use 'big' comparatively, but 'big' requires some sort of standards for using solo. I think that we calculate whether big or small compared to the standard in common sense.

Standard points may be fixed according to kind, type or class. For instance, a standard point of ants is fixed for the ant as a species. A standard point of cars is fixed for the car as a type. I think that we use *big* and *small* to express the comparative

bigness in the same kind, type or class.

How the standards fixed? Is it objectively fixed or subjectively fixed? If it is objective, how do we fix the standard points of 'box'? Do we prepare thousands of different boxes and take the average of their sizes? There must have been no people to do such a troublesome thing. It seems that standard points are not fixed in an objective way. That is to say, standard points are fixed in a subjective way. In that way, the data which you refer to depends on your own experiences. Your own standard points are fixed in your thought, which is based on your own experiences. After that, your own standard points are reconciled with 'common' standard points, and the 'mixed' standard points are stabilized as your standard points. 'Common standard points', which apply to most people, is a pile of standard points. Thus I consider that common standard points are not objective. I hypothesize that standard points are still fixed in subjective way.

3.2 Prototypical Meaning

Now down to the business. I claim that *big* and *small* prototypically 'modify the size of a three-dimensional physical object'. For example, *big* in 'big box' and *small* in 'small cap' are the prototypical meanings, which we can interpret literally.

The reason why I regard these as the prototypical meanings is that a process of metaphorical extension from nonphysical object to physical object is unnatural. In general, a meaning involves a physical experience. *Big* and *small*, which are elementary words, show a marked tendency to have a physical experience as their basis. In my data, most of the examples have physical similarities. Considering the function of metaphor, which is to understand unknown concept in terms of known concrete concept, the

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process of understanding the concretes in terms of the abstracts is unnatural. Therefore, I believe that it is a natural process for meanings to be extended into nonphysical object-based from physical object-based.

3.2.1 Three-dimensional Objects

From now on, I investigate the connection between various aspects and *big* and *small*. The first one is 'Three-dimensional objects', the prototypical meaning.

(1) Was this mansion really so *big* from the outside?   (Web site1)

(2) Medium and *small* vessels have been donated to Mauritania, Tanzania, Burma, Cambodia and Sierra Leone.   (Japan Times Online)

(3) The *big* man stopped several bullets before he fell.   (E-DIC)

(4) A *big* wave dashed against the rocks.   (E-DIC)

(5) They have a special box for them and if your cucumber is too *big* or too *small*,… (Japan Times Online)

(6) A *big* black bug bit a *big* black bear.   (*Eijiro* on the web)

(7) * Please give me *small* water.

(8) * I need *big* air.

In (1), the aspect of three-dimensional size of the house is modified by *big*. Thus (1) means that 'the size of the mansion is physically big.' In (2), the aspect of physical size of the vessels is modified by *small*. Thus (2) means that 'the size of the vessel is physically small'. (3) indicates that three-dimensional size of the man is modified by *big*. Thus (3) means 'the physical size of the man is big.' In the same way, (4) indicates that the aspect of three-dimensional size of the wave is modified by *big*, which means that 'the size of the wave is physically big.' In (5), the physical size of cucumber is modified by *big* and *small*. Thus (5) means 'the size of cucumber is physically big or small.' Thus, there is no problem with using *big* and *small* with the references to three-dimensional objects.

However, look at (7) and (8). Water, which is a type of liquid, and air, which is a type of gas, are modified by *big* and *small*. These kinds of words are called 'material noun'. As you can see, material nouns cannot be modified by *big* and *small*. If it is interpreted as literal, it is considered incorrect expressions. (The reason why I state 'literal' is that 'big air' is a correct expression in the context of skateboarding and snowboarding. However, 'air' in the expression, 'big air', is not considered as literal. It is an extended meaning in this case.) The reason why (7) and (8) are inacceptable is that material nouns are not perceived as representing an entity that has a boundary. The existence of boundaries is necessary for modification by *big* and *small*. If it were not for boundaries, objects cannot be perceived as physical objects. They are physical substances, so that water is not a physical object, it is a physical substance. In my opinion, if we cannot perceive boundaries in something, it cannot be modified by *big* or *small*. (e.g. heat)

3.3 Geometrical Extensions

In this section, I deal with 'Geometric Extension'. This is my own term and it means that a transition from three-dimensional to two-dimensional involves a semantic extension. Three-dimensional objects and two-dimensional objects tend to be perceived as the same kind. But strictly speaking, three-dimensional objects are different from two-dimensional objects.

If the three-dimension and the two-dimension are considered as different domains, the relation between them involves a metaphor. It is doubtful whether that metaphor has a subjective similarity. In addition, the concept of three dimensions is not very different from the concept of two dimensions.

On the other hand, if I regarded their relation as metonymy, I should find spatial adjacency and relationship between them. But the relation does not have a structure in which a three-dimensional object is 'reference point' and a two- dimensional object is 'target', and in which modifying the three-dimensional object refers to the modification of the two-dimensional object.

We notice the fact that what is changed in this extension is only a dimension. That is why I think that this extension is different from metaphorical extension or metonymic extension, and I label this 'geometric extension'. For simple instance, the prototypical meaning which modifies three-dimensional objects is extended to a meaning which modifies a reference to two-dimensional object in the case of *big* and *small*.

3.3.1 Two-dimensional Objects

Now I let us consider 'two-dimensional objects'. Examples of two-dimensional objects are 'areas' and 'plains'. (Some may think that areas and plains are not objects, but I think they are physical objects because they exist as entities in the actual world. Thus I define them as two-dimensional objects in my study.) How did *big* and *small* extend their meaning so as to cover three-dimensional objects? Imagine a cubic box, and look down at the box from just above. You may see a square. In this way, you cut off one side, and you can lower a dimension from three to two. With this kind of logic, the concept of three-dimension is extended to the concept of two-dimension.

Here are some examples.

(1) As is usual with tornados, there was a lot of destruction within a *small* area. (E-DIC)

(2) I had a view through a little wood of Japanese oaks, mountain cherries and chestnuts of our *small* vegetable plot,…   (Japan Times Online)

(3) However, as its name implies, it used to be one *big* rice field,…   (Japan Times Online)

(4) I like movies better than videos because of the *big* screen.   (*Eijiro* on the Web)

In (1), the aspect of plane of the area is modified by *small*, meaning 'the area of the 'area' is physically small.' By the same token, in (2), (3) and (4), the area of vegetable

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plot, rice field and screen are modified by *big* or *small*, which means that the sizes of their area are physically big or small. We see a very natural semantic extension from three-dimension to two-dimension. Thus there is no problem with using *big* and *small* with the references to two-dimensional objects.

3.3.1.1 2/3-dimensional Objects

The title of this section means that the objects can be considered both three-dimensional objects and two-dimensional objects, in other words, objects intermediate between three and two dimensions. This kind of objects can be thought to have both three-dimensional expanse and two-dimensional extent.

Here are examples.

(5) The battleship below presented a target as *big* as a barn door.　　(E-DIC)

(6) What's the name of the *biggest* city in the Touhoku region, famous for its Star
　　Festival?　　(*Eijiro* on the web)

(7) These vegetables are grown on a *small* farm.

The words which are modified by *big* or *small* in example above are heavily tinged with both the concept of three dimensions and two dimensions. I cannot distinguish their dimensionality.

On my supposition, two-dimensionality in these words comes from a bird's-eye

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view of these entire. When you look down at the entities which these nouns refer to, you can see them just like they are on maps. Then you can perceive them as two-dimensional concepts. They may be originally perceived in terms of three-dimensional concept, but when their dimensions are lowered from three to two, three-dimensional perception still remains in the noun and goes along with two-dimensional perception in the noun. Thus we can perceive them in terms of both three-dimension and two-dimension.

The aspect which is modified by *big* and *small* is not changed from a three-dimensional object, that is, the connection between the aspect and *big* or *small* is carried over to 2/3-dimensional object.

3.3.2 One-dimensional Objects

In 3.3.2 and 3.3.3, I present examples of ungrammatical sentences in their literal interpretation, so that you have to have a mathematical, geometrical view, when you interpret sentences.

An example of one-dimensional object is 'line'. It has neither width nor height, it has only one-dimensional length. (A simple example is 'a number line'.) Realistically speaking, however, if you draw a line with a mechanical pencil, that line is very close to one-dimensional. But if you draw a line with a brush, that line is no more one-dimensional, it is two dimensional, because it has width. I do not investigate the boundary between one-dimensional and two-dimensional in drawing line. In this section and the next, you have to have this kind of geometric view in interpreting examples.

(8)* This is a *big* line.

If (8) is interpreted in its literal, geometrical meaning, (8) is considered as ungrammatical sentence, because 'line' has no aspect which is modified by *big* or *small*.

I look into the reason why a one-dimensional object cannot be modified by *big* or *small*. It may seem at first glance that the reason why *big*/*small* cannot modify a line is that there are adjectives like *long*/*short* that have just this function. But if this were true, 'wide' and 'narrow' would fit better for the reference to two-dimensional objects, and we would predict that such expressions as big park, small play ground were ungrammatical, contrary to fact.

Given this observation, I let us try another tack. We can lower the dimension from three to two if we look down at a box from just above, but how can we lower the dimension from three to one? Even if we look from any angles, we cannot perceive a cubic box as a line. It is impossible to elicit the concept of one dimension directly from the concept of three dimensions. Therefore, *big* and *small* which can modify the references to the three-dimensional objects cannot modify the references of the one-dimensional objects.

3.3.3 Zero-dimensional Object

This is a second example of ungrammatical sentence. An example of zero-dimensional object is 'a point'. You also have to interpret this geometrically. A geometric point has no width, height, depth or any kind of other measures. If you drop a tiny drop of ink on the white paper, it makes a circular stain on the paper. You consider

this circular stain as a point but I consider this stain as a circle, not a point, from the viewpoint of geometry. (This stain has an area, it has width and length. Thus this is a two-dimensional object.)

(9)* This is a *big* point.

If (9) is interpreted in its literal, geometrical meaning, (9) is considered ungrammatical, because a 'point' also has no aspect which can be modified by *big* or *small*. Since it is impossible to modify in one dimension, it is natural that a reference to zero-dimensional object cannot be modified by them. If it is not literal 'point' but metaphorical 'point', it would be acceptable.

What I have demonstrated in the previous section and this section is that when we are geometrically categorize physical objects into three-dimensional, two-dimensional, one-dimensional or zero-dimensional one, only three and two-dimensional objects can be modified by *big* and *small*, and semantic extensions to one-dimension and zero-dimension do not occur.

3.4 Metonymic Extensions

Now let us turn to Metonymic Extensions, which a kind of semantic extension. In this case, 'metonymy' is involved in semantic extension. Lakoff and Johnson define metonymy as follows:

"Metonymy, on the other hand, has primarily a referential function, that is, it allows us to use one entity to *stand for* another." (Lakoff and Johnson 2003: 36)

On the other hand, Matsumoto defines as follows;

'Metonymy is one of the figuration based on the adjacency of two things in the external world and the relevancy between two things in our cognition or concepts on conceptional views, which stands for one things or concepts using other things or concepts.' (Matsumoto 2002: 83 translated by Komata)

3.4.1 The Aspect of Child.

I look into the words which have the aspect of child. As I stated, metonymy is involved in semantic extension in this aspect. In the aspect of child, referring to 'the physical size of the body' indicates 'the growth status of the child'. I examine this aspect with example sentences below.

(1) Divorced fathers in Japan typically don't get much access to their children because of widespread cultural beliefs that *small* children should be with their mothers.　(Japan Times Online)

(2) She is *big* enough to go there alone.　(*Obunsha*, 1999, 2003)

(3) My *big* brother got married last week.　(E-DIC)

The referents to child are modified by *big* or *small* and referring to 'the three-dimensional size of his body' indicates 'the growth status of the child' in each example sentence. Take (1) for example. Generally considered, when children are physically small, we guess that they are on the way to growth, and they are young in age.

We have another adjective; 'tall' to present the physical size of a body, but 'tall' indicates only the height of a person. 'Tall' cannot indicate the width of a person, the three-dimensional size of the body. Thus it cannot indicate growth. It is natural that growth involves vertical growing and horizontal growing like *big*, but 'tall' indicate only vertical growing.

When the words which have the aspect of child modified by *big* and *small*, they represent 'the bigness or smallness of the physical sizes of children', which can further indicate 'the growth status of the children'.

3.5 Metaphorical Extensions

From this section on, I investigate metaphorical extensions, a kind of semantic extension involving metaphor. (In detail, see Terms and Definition in chapter 1.) I show here the outline of this section. I look into the aspects in followings order; Space, Container, Mind, Group, Event, Sound, Power, Influence, System, Effector (Positive, Negative, Neutral), Number, Amount, Money, Business, Probability, Distance and I explain several things in Supplemental Explanations at the end.

3.5.1 The Aspect of Space

I deal with less physical aspects than previous sections from here. The first aspect is 'the aspect of space'. Space is a three-dimensional expansion, and *big* and *small* modify the spatial size of three-dimensional place in the physical world.

I investigate the process of the extension of the aspect of space. In the first instance, imagine a box on the table. That box occupies as much space as its volume. And you get the box off, a new space as the same volume as the box arises. Going through the process of these, a meaning which used to be applied to three-dimensional object is extended to a meaning which applied to 'space'. If there was a 'big box', the space which arises from 'big box' is big, and the case of 'small box', a small space will arise.

Here are examples which have the aspect of space.

(1) You know, in the space shuttle you have to live in a *small* space with lots of different people from different backgrounds.   (Japan Times Online)

(2) I managed to worm through the *small* opening.   (E-DIC)

(3) 'The world is so *big*,' said Ling.   (Novels: Geoff: Air)

In (1), *small* modifies the spatial aspect of 'space', meaning that 'the three-dimensional spatial size of the space' is small. In (2), *small* also modifies the spatial aspect of 'opening'. 'World' which is an abstract concept is modified by *big* in (3). It is a three-dimensional place and it has the spatial aspect, and then *big* modifies the spatial aspect of 'world', which means that 'the three-dimensional spatial size of the

world is small.'

Thus, when the words which have the aspect of space are modified by *big* and *small*, they mean that 'the spatial size of three-dimensional place is physically big or small.'

3.5.2 The Aspect of Container

I examine words which have the aspect of container. Notice that the container which I am going to examine is not containers as a physical object, but it is a notional, nonphysical container, which is extended by metaphorical extensions. The metaphorical extensions by which nonphysical objects are perceived as container spread to cover 'Land Area', 'The Visual Field', etc. (Refer to Lakoff and Johnson (2003) 11, 29~32, 148, for further information.) The extensions from the concept of the three-dimensional object (physical container is a kind of three-dimensional object) to the aspect of container and its subcategories can be explained by Container Metaphor. (I introduce concrete contents of container metaphor in each section.) *Big* and *small* can modify the referent to physical container. I think that when the concept of physical container is transcribed to other concepts (e.g. mind, group and event), this connection goes along with this transcript.

I consider the aspect of mind, group and event as subcategories of this aspect. Here are examples of the aspect of container.

(1) I'll never trust a *big* mouth like Freddie again.　　(E-DIC)

(2) Well, tomorrow's a *big* day. We'd better get some shuteye.　　(E-DIC)

'Mouth' in (1) is extended from the original meaning, a part of human face, to a kind of container. The bigger the size of the container is, the more can be contained, which creates the image that the mouth is filled with the words. Then the meanings, 'talkative person', 'indiscreet person', 'boastful person' can be derived from such an image.

'Day' in (2) has boundaries in time and events as contents. This structure is similar to the structure of container, thus the concept of container is transcribed to 'day'. This is metaphorical extension to 'day' from 'container'. Then 'day' is perceived as notional, nonphysical container. When 'day' is connected to the following conceptual metaphor; SIGNIFICANT/IMPORTANT IS BIG, 'big day' means 'important day'. To be specific, the bigger the size of container is, the more can be contained, which creates the image that 'day' is filled with the events. Such a day is considered as an important day generally, which is based on SIGNIFICANT/IMPORTANT IS BIG.

Besides this idea, 'event' is connected to *big*. 'Day' as a container is considered *big*, based on the image that if a container can contain a big thing, that container is also big. The following idea, 'big event' is combined with the conceptual metaphor, SIGNIFICANT/IMPORTANT IS BIG, and then the meaning 'important day' arises.

An idiomatic usage of the Aspect of Container

There is an idiomatic usage in the aspect of container, so I quote them here.

(3) His eyes were *big* with tears.　　(*Obunsha*)

(4) The year was *big* with events.　　(*Obunsha*)

(5) His heart is *big* with grief.　　(*Kenkyusha*)

The size of container itself is referred to in sentence (1) or ordinary cases in 3.5.2.1, but in this case, the size of content and the amount of content are referred to. (3) entails not that the eyes as a container are *big* but that the amount of tears as a content is big. Like (3), (4) entails not that the year as a container is big but that the amount of events as the contents is big. (Incidentally, someone may ask me the question whether the year is a container. I believe it is a container, because the year has boundaries and contents, so I can recognize the year as a container.) In (4), the amount of grief inside her heart is connected with *big*, although *big* modifies 'heart' actually. In all the examples, the following state is represented; each container is filled with contents.

3.5.2.1 The Aspect of Mind

I look into words which have the aspect of mind. The process of metaphorical extension to mind as a notional container from the physical container is based on the conceptual metaphor, THE MIND IS A CONTAINER. (An example of this conceptual metaphor is 'Every day I prayed for rain, but in my heart I knew it was hopeless.' The preposition 'in' involves the image of three-dimensional expansion of space, thus 'heart' in 'in my heart' has the image of that. *Heart* and *mind* are considered to contain emotion as container substance. Considering these, we can think of them as container.) The metaphorical extension to the aspect of mind from the concept of physical container occurs based on this conceptual metaphor. *Big* and *small* come along with the process of metaphorical extension THE MIND IS A CONTAINER.

Here are examples of the aspect of mind.

(6) It is *small* of you to say so.　　(*Kenkyusha*)

(7) She has a *big* heart.

(8) That's very *big* of you.　　(New *Shogakukan*)

(9) He's *small*-minded.　　(E-DIC)

　　Based on THE MIND IS A CONTAINER, in (6), your mind is conceived as a container and modified by *small*. A small container obviously means that the capacity of that container is small. The smaller the capacity of mind is, the smaller the amount of content or content itself will be. A small mind cannot take in other opinions, ideas, advice or something like those. In sum, these represent that such a person is intolerant. In (7) and (9), the size of the heart or the mind as a container can be explained as I explained (6). These shift to the meaning which represents the degree of person's generosity.

3.5.2.2 The Aspect of Group

　　I investigate words which have the aspect of group here. The reason why I categorize this into a subcategory of container is based on the conceptual metaphor, GROUPS ARE CONTAINERS. (An example of this conceptual metaphor is 'Harry is in Elks'. (Lakoff and Johnson 2003) 'Elks' is the name of an organization. Expressed as 'in Elks', 'Elks' has the container structure in itself, and Harry is contained in that

container as container substance.) Since this aspect is categorized into a subcategory of the aspect of container, the metaphorical extension to the aspect of container from three-dimensional object is based on the process which I stated in 3.5.2, and the extension to the aspect of group from the aspect of container is based on the conceptual metaphor, GROUPS ARE CONTAINERS.

Let us move on to the consideration of the connection between the aspect of group and *big* and *small*. According to the conceptual metaphor, we can perceive the groups as containers. The members of group correspond to contents, and the size of containers corresponds to the scale of groups. *Big* and *small* mainly modify [container], but they also modify [number] as the sub aspect. That is, they also modify the number of constituent members. The size of container correlates with the number of constituent members. If the container becomes bigger, it can contain many contents, that is, if the scale of group becomes big, it can contain lots of constituent members. Conversely if the content becomes big, the container expands with it and the container becomes big in results. That is, if the number of constituent members increases, the scale of group is enlarged. These structural concepts are transcribed to 'group' in target domain from 'container' in source domain.

Here are some examples of the aspect of group.

(10) Of such is the precious, *small* group of essayists made.   (Novels: O. Henry: A
     Municipal Report)

(11) The leaders of the *big* battalions don't care about me.   (E-DIC)

(12) This is a *big* organization.   (E-DIC)

(13) I couldn't support a *bigger* family.　　(E-DIC)

(14) It has been reported that an overseas study has proved that *small* class teaching is

　　more effective for pupils of lower social and economic status.　　(Web site 2)

　　The scale of a group and, by implication, the number of constituent members which belong to the group are modified by *big* and *small* in all the examples above.

3.5.2.3 The Aspect of Event

　　In this section, I look into words which have the aspect of event. I categorize this into a subcategory of the aspect of container, which is based on the conceptual, metaphor, EVENTS ARE CONTAINERS. (An example of this conceptual metaphor is 'There was *a lot of good running in* the race.(Lakoff and Johnson 2003)' Expressed as 'in the race', 'race' as an event object has a three-dimensional structure. At the same time, 'good running' is in 'race' as a container substance. The concept of container of 'race' arises from these ideas.)

　　The processes by which *big* and *small* come to modify the aspect of event are very similar to these of the aspect of group, so that I will not explain the process here in detail, but I explain the structure of 'event' which is equivalent to 'container'. Temporal boundary (the start time and the ending time of the events) or the place in which the events occur corresponds to the outer frame of physical container. The substance of events (state, action, etc.) corresponds to the contents. As to the place in which events occur, note that less physical event like (16) has no physical place actually.

Here are some examples of the aspect of event.

(15) The *biggest* festival in South America is held in Rio.   (E-DIC)

(16) The merger of the two major companies was quite a *big* event in industrial circles.
 (E-DIC)

(17) He gets cranky like this before a *big* game.   (*Eijiro* on the Web)

(18) Small event can trigger a *big* explosion.   (*Eijiro* on the Web)

(19) My parents got a *small* accident.

(20) Do you remember the *big* argument we once had here?   (E-DIC)

(21) A *big* fight with your partner will only be settled by a thorough argument.
 (*Eijiro* on the Web)

(15) can be interpreted as saying that the scale or the three-dimensional space of the festival which occupies physically is big, or the festival has importance for people in that area by implicature. The importance arises from the conceptual metaphor, SIGNIFICANT/IMPORTANT IS BIG. (INSIGNIFICANT/UNIMPORTANT IS SMALL is generated to calculate back from that conceptual metaphor.)

Before I explain this example, I will explain SIGNIFICANT/IMPORTANT IS BIG.

First, I consider the experiential basis of this conceptual metaphor. The experiential basis for the hypothesis that *big* and *small* are connected with this conceptual metaphor is the following.

       Big things tend to be noticeable.   Small things tend to be unnoticeable.

In addition to these,

  Noticeable things tend to be important.   Unnoticeable things tend to be unimportant.

In sum,

       Big things tend to be important.   Small things tend to be unimportant.

Then, these conceptual metaphors arise.

<div align="center">IMPORTANT IS BIG   UNIMPORTANT IS SMALL</div>

I think that *big* and *small* are connected with significant/important and insignificant/unimportant respectively on the basis of those processes. Here are examples of these conceptual metaphors.

(22) That's the *biggest* idea to hit advertising in years.   (Lakoff and Johnson 2003)

(23) It was only a *small* crime.   (Lakoff and Johnson 2003)

Now I come back to the subject of this section. In (16), a less physical and metaphorically extended event, 'merger' is modified by *big*. SIGNIFICANT/IMPORTANT IS BIG leads to the implicature that this event is important. As to (17), it is proper to think that the aspect of event which is highlighted by SIGNIFICANT/IMPORTANT IS BIG is modified by big, rather than the aspect of

container of 'game'.

Lastly I look into (20). (20) and (21) were categorized into 'degree' in my previous thesis. (Now the aspect of degree is deconstructed.) I recategorize these into the aspect of event, because 'argument' has 'beginning' and 'ending' as temporal boundaries and it has concrete discussion as container substance. Note that a subjective assessment is sufficient to express the significance of argument by using *big*. As I stated in Literature Review and 3.1, the standard points are fixed on the basis of someone's own experience. Thus, 'big argument' in (20) does not need to be objectively big argument. It is enough that one of the central players thinks that it is big.

Now I consider the reason why SIGNIFICANT/IMPORTANT IS BIG is coherent with the aspect of event. The aspect of influence, which I mention in 3.5.4.1, has influence on this coherence. 'Event', for example, occupies the space physically. The bigger it is, the more space is occupied by it. Thus, 'big event' has big influence on the physical space. To have big influence on it means that it is significant/important. (Imagine 'explosion') The event also has the aspect in which has influence on social context or each person. If an event has big influence on social context or each person, the event is significant/important for them.

I take 'big heart' for example in which SIGNIFICANT/IMPORTANT IS BIG is incoherent with other aspects. 'Big heart', an example from the aspect of container, is incoherent with that conceptual metaphor. *Big* only modifies the size of container, and I think that we cannot perceive the image of occupying the space nor the image of influence generally. (It might be possible if a particular context were given.) Without these images, it would be incoherent with SIGNIFICANT/IMPORTANT IS BIG. Thus 'big heart' cannot mean 'important heart', and it is able to mean only 'generous/kind person'

Thus, when *big* and *small* modify the aspect of event, they represent the meaning of the physical scale of the events and the degree of importance.

3.5.3 The Aspect of Sound

I looked into words which have the aspect of sound in this section. I made three hypotheses for considering the connection between the sound and *big* and *small*.

The first one is that 'a big object makes big sound.' For example, the sound throwing a big rock to the wall is louder than the sound of throwing pebble to the wall. Based on this kind of experience, we perceive the sound made by a big object as 'big', and we might apply 'big', which originally modified the three-dimensional object to the aspect of sound. By the way, when 'big object' does not make 'big sound', or when a small object makes big noise, we will be very surprised. On the other hand, when a big object makes small noise, we will be deflated. I make the hypothesis on the basis of these phenomena as follows; I suppose that it is possible that our conceptual system takes 'a big object makes big sound' for granted.

The second one is the hypothesis on the basis of the aspect of influence; 'sound involves physical or mental pressures'. Considering the mechanism of hearing, our eardrums are vibrated physically. That is, the sound applies the pressure on our eardrums actually. This experiential basis is connected with the concept of pressure, and the similarities are found, between the pressure made by big sound and the pressure made by a physical object. Then we come to perceive sound like a physical object. This is why *big* comes to be able to modify the sound. (The concept of pressure: When a object is on the other object, the upper one apply pressure to lower one. The bigger the

upper object is, the bigger pressure the lower object is given. This fact makes the pathway to 'pressure' from 'physical object'. 'Big' go through this pathway, and pressure comes to be able to be modified by *big*.)

The third one is the hypothesis focusing on spatial expansion of sound. A sound spreads three-dimensionally and it creates a three-dimensional space like a sphere. If it is 'big sound', the space will be big, and if it is 'small sound', the space will be small. A sound involves an audible area and it is the momentary event so that it has temporal and spatial boundaries. For this reason, *big* and *small* can modify the referents to the aspect of sound.

It is possible that the experiential basis of the aspect of sound involves these three hypotheses.

Here are examples of the aspect of sound.

(1) The stone made a *big* sound to fall from the table.　　(Web site 3)

(2) The *small* sound can let enlarge your dynamic range because you will try to "listen" the sound.　　(Web site 4)

(3) I wanted to seek revenge, but a still *small* voice warned me not to.　　(E-DIC)

(4) Especially a piano-work, the upside-down hung piano starts moving suddenly, and keyboards burst away with *big*-noise.　　(Web site 5)

(5) Someone at the next table let out a *big* burp.　　(E-DIC)

In (1) and (2), *big* and *small* modify 'sound,' and they represent 'the loudness of sound is *big* or *small*.' And 'voice', 'noise' and 'burp' are modified by *big* or *small* in (3) and (4). The voice and the noise are kinds of sound, so it is not surprising for them to be modified by *big* and *small*.

Thus, when the words which have the aspect of sound are modified by *big* and *small*, they represent the degree of loudness of sound.

3.5.4 The Aspect of Force

I investigate words which have the aspect of force, and I put the aspect of influence into the subcategory of this. 'Force' originally means an influence tending to change the motion of an object or produce motion or stress in a stationary object. Extending from the prototypical 'force', it also means an organized body of military personnel or a group of people brought together and organized for a particular activity. These groups are regarded as the groups who have the physical or social power.

Now I let us look into the physical experiential basis of the aspect of force. I think this is simple. It is based on the experience that a man needs the power to move an object. *Big* and *small* extend their meanings through this connection between object and force, in which a man needs a big power to move a big object.

Here are examples of the aspect of force.

(1) How big force do you need to use to make 1 kg body fly up to 50 meters?   (Web site 6)

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(2) Develop magazine about the challenges he encountered when discussing with his peers and how there was a *big* and constant pressure to continue to make more titles in the MGS franchise, even though he tried to give it to one of his successors. (Web site 7)

(3) Which one is *big* magnetic or electric force?   (Web site 8)

(4) Generally, what I mean is that most people neglect to pick up *big* waterpower, which may be an advantage you can exploit.   (Web site 9)

(5) NicoNico becoming such a big positive force in journalism here - so impressed. (Web site 10: Twitter)

(6) It's about time we stopped kowtowing to the *big* powers.   (E-DIC)

   (1) is the very example in which physical, prototypical 'force' is modified by *big*. On the other hand, in (5), 'force' is used in its extended meaning. It is used for a group which has social power, which is extended from physical force itself. 'Power' in (6) is also used in its extended meaning. In this case, a group which has the power means 'major nation'. As I stated above, *big* and *small* originally modify 'physical force', but with the extension to 'group' from 'physical force', they come to refer to the domain of group. They modify the group which has a social power, which represents the scale of group and the degree of power the group has.

   (3) and (4) are in physical science contexts. It is the example that *big* and *small* can

modify the referent to a variety of other forms of 'force'. 'Force' and 'power' serve as foothold which leads to be modified by *big* and *small*. Thus they can modify these kinds of words.

'Pressure' in (2) originally represents a physical influence which a physical object exercises upon another object, but the meaning of 'pressure' in (2) is extended from physical domain to mental domain. In ordinary case, a physical object applies pressure on another physical object. But in the case of (2), a nonphysical object applies pressure on another nonphysical object, person's mind.

As can be seen, when words which have the aspect of force are modified by *big* and *small*, they represent the degree of force.

3.5.4.1 The Aspect of Influence

I look into words which have the aspect of influence. This is a kind of 'force'. First, I consider the physical experiential basis of influence. Take 'explosion' and its 'shock wave' as the simple example. 'Explosion' itself is an event, but I regard this as what affects something (I name this 'effector'), and I also regard the buildings as what is affected by something (I name this 'receptor'). 'Shock wave' is a medium what sends power to the receptor from the effector. The prototypical image of 'influence' is that it is affected by physical force, so that I categorize this aspect into the subcategory of the aspect of force. The meaning of 'influence' is extended from physical influence to nonphysical and notional one.

Second, I consider how *big* and *small* come to modify. *Big* and *small* modify the spatial aspect of influence. In the case of 'big explosion', the space which a shock wave,

that is power, reaches is physically big. In addition, SIGNIFICANT/IMPORTANT IS BIG is applied to this, because the area which is influenced is big, and the following interpretation arises; the event which has influence on a large area is a significant event. That is to say, *big* and *small* are connected with the importance or the influenced areas.

The influenced space is physical space basically. However, this concept is extended to social space and personal mental space, and they come to mean an influence on social, mental space.

The influence occurs between two things or concepts at least. In other words, it occurs between an effector and a receptor. This relationship is a kind of 'system'. That is, the relationship between two things is very similar to the concept of system. On the basis of this similarity, the concept of force is applied to the concept of system, and the concept of influence is generated. Thus 'influence' is involved in 'system term' as I state in 3.5.5. As a result, the aspect of influence is categorized into both 'force' and 'system'. This is why I refer to 'background system' in interpretation of examples.

Here are examples.

(7) "I think it would have a *bigger* impact than Tamiflu" he said.   (Japan Times Online)

(8) The ad that has made the *biggest* impression is the one for Ebisu Beer featuring former idol Kyoko Koizumi.   (Japan Times Online)

(9) Family environment has a *big* influence on a child's education.   (E-DIC)

(10) The effect of his death on the world was not *small*.   (E-DIC)

(11) He said gauze masks for flu and hay fever that Kowa started manufacturing in 1985
became a *big* hit despite a price tag of ¥350, nearly double the cost of the
company's previous version.　　(Japan Times Online)

(12) Texas was an official of no very great or very *small* importance.　　(Novels: O.
Henry: A departmental case)

In (7), the effector is indicated by 'it', the receptor is a set of people, and background system is 'society'. 'Big impact' means a big influence on society, which is a kind of system.

In (9), the effector is 'family environment', the receptor is 'a child's education', and background system is 'family'. In this way, the background system in each example is 'society' in (8), 'community' in which the dead man had belonged in (10), 'society' in (11) and 'company or something' in (12).

In (12), importance is not calculated by implication, but is directly modified by *small*. This is an example in which it can be directly modified by *big* or *small*. However, being small importance means that it has only a small influence. This is why I categorize this into the aspect of influence category.

Big modifies 'hit' in (11). I think this 'hit' is a term of baseball. In baseball games, 'big hit' means 'very valuable hit' and it may have a decisive influence on the games. And then that usage is metaphorically converted into everyday life as in (11). The reason why I categorize 'hit' into the aspect of influence is we can regard being a 'big hit' as a state which has big influence.

The words modified *big* in (7) and (8) originally have strong physicality. (Being derived from 'impress', 'impression' originally means a mark made by stamp or

something.) However, 'impact' and 'impression' extend their meanings, and they are used in their nonphysical meaning.

So far I have looked into the aspect of influence in the realm to the exclusion of people. Now I look into the aspect of influence with respect to man.

(13) He's a *big* man in this town.   (E-DIC)

'Man' has a lot of metaphorical extensions, in other words, it means 'man' has a lot of aspects. A man is a physical object, but according to context, *big* in (13) modifies other aspects, than the aspect of physicality. From the view point of 'big things are noticeable' mentioned in 3.5.2.3, 'big man' can mean 'famous man.' On the other hand, from the view point of 'noticeable things are important,' 'big man' can mean 'important man' derived from 'famous man.' At any rate, such a man has a big influence. If I dare to specify what is modified by *big* in (13), I think it is the aspect of influence.

From the above observations, it seems to follow that two approaches to 'big man' are possible. One is that, focusing on the fact that 'man' has an aspect of influence, 'a big man has a big influence,' that is, 'a man who has a big influence is important man' as above. And such a man is famous or important. The other is that, from the view point of that 'man' has the aspect of importance. Thus *big* can connect with 'man' and it means important, and the meaning of 'famous' is derived from it. These should be considered more, but I do not handle any more in this thesis, because of space limitations.

Take a look at other examples.

(14) The *big*ger they come, the harder they fall.   (*Kenkyusha*)

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(15) He wanted the glory of flying around the world, wining and dining with *big* shots,

and trying to set himself up as the Pied Piper, who was going to bring the Olympics

back to Tokyo.   (Japan Times Online)

(16) Wherever they go, *big* stars must run the gauntlet of cameras and reporters.

(E-DIC)

(17) He is a *big* name in the fashion world.   (E-DIC)

The words which are modified by *big* have nothing to do with 'man' on the surface, but they are metaphorical expressions likened to man. 'Big shot' in (15) is derived from 'big gun,' in which man is likened to a gun. Man is a gun which says many opinions to others. This image is connected with the state of having a big influence, so there is no wonder that the aspect of influence of man is modified by *big*. From the view point of 'big things are noticeable', both (16) and (17) represent the meaning of 'famous'.

When men are regarded as effectors, there are background systems behind them. The background systems in each example are 'town' in (13), 'power structure' in a certain organization in (14), 'power structure' in a certain industry in (15), 'entertainment industry' in (16), and 'fashion industry' in (17).

To sum up, when the aspect of influence is modified by *big* and *small*, they represent a degree of influence. Especially, when the aspect of influence of man connects with *big*, they represent the meanings of 'important', 'famous' or 'influential'.

3.5.5 The Aspect of System

Now let us investigate the aspect of system. I categorize the aspect of effector into a subcategory of this system. The words which I look into have a certain system behind them. I put the events which occur in systems, the problems which systems face and the effectors which have influenced on systems into this category. I call the words in this category as 'system terms'.

What kind of physical experiential basis does this aspect have, and how do *big* and *small* extend their meanings so as to modify this aspect? I investigate these in this section.

What is the most accessible experience we have of 'system'? I guess that to belong to certain community is the most accessible. For example, imagine the town or city you live in. There are the head of the town or city, the assembly which gathers residents' opinions and discusses them and the executive agency which brings them into effect. Everyone has the role, and the roles and the actions attached to their roles are complicatedly connected with each other. The system of autonomy is composed of these things in each town or city. We are in this kind of system actually. I think that the physical experiential basis of 'system' is this experience.

The reason why the system is regarded as a physical object seen in this conceptual metaphor, SYSTEM IS AN OBJECT, is that the similarity is found between the concept of system and some devices, gadgets or weapons. (e.g. sling, tackle or musket .etc) Each part has its own role, and the function of the entire system is based on accomplishment of the function of each part. The physical devices resemble the concept of system in these processes.

Here are some examples to show that a system is regarded as a physical object.

(1) Such an error will place *big* burden on the system.

(2) In this article we assess the motivations for big systems, their inherent risks, and a new strategy for mitigating those risks.　　(Web site 11)

Look at example (1). 'Burden' is originally a physical object. The phenomenon in which an object applies pressure on another object originally occurs between physical objects; an upper object applies pressure on a lower object. In the case of (1), 'error' and 'system' are regarded as physical objects; 'burden', a kind of 'error', is the upper object, and 'system', a lower object, has pressure applied by the upper one. 'System' is regarded as a physical object on the basis of this process, and it is connected with *big* and *small*. As to (2), it is a typical example in which *big* can directly modify 'system'.

(3) A *big* part of learning a second language is figuring out how to negotiate it. (*Eijiro* on the web)

(4) But Ruiz-Cabanas said his personal view is that religious considerations probably played a *bigger* role.　　(Japan Times Online)

(5) That's a *big* responsibility. I'll do my best.　　(E-DIC)

In (3), 'part' is modified by *big*. The word 'part' is originally used to refer to a physical objects, but 'part' is regarded as having an extended meaning in this case, the part for the whole system. It is possible that the conceptual metaphor, SIGNIFICANT/IMPORTANT IS BIG, is connected with the concept of system. First,

imagine 'cake' for example. A 'part' of 'cake' means a piece of cake. If this 'part' is physically big and the proportion of 'this part' is big, to spoil 'this part' causes the significant problem. SIGNIFICANT/IMPORTANT IS BIG is connected with the concept of influence, and 'big part' comes to mean 'significant part' on the basis of this connection.

Applying this idea to 'system', it has various parts in itself. If a part accounting for a large share of the entire system exists in the system, it is damaged by losing such a part. That is, this 'big part' means 'significant part' like the cake example. And the bigger the part is, the more significant it is in both examples.

I let us introduce another idea, which is based on 'the Superordination Hypothesis'. Since SIGNIFICANT/IMPORTANT IS BIG can be applied to 'part', it can be also applied to 'effector', the illustrative examples of 'part'. And this spreads to entire 'system term'

'Role' in (4) is a function which is assigned to smaller parts in one part. Take a local government for example, a department corresponds to 'part' and 'role' is assigned to a person who belongs to that department, and then 'responsibility' occurs to the person who has the role. It has influence on an organization, a kind of system, or the person's mental system.

3.5.5.1 The Aspect of Effector

I let us move on to investigate the words which have the aspect of effector, which has a system behind it. 'Effector' has been built in system or it occurs in the system. In other words, it is a kind of 'event'. This 'effector' has influence on the system, so that I

categorize this into the following three groups according to kind of influence; positive, negative and neutral effector. These three just differ in kind of influence, so the fundamental concept is the same. From the viewpoint of the aspect of physical experiential basis, the bigger the object is, the bigger influence it has. On the basis of this experience, the meaning of 'effector' in physical domain is transcribed to notional, nonphysical domain. *Big* and *small* modify this meaning in nonphysical domain. Thus it represents the degree of influence, and then the degree of importance arise by implication.

3.5.5.1.1 Positive Effector

The word which is categorized into 'positive effector' has a positive influence on system. (e.g. success and its kind) 'Success' occurs when system works as it has prospected. Here is an example.

(6) Someday Ronald's going to be a *big* success.   (E-DIC)

In (6), there is a certain system (business system or something) behind it. If Ronald works in accordance with intended process in that system, he will succeed. That 'success' will influence on himself, his colleague and his job.

3.5.5.1.2 Negative Effector

The words categorized into this have negative influence on system. For example, an error or a mistake in system has negative influence on the system itself. Being big 'negative effector' means it has serious influence on the system.

Here are some examples of negative effector.

(7) A *small* error here can lead to serious consequences later.　　(E-DIC)

(8) Such a *small* mistake won't matter in the scheme of things.　　(E-DIC)

(9) Just when victory seemed within reach, the manager of the baseball team made a *small* tactical blunder that ruined the whole ball of wax.　　(E-DIC)

(10)It's a *big* problem. Let's approach it step by step.　　(E-DIC)

(11) A *big* earthquake happened in the country.　　(*Eijiro* on the Web)

(12) That old house may not be able to weather another *big* storm.　　(E-DIC)

(13) It appears there was another *small* fire in one of the nearby factories.　　(E-DIC)

As to (7) to (10), the effectors modified by *big* or *small* occur in system and they have negative influence on system. Being small extent of the influence generate the meaning, 'insignificant' by implication. On the other hand, being big extent of the

influence generate the meaning, 'significant/serious' by implication.

As to (11) to (13), the effectors modified by *big* or *small* are commonly regarded as calamity. They come from the outside of system and they have negative influence on it. Our society as a system is damaged by calamity as a negative effector. However, calamity has stronger physicality compared to the effectors in (7) to (10), so that we may perceive calamity as a physical object and *big* and *small* modify the scale of calamity. The meanings, the degree of extent of influence, significant/serious and insignificant, arise by implication.

3.5.5.1.3 Neutral Effector

Neutral effector is an effector which becomes a positive effector or negative one is depending on the context. It is not different from the previous two effectors except for this point.

Here are some examples of neutral effector.

(14) The *big* news is a chemical spill on the Hollywood Freeway near Cahuenga Pass. (*Eijiro* on the web)

(15) Weather, maps, shots of the honoured President and the full cabinet one by one, making *big* decisions.   (Novels: Geoff: Air)

(16) This contact represents a *big* chance for our company, and the boss intends to make the most of it.   (E-DIC)

(17) This is your *big* opportunity to make good.　　(E-DIC)

As can be seen, each effector has the system behind it. However, the effectors which are modified by *big* are in neutral condition. Whether the effector becomes positive or negative is up to its context.

3.5.6 The Aspect of Number

Now I let us look into the words which have the aspect of number. The aspect of amount, business, money, probability and distance are categorized into this subcategory.

First, I consider the physical experiential basis of number and the process in which *big* and *small* extend their meaning to modify this aspect. When you consider that the idea of amount is useful. And figure 1 helps understand the basis and the process.

Figure 1

A　　　　　　　　　　B
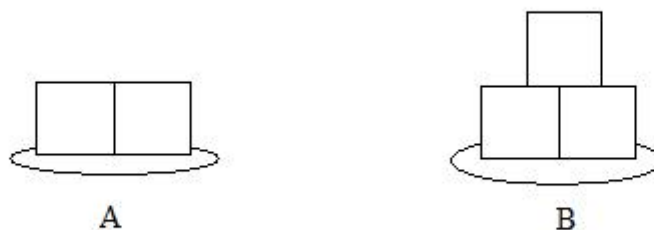
Imagine that there are five objects of the same type. You divide the five objects into two groups, one consisting of two objects and the other consisting of three objects. (As

a matter of convenience, the former is called as group A, the later is called as group B.)
Group A is smaller than group B physically, that is, comparing 2 and 3, 3 is bigger and 2
is smaller. I think this is the basis of physical experience and the process *big* and *small*
extend their meanings to modify the aspect of number.

Here are examples of the aspect of number.

(1) This table is suitable for a *small* number of people.   (E-DIC)

(2) He likes to stay up till the *small* hours of the morning.   (E-DIC)

(3) There is a *big* depth of field in some exposures, in others a little depth of field.
 (Web site 12)

In (1), *small* modifies 'number', which represents 'the number of people is small'.
In (2) and (3), 'hours' and 'depth' are modified by *big* or *small*.   Thus they say that the
actual number of each unit of measure is big or small. As to (2), imagine clock hands.
The hour hand indicates 1 next to 12. That is why 'to stay up till the small hours' means
'to sit up late'.

3.5.6.1 The Aspect of Amount

When the words which have the aspect of amount are modified by *big* and *small*,
they say that the actual number of the amount is big or small. From the view point of the
aspect of physicality, a physical size will be big when the amount is increased. This can

play a part in establishing the connection between the aspect of amount and *big*/*small*. The physical experiential basis of this aspect is the same as the one of the aspect of amount.

Here are examples of this aspect.

(4) I began by gambling *small* amounts but was soon in over my head.   (E-DIC)

(5) Does this store retail *small* quantities?   (E-DIC)

(6) The *big* pile of logs came tumbling down.   (E-DIC)

'Amount,' 'quantity' and 'pile' are modified by *big* and *small* in (7), (8) and (9) respectively, in other words, the aspect of amount is modified by *big* and *small*. All of them say that the amount is big or small. As to (6) 'pile of logs' is perceived as huge block in the view of gestalt. It is possible that *big* modifies the physical aspect of pile because 'pile of logs' consists of each single log. On the other hand, it is also possible that big modifies the numerical aspect of 'pile of logs' because there is a lot of logs actually.

Peculiar Examples of Aspect of Amount

There are peculiar examples which have the aspect of amount, so I cite them here.

(7) I'm a *small* eater.   (E-DIC)

(8) My husband is a *big* eater.　　(E-DIC)

(9) He is a *big* spender.

(10) I'm a *big* fiction reader.

(11) The lion in this zoo is *big* feeder.

(12) The school is a *big* feeder for university.

　　All of these examples refer to the amount. We can paraphrase 'a big fiction reader'
in (7) as in the following.

(13) A person who reads a lot of books.

What *big* modifies in (7) is the amount of books. You can understand this is the way *big*
modifies. And the examples which are cited above can be generalized as following.

A someone who does something a lot / a little.

　　Whether all of the cases in which *big* and *small* modify 'verbs plus suffix, -er' can
be paraphrased like above, and vice versa, is an interesting question. However, I do not
handle it any more in this thesis, because it does not match the keystone of my thesis.

3.5.6.1.1 The Aspect of Money

I examine the words which have the aspect of money. This is the subcategory of amount, so that the physical experiential basis is pursuant to that of amount.

(14) It's *big* money at acceptable risks.　(*Eijiro* on the web)

(15) These are sold for *big* bucks to our friends in America.　(Novels: Geoff: Air)

(16) No *small* bills, please.　(Genius English-Japanese Dictionary)

(17) The amount of political donations is the smallest since comparable data began to be compiled in 1976 and about one-fifth of the all-time high recorded in 1991. (Japan Times Online)

(18) My expenses were *small* last month.　(Genius English-Japanese Dictionary)

(19) We need a *big* loan in order to expand, but the bank won't play ball.　(E-DIC)

In each of the examples, *big* and *small* modify the words which have the aspect of money, and they represent the meaning that the amount of money is big or small.

3.5.6.1.2 The Aspect of Business

The words which have the aspect of business are examined in this section. The reason why I use 'business' is that when I investigate the examples I think it is better to categorize such examples as relating to the aspect of business. The words which have the aspect of business have the volume of business and the amount of money behind the business scene. *Big* and *small* can modify these volumes and amounts. On this view, I categorize this into the subcategory of the aspect of amount.

Here are examples of the aspect of business.

(20) *Big* business and politics adopt an ecological posture to win their support. (*Eijiro* on the Web)

(21) Sentiment at *small*er companies finally curved up after several consecutive quarters of deterioration. (Japan Times Online)

(22) "In the *big* markets like China top maker should be domestic," he said. (Japan Times Online)

(23) It's well known for its high rents, second nationally only to Toronto ($919* and $1027 respectively), the *big* demand and the relatively weaker supply. (Web site 13)

(24) There, it hybridized with a giant northern species of knotweed, spreading a massive

underground network of woody rhizomes that now fuel a *small* industry of people

and pesticides trying to eradicate it.   (Japan Times Online)

(25) The boss gave him hell for losing a *big* customer.   (E-DIC)

In (21), 'company' is modified by *small*. The scale of company is dependent on the volume of its business and funds. The bigger volume of business and funds the company has, the bigger the scale of company will be, and the smaller volume of business and funds the company has, the smaller scale of company will be.

'Market' is modified by *big* in (22). A market is a physical object which occupies space and *big* modifies the physical size of the market originally. The bigger the market is physically, the bigger the volume of business will be. Thus, we can see the connection between the volume of business and a physical size of market. Abstract 'market' like digital market has lost the physicality in proportion to the increase of the degree of abstraction. Since the connection between 'market' and *big*/*small* goes along with the increase of the degree of abstraction, *big* and *small* can modify the 'market' without physicality.

In (25), 'customer' is modified by *big*. 'Big customer' can mean the company is on familiar terms with that customer, and it also implies that the company has a big deal with such a customer. *Big* modifies the customer from the view point of the amount, and you can conclude that 'big customer is an important customer' by implication and the conceptual metaphor, IMPORTANT/SIGNIFICANT IS BIG.

Thus, when *big* and *small* modify the words which have the aspect of business, they represent the meanings which refer to the amount, the scale and the importance.

3.5.6.2 The Aspect of Probability

The words which have the aspect of probability are looked into in this section. The quantitative aspect is not referred to in this aspect. This aspect indicates that the actual number is big or small.

Here are examples of the aspect of probability.

(26) A *small* percentage tested developed lumps and bumps.　　(*Eijiro* on the web)

(27) These attacks appear to have originated in China, but the researchers pointed to the *small* possibility that attacks originating from Chinese IPs might be controlled from outside China's borders.　　(Japan Times Online)

In (26) and (27), *small* modifies 'percentage' and 'possibility,' which means that the actual numbers of probability is small. The probability is indicated by the numbers and the unit of measure %. We can indicate 'possibility' with %, thus there is no question about the connection between 'possibility' and *small*.

This is a little off the subject, the nonmetaphorical paraphrase of *small* is *low* in this case. On my view, when *small* is used, I have the impression that numerical value which is extracted is compared to other standard value. On the other hand, when *low* is used, I have the impression that there is number line behind numerical value, and it is relatively low on the number line.

3.5.6.3 The Aspect of Distance

Now let us move on to examine the words which have the aspect of distance in this section. 'Distance' means an interval between one point and another. You refer to Figure 2 when you consider the basic image of 'distance.'

Figure 2
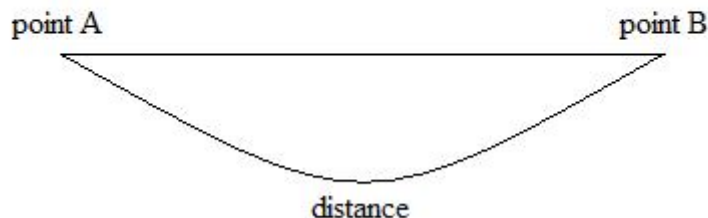
'Distance' shown in Figure 2 is modified by *big* and *small*. The reason why I categorize the aspect of distance into a subcategory of the aspect of number is that you need to say definitely like 'two minutes on foot' or 'within an hour's drive' to represent how far it is from point A to point B. After that, the concept of distance involving actual numbers extends its meaning to notional distance which does not involve actual numbers. When the extension occurs, *big* and *small* go along with this extension.

Here are examples of the aspect of distance.

(28) There is a post office at a *small* distance from here.

(29) That will also be a *big* plus for the world economy, not just for Japan.　(Japan

　　Times Online)

(30) *Bigger* increases in prices are anticipated for this year.　(E-DIC)

(31) It's easy to become very conservative as you grow, so instead of taking *big* strides you take *small* steps.　(Times Online)

(32) There's a *big* difference between the ideal and the real.　(E-DIC)

(33) There is *big* gap between Japanese mentality and U.S. mentality in business. (Japan Times Online)

　　Take (29) for example, a 'plus' has a numeric value as a starting point. The increase from that point is a 'plus.' Regarding the numeric value before change and the numeric value after change as points, the distance between a point before change and a point after change is 'plus.' *Big* modifies that distance and it can be considered as the numeric value. When you say that distance is big, it is synonymous with the claim that the numeric value of distance is big.

　　It is easy to digitalize the distance between two points in (29) and (30) but it is a little bit difficult in (28), (31) (32) and (33), because it is a little bit abstract in (28) and (31), and it is completely abstract in (32) and (33).

　　'Stride' and 'step' in (31) are regarded as metaphorically extended meaning rather than literal meaning. *Big* and *small* can modify both noun which is regarded as literal and noun which is regarded as metaphorically extended.

　　In (32), big modifies 'difference.' That 'the difference is big' means that two points are far from each other. It is a little bit difficult to consider digitalizing this distance between two points. In this case, you have to just imagine Figure 2 without digitalizing,

and you consider the distance between ideal and real is big like Figure 2. Of course you can consider numeric value which is read from the contexts or the implications.

Thus, when the words which have the aspect of distance are modified by *big* and *small*, they refer to the numeric values of the distance between two points. The meaning which refers to the degree of differences is derived from this meaning.

These are the result which I have found when I examined the words which have the aspect of number. It is clear that all of them have the concept of number in their background, and the meanings are derived from the number.

3.5.7 Supplemental Explanations

I add my various observations. First, I examine the concept of scale. 'Scale' is originally a device having a series of marks at regular intervals for measuring. 'Scale' extends its concept to represent the size of notional, nonphysical object like 'business scale'. The concept of scale is applied to 'business'.

Big and *small* applied to the scale as a measuring device. The object measured by a big scale is generally big. They go along with the process of extension of the concept in physical domain to the concept in nonphysical and notional domain.

(1) We started off on a *small* scale with a modest budget.   (E-DIC)

In (1), *small* modifies *scale*, but what is actually small is the amount of money. 'Scale' brings about the realization that shapeless nonphysical objects or abstracts are regarded as physical objects. 'The aspect of money' is used as measure of budget in (1).

'Scale' just uses an existing aspect as measure of something and it just brings about the realization that an abstract entity can be regarded as a physical entity. I think 'scale' is a different concept from 'aspect' so that I decide not to regard 'scale' as 'aspect.' If I asked what 'scale' is, I might answer by saying that it might be a kind of collocation which forms 'a scale of something', 'small-scale', or it might be a foothold which brings about the realization that shapeless nonphysical objects or abstracts are regarded as physical objects.

Now I investigate the idiomatic usages.

(2) He told me a lie, and a very *big* lie at that.   (E-DIC)

'Lie' is modified by *big* in (2). 'Big lie' is an idiomatic expression. If I am the last human being in the world, I cannot tell a lie, because 'lie' basically needs a receptor. (Except the case that someone tells a lie to himself.) Thus 'lie' has [negative effector] as an aspect. The lie which has big influence on someone is 'big lie'. In the case of small influence, it is called just 'lie' or 'white lie'.

(3) What's the *big* idea leaving me out?   (E-DIC)

(4) Jim seems to have some *big* ideas for the future.   (E-DIC)

Big modifies 'idea' in both (3) and (4), but the implications are a little bit different. The conceptual metaphor, IDEAS ARE PRODUCTS, leads us to the realization that an idea is regarded as a physical object. Then, what kind of aspect does *big* modify? I think

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it is [neutral effector]. *Big* is connected with the aspect of influence which 'idea' has. In these cases, the effector is 'idea' and the receptor is speaker in (3) and Jim himself in (4). In general, the idea that has influence on someone or something extensively is 'big idea', and it means that it is significant. Sentence (4) is an example in which 'big idea' is used as it is, but sentence (3) is an example in which it is used as an irony.

(5) The boss has *big* dreams, but he's got to sober up.　　(E-DIC)

　　'Dream' is regarded as a kind 'idea' in (5), so that I can apply the concept of influence and effector to 'dream' like (4). In addition, I can consider this in the viewpoint of the aspect of distance. 'Big dream' is usually a wild idea, that is, there is a big gap between the dream and the reality. It is possible that *big* is connected with [distance].

(6) We need to think *big*.　　(Oxford ADVANCED LEARNER'S Dictionary)

　　'Think big', in (6), is a sort of speech formula. What aspect *big* modifies depends on the context. (*Big* in 'think big' is adverb, but 'think big' seems to be the abbreviation for 'think about big things'. Suppose this is true. The referent to 'thing' varies according to the context.) Whatever the context is, by implication, the idea generated by 'think big' has big influence. Thus I would categorize 'think big' into the aspect of effector.

Chapter 4: Prototypical Meaning and Semantic Extensions in Japanese (*ookii* and *chiisai*)

4.1 Introduction

From this section on, I go on to the second main topic, the analyses and categorization of *ookii* and *chiisai* in Japanese. As I stated in Chapter 1 Introduction, one of my claims is that 'the essential concepts of *big* and *small* in English and *ookii* and *chiisai* in Japanese are the same.' Thus I will apply the entire concepts which I considered in Chapter 3 to this chapter. This is why I will basically not repeat the theoretical explanations and the representation of semantic extension processes. Structures of this chapter are very similar to those of chapter 3, thus when you want to refer to the theoretical explanations, concepts or etc, see chapter 3 pro se.

4.2 Prototypical Meaning

I consider the prototypical meanings of *ookii* and *chiisai* to be 'to represent the sizes of three-dimensional physical objects' as well as those of *big* and *small*.

4.2.1 Three-dimensional Objects

Now let us look into examples in which the prototypical meanings of *ookii* and *chiisai* are connected with three-dimensional objects. Here are some examples.

(1) Watashi ha *chiisai* ie ni sunde iru.

(2) Sono *ookina* otoko ha taoreru maeni sūhatsu no jūdan o uketa.

(3) Shūzin ha, kusari ni tetsu no tama o tuketa ashikase o hamerare, *ookina* hanmā de

 ishi o kudaiteita.   (E-DIC)

(4)* *Ookina* mizu o kudasai.

(5)* Watashi niha *chiisana* kūki ga hitsuyou desu.

In (1), *chiisai* modifies '*ie*' (house), a type of three-dimensional object, and it means that the size of '*ie*' is physically small. *Ookina* modifies '*otoko*' (man) in (2), and it means that the size of his body is physically big. In (3), *ookina* modifies '*hanmā*' (hammer), and it means the size of '*hanmā*' is physically big. In (4) and (5), '*mizu*' (water) and '*kūki*' (air) are modified by *ookina* and *chiisana*, but they are ungrammatical sentences, because '*mizu*' and '*kūki*' are shapeless substances. *Ookii* and *chiisai* cannot modify shapeless substances just as in the case of *big* and *small*.

4.3 Geometrical Extensions

In this section, I look into examples of Geometrical Extensions. (About Geometrical Extensions, see 3.3.) What I investigate here is Two-dimensional Objects, 2/3-dimensional Objects, One-dimensional Objects and Zero-dimensional Object.

4.3.1 Two-dimensional Objects

Now I examine the connections between two-dimensional objects and *ookii* and *chiisai*. Here are examples.

(1) *Ookina* sukurīn de mirareru node bideo yori eiga no hou ga sukidesu.　(*Eijiro* on
　　the Web)

(2) Sono namae ga gan'isuru tōri, katsute ha *ookina* tanbo to shite tsukawarete ita.

(3) So no *chiisana* kiji ha minogashite ita.

In (1), *ookina* modifies '*sukurīn*' (screen). '*Sukurīn*' is a two-dimensional object. When '*sukurīn*' is modified by *ookii*, it means that the area of '*sukurīn*' is physically big. In (2), '*tanbo*' (rice field) is modified by *ookina*, and it means that the area of '*tanbo*' is physically big. '*Kiji*' is modified by *chiisana* in (3), which represent that the area occupied by '*kiji*' on a newspaper is physically small.

Thus there is no problem with using *ookii* and *chiisai* with two dimensional objects.

4.3.2 2/3-dimensional Objects

I also investigate words intermediate between three and two-dimensions in Japanese.

(4) Kondo hikkoshita danchi ha, Tokyo de ichiban kibo ga *ookina* danchi dasouda. (*Gendai kokugo yourei jiten*)

(5) Amerika no *ookii* noujou niha, kanarazu, kibikidai ga aru.   (E-DIC)

(6) Boku ha *chiisana* umi no ue o oobune de norimawashite arukitainda.   (Novel: *Natume*: *Botchan*)

In (4) to (6), the words which are modified by *ookii* or *chiisai* are '*danchi*' (housing development), '*noujou*' (farm) and '*umi*' (sea/ocean). These words are also considered both three-dimensional objects and two-dimensional objects in Japanese. However, the English 'sea' and 'ocean' cannot be modified by *big* or *small*. This difference has roots in the framing in which we perceive them. Japanese speakers conceive of them as three-dimensional or two-dimensional objects, but English speakers do not. 'Sea' is a sort of huge water mass. I consider water as a physical substance, not a physical object, because water does not have determinate boundaries. Thus, 'sea' which is a huge water mass seems to refer to a physical substance which does not have determinate boundaries. As a result, *big* and *small* cannot modify 'sea' and 'ocean' as in the case of 'water'. Perhaps, 'sea' might contain the image of 'big', 'large' or 'great' naturally. If this is true, we do not need to modify it by *big* additionally.

4.3.3 One-dimensional Objects

In this section, I deal with one-dimensional objects, that is, lines. In judging the acceptability of (7), I request the reader to interpret the word '*sen*' in a mathematical, geometrical sense like 3.3.3.

(7)* Kono sen ha *ookii*.

'*Sen*' (line) in (7) is a one-dimensional object. It has no aspect which is modified by *ookii* or *chiisai* on the geometrical view, so that it is ungrammatical.

4.3.4 Zero-dimensional Object

I also consider a zero-dimensional object in Japanese.

(8)* Kono ten ha *ookii*.

In the same way, *ookii* and *chiisai* cannot modify '*ten*' (point) in a mathematical sense. However, an extended meaning of '*ten*' can be modified by *ookii* and *chiisai* as well as extended 'point' can be.

4.4 Metonymic Extension

Now I look into the semantic extension involving metonymy. (For details about metonymy and metonymic extension, see 3.4)

4.4.1 The Aspect of Child

In this section, I examine words which have the aspect of child in Japanese. First, we have a look at examples, and after that, I give detailed explanations.

(1) Boku ha *chiisai* koro, pairotto ni naritai to omotte imashita.   (*Gendai kokugo yourei jiten*)

(2) *Chiisai* otouto ni warui koto o oshiete ha narimasen.   (E-DIC)

In (1), '*chiisai koro*' means 'in one's childhood'. It means the time when a person's body was physically small, that is, the time when the person was a small child. Referring to the physical size of body indicates the growth status of child. '*Otouto*' (younger brother) is modified by *chiisai* in (2). Referring to the physical size of '*otouto*' indicates that he is still on the way of growing and he is so young.

In Japanese, there is the same extension in which referring to the size of child's body indicates the growth status of child.

4.5 Metaphorical Extensions

Now let us consider metaphorical extensions of *ookii* and *chiisai* in Japanese. About metaphorical extension itself, the processes of metaphorical extension in each aspect, and the connection between adjectives and each aspect, see the section with the same title in the previous chapter. Basically, I will apply the entire concepts which I considered in Chapter 3 to this chapter.

I show here the outline of this section. It is very similar to that of English. I look into the aspects in the following order; Space, Container, Mind, Group, Event, Sound, Power, Influence, System, Effector (Positive, Negative, Neutral), Number, Amount, Money, Business, Probability, Distance, Emotion and I explain the idiomatic usages in Supplemental Explanation at the end. This is very similar to chapter 3, but I add the aspect of emotion in Japanese chapter. This is an unique section of the Japanese chapter.

4.5.1 The Aspect of Space

I examine words which have the aspect of space in Japanese here. Take a look at examples below.

(1) Futari dake no *chiisana* sekai de, tanoshiku shiawase ni toshi o toru noga risouno

 kekkon no youda.   (*Eijiro* on the Web)

(2) Kapuseruhoteru ha, nemuru tame no kapuseru jou no *chiisana* supēsu o teikyoushite

 kureru hoteru desu.   (*Eijiro* on the Web)

In (1), 'sekai' (world) is modified by *chiisana*. However, in this case, 'sekai' does not refer to the actual world in which we exist but it refers to the virtual reality world in which only that couple exists as the sentence says. The expression, '*chiisana sekai*', represents the image of the couple being in the physically small space. Thus it means the closeness of the couple by implication. In (2), '*supēsu*' (space) is modified by *chiisana*. The spatial aspect of '*supēsu*' is connected with *chiisana*, and they mean that the spatial size of three-dimensional place of '*supēsu*' is physically small.

4.5.2 The Aspect of Container

I investigate words which have the aspect of container in Japanese. I categorize the aspect of mind, group, and event into this subcategory. I apply the processes of metaphorical extension to each aspect involving Container Metaphor in 3.5.2 to this section 4.5.2.

Take a look at an example.

(1) *Ashita wa *ookina* hi desu.

'*Ookina hi*' in (1) is a literal translation of 'big day'. This is an ungrammatical sentence in Japanese. I make two hypotheses to explain the reason why *ookii* and *chiisai* cannot modify '*hi*' in Japanese.

The first one is that, in English, 'day' has images of [event] and [container]. But, in Japanese, '*hi*' (day) might be conceived to be just a boundary to divide time into twenty-four hours. Because it does not have the aspect of container, it cannot be

considered as a physical object. Thus *ookii* and *chiisai* might be able not to modify '*hi*'.

The second hypothesis is that '*hi*' has the aspect of container, but the container is a solid one and it never changes its form. Concretely speaking, '*hi*' (day) has twenty four hours in it, and they never increase nor decrease. This fact might arouse the strong image of '*hi*' being a solid, changeless container and all *hi*'s are completely the same in Japanese. This means that there is no difference in size. Thus *ookii* and *chiisai* might be able not to modify '*hi*'.

These two opinions are just hypotheses, so the truth will arise from the full-dress investigation of '*hi*' and 'day'. But, at this time, I am sure that the framing for perceiving '*hi*' or 'day' is different between the two languages.

If it helps, the correct Japanese translation of 'big day' is '*daijina* (important) *hi* (day)'.

4.5.2.1 The Aspect of Mind

I investigate words which have the aspect of mind here. When it is connected with *ookii* and *chiisai*, they mean the degree of the person's generosity.

(2) Nanto kokoro no *ookii* hito da.

(3) Jibun no machigai o mitomete ayamaru nante, sū-san ha ningen ga *ookii* ne.
 (E-DIC)

(4) Kono doryou no *ookii* seikaku ga kanojo no miryoku da.   (*Eijiro* on the Web)

In (2), '*kokoro*' (heart/mind) is modified by *ookii*. This is a typical example of the connection between the aspect of mind and *ookii,* and it means 'generous person'. As to (3), *ookii* modifies '*ningen*' (human), but *ookii* actually refers to *sū-san*'s 'mind'. Referring to the size of a human being indicates the degree of that person's generosity. This is a metonymic process, but from the fact that it changes domain from 'physical object' to 'mind', it can be said that its entire process is a metaphorical extension. The expression, '*doryou ga ookii*', means 'broad-minded' or 'big heart'. '*Do*' in '*doryou*' originally means the scale and '*ryou*' originally means the measuring apparatus. This container-like image seems to be transcribed to the concept of mind. The bigger the container is, the more can be contained. The meaning 'tolerance' arises from this image. If the size of '*doryou*' is big, it can take in other opinions, ideas, advice or something like those.

4.5.5.2 The Aspect of Group

I look into words which have the aspect of group as a subcategory of 'container'. All of the words in this category can be considered a type of group.

(5) Nakanoyoi tomodachi doushi no *chiisana* atsumari nara, minna ni chotto shita

purezento o ageru beki kamo shire nai kedo ne.   (*Eijiro* on the Web)

(6) Watashi ha kore ijou *ookina* kazoku o yashinae nai.

(7) Koko ha *ookina* soshiki da.   (E-DIC)

(8) Kaigai no kenkyū niyotte *chiisana* kurasu deno kyouiku ga keizaiteki, shakaiteki ni

hikui chii no kodomo tachi ni, yori kouka ga aru to shoumei sareta.

The words which are modified by *ookii* or *chiisai* in (5) to (8) are '*atsumari*' (group), '*kazoku*' (family), '*soshiki*' (organization) and '*kurasu*' (class) respectively. They have constituent members in them, so that we can conceive of them as 'groups'. The scale of a group and, by implication, the number of constituent members which belong to the group are modified by *big* and *small* in all the examples above. And they mean that the scale of group is big or small and, by implication, the number of constituent members is big or small.

4.5.2.3 The Aspect of Event

Now let us examine words which have the aspect of event in Japanese. This aspect is categorized into the subcategory of the aspect of container. Though the prototype of 'event' has strong physicality, the physicality gradually decreases in the processes of metaphorical extension. Thus there are examples which have less physicality.

Here are some examples of the aspect of event.

(9) Watashi no ryoushin ga *chiisana* jiko ni atta.

(10) *Chiisana* dekigoto ga *ookina* bakuhatsu o hikiokosu.　　(*Eijiro* on the Web)

(11) Seiki no kawarime ni *ookina* shukuten ga kazuooku hirakareta.　　(E-DIC)

(12) Daikigyou nisya no gappei ha sangyoukai deha *ookina* dekigoto datta.

(13) Konoyouna *ookii* shiai no mae deha kare ha okorippoku naru.　　(*Eijiro* on the Web)

(14) Sonotoki *chiisana* kiseki ga okotta.

'*Jiko*' (accident) in (9) is a typical event involving strong physicality. The physical area occupied by '*jiko*' and the aspect of influence of '*jiko*' are modified by *chiisana*, and they mean 'small-scale accident' and, by implication, 'insignificant event'. In (10), the physical area occupied by '*bakuhatsu*' (explosion) and the aspect of influence of '*bakuhatsu*' are modified by *ookina*, and they mean 'huge explosion' and, by implication, 'significant event'. As to '*shukuten*' (ceremony) in (11), emphasis is on the physical area occupied by it rather than the degree of significance or importance. On the contrary, in (13), emphasis is on the influence on an individual rather than physical area occupied by '*shiai*' (game). The aspect of significance/importance for the individual is emphasized in (13), and the physical area occupied by it is neither here nor there. In (12), '*dekigoto*' (event), an abstract term, is modified by *ookina*. This '*dekigoto*' refers to '*gappei*' as a concrete content. *Ookii* and *chiisai* can also modify this extended and less physical 'event'. As to '*kiseki*' (miracle) in (14), the concrete contents and physicality of '*kiseki*' strongly depend on the context in which it occurs. However, it occurs instantly and involves the concrete event as container substance, so that we can perceive them as 'event'. Though *chiisana* is connected with the aspect of influence, '*chiisana kiseki*' does not involve the meaning 'insignificant', but it involves the meaning 'significant but a little' because of the extraordinarily positive image.

Thus, when *ookii* and *chiisai* modify the aspect of event, they represent the meaning of the physical scale of the events and the degree of importance of the event.

4.5.3 The Aspect of Sound

I examine words which have the aspect of sound in Japanese. Sounds, noises, and acts involving sound are categorized into this aspect. Here are examples of the aspect of sound.

(1) Ishi ga tēburu kara ochiru toki ni *ookina* oto o tateta.

(2) *Ookina* koe deha iemasen ga, kare ha ima, shakkin o kakaete komatteiru nda soudesu.   (*Gendai kokugo yourei ziten*)

(3) *Ookina* ibiki o shite naganaga to karada o yokotaete nemutte iru.   (Novel: *Natsume*: *Wagahai ha neko de aru*)

(4) Ehen Ehen to hutatsu bakari *ookina* sekibarai wo shite seki ni tsuita.   (Novel: *Natsume*: *Botchan*)

(1) is a typical example of this aspect. *Ookina* modifies '*oto*' (sound), and they mean the loudness of sound. '*Koe*' (voice) in (2) and '*ibiki*' (snore) in (3) are a type of sound, so that *ookina* can modify them. As to '*sekibarai*' (cough) in (4), this is an act which generates sound rather than sound itself. The act is connected with *ookii* in (4), but the

sound generated by the act is connected with *ookii* actually. The process from an act to sound is metonymic process.

Thus, when the words which have the aspect of sound are modified by *big* and *small*, they represent the degree of loudness of sound.

4.5.4 The Aspect of Force

I investigate words which have the aspect of force in Japanese. The physical experiential basis, the processes of metaphorical extension, and the connection between the aspect of force and *big*/*small* in English apply to this aspect in Japanese as well.

Here are examples of the aspect of force in Japanese.

(1) Syokuen no hou ga mizu yorimo furyoku ga *ookii* node, pūru yorimo mizu no houga

rakuni uku.　　(*Gendai kokugo yourei jiten*)

(2) Waga sha no seisan nouryoku ha sonna chūmon o konasu hodo *ookiku* nainja naika

to omoi masu.　　(E-DIC)

(3) Kare no shigoto no puresshā ha amarinimo *ooki* sugiru.　　(E-DIC)

(4) Shikashi, kiseino mono heno *chiisana* hankou, sore ga rokku toiu mono deha naika.

(*Eijiro* on the Web)

(5) Gaikoku no koubairyoku ga, tai no chūryū aruiha zyouryū no hitobito no koubairyoku yori zutto *ookii* to wakaru deshou.　　(*Eijiro* on the Web)

As to '*furyoku*' (buoyancy) in (1) is a type of force. This is an example in which 'force' extends its meaning in the context of physical science. '*Puresshā*' (pressure) in (3) is also a type of force. In (4), '*hankou*' (rebellion) is an action which involves an exercise of force. Thus we can conceive this of a type of force. As to '*koubairyoku*' (purchasing power) in (5), the suffix -*ryoku* (power) is served as foothold to lead *ookii* or *chiisai*. In the English case, '*power*' is served as foothold to lead *big* or *small*. '*Seisan nouryoku*' which is modified by *ookiku* means 'production capacity' in (2). *Ookiku* can be lead by -*ryoku* in a similar way to (5). However there is no extension in which the meaning of 'force' is extended to mean the groups which have physical or social power in Japanese.

Thus, when *ookii* and *chiisai* modify the aspect of force, they mean the degree of force.

4.5.4.1 The Aspect of Influence

In this section, I deal with words which have the aspect of influence, a type of force. As is the case with the aspect of influence in English, the aspect of influence in Japanese arises from the 'pressure'.

Here are examples of the aspect of influence in Japanese.

(6) Katei kankyou ga kodomo no kyouiku ni *ookina* eikyou o ataeru.　　(E-DIC)

(7) Naganen, tsukiawarete ita shujin kara, itoma o dasareta nomo, jitsuha kono suibi no

chiisana yoha ni hokanaranai.　　(Novel: *Akutagawa*: *Rasyoumon*)

(8) Iryou sābisu no hitsuyousei ga *ookii* node areba, doushite ishi ha kinmu jikan o

nagaku shinai no deshouka.　　(*Eijiro* on the Web)

(6) is a typical example of this aspect. In (6), *ookina* modifies '*eikyou*' (influence/impact). The effector (what affects something or someone) is '*katei kankyou*' (family environment), the receptor (what is affected by effector) is '*kyouiku*' (education) and the background system in (6) is a system inside the family.

As to '*yoha*' (aftereffect) in (7), this is a type of '*nami*' (wave), that is, '*yoha*' is originally a physical object which has determinate boundaries. The image of a wave coming to the land and it causing damage is transcribed to the concept of influence. Thus I can regard '*yoha*' as a paraphrase of '*eikyou*' (influence). As a result, '*yoha*' is a type of influence. In (7), the effector is '*suibi*' (decline), the receptor is a hired servant and the background system is employment system.

Now I mention additional information. Only the examples in which adjective modifies nouns are only collected in this thesis. Because of this, the expression of the Japanese translation of 'big man' is excluded from the thesis. '*Oomono*' is the Japanese translation of 'big man' and the meanings and its usage are the same as 'big man'. (Japanese prefix, oo- and dai- mean *ookii*.) Thus, if I add such items as '*oomono*', the expanded scope of the aspect of influence in Japanese will correspond to that in English. I do not explain about '*oomono*' in detail, but it means 'famous, important or influential person' by implication.

4.5.5 The Aspect of System

Now I investigate words which have the aspect of system in Japanese. This aspect has the aspect of effector (which includes positive, negative and neutral effector) as a subcategory. About the physical experiential basis of this aspect and the process of metaphorical extension, see 3.5.5.

Here is an example of this aspect.

(1) Kokka to iu *ookina* sisutemu no naka ni iru.

In (1), the word modified by *ookina* is '*sisutemu*' (system). This is a typical example in which *ookii* can directly modify '*sisutemu*'. We can see that '*sisutemu*' is regarded as a physical object on the basis of its physical experiential basis and its extension process.

(2) Kyurī husai ga hakken shita rajiumu ha, igaku ni *ookina* yakuwari o hatashita toiu.
    (*Gendai kokugo yourei jiten*)

(3) Hito no ichiban *ookina* sekinin toha, taisetsu na kazoku no mendou o miru koto da.
    (E-DIC)

'*Ookina yakuwari*' (role) in (2) and '*ookina sekinin*' (responsibility) in (3) correspond to 'big role' and 'big responsibility' in 3.5.5 (3) and (4) respectively in usage. The reason why here is no Japanese expression corresponding to 'big part' in 3.5.5 (2), that expression is excluded from investigation target in this time. The expression '*daibubun*' corresponds to 'big part' in its usage and modification relation. As a result of

this, semantically expanded scopes in Japanese are very similar to English as a whole.

4.5.5.1 The Aspect of Effector

My unique term 'effector' indicates what affects something or someone. In detail, see 3.5.5.1 The Aspect of Effector.

4.5.5.1.1 Positive Effector

The words categorized into positive effector are the words having positive influence on system. Here is an example of positive effector.

(4) Doryoku shite iru nimo kakawarazu *chiisana* seikou ni sura tadoritsuite inai. (E-DIC)

In (4), '*seikou*' (success) is modified by *chiisai*. There is some sort of system behind '*seikou*', and if speaker works in accordance with intended process in that system, success will arise in general. '*Seikou*' has positive image and it has positive effect on the system. In the case of (4), *chiisana* modifies '*seikou*' and they mean small-scale or insignificant success.

4.5.5.1.2 Negative Effector

The words categorized into negative effector are the words having negative influence on system. Here are examples of negative effector.

(5) *Ookina* shippai ga nakereba kare no yuusyou ha machigai nai.   (E-DIC)

(6) Sonna *chiisana* machigai ha sono keikaku deha mondai ni naranai.

(7) Jidousya ga dekiru mae no jidai niha uma no hun ga *ookina* toshi kougai mondai datta.   (E-DIC)

(8) *Ookina* byouki o shita koto ga arimasuka.   (E-DIC)

(9) *Ookina* jishin ga touhoku chihou to kantou chihou o osotta.

(10) Soredeha amarini kiken ga *ookii* kara yameta hou ga yoi.

The words which are modified by *ookii* or *chiisai* in (5) to (7) are respectively '*shippai*' (error) '*machigai*' (mistake) and '*mondai*' (problem). They arise in the system and they typically have negative influences on the system. As to '*byouki*' (illness/disease) in (8), '*ookina byouki*' is a grammatical expression. On the other hand, the English literal translation of this, *big illness/disease*, is an ungrammatical expression. (As to *big disease*, it may be acceptable in certain contexts.) I hypothesize that the acceptability gap between two languages arises from the difference in the way Japanese

speakers and English speakers uses a framing to conceive '*byouki*' or illness. Let us move on to (9), in which the effector is '*jishin*' (earthquake), the receptor is people who live in certain areas and the system is our society. '*Jishin*' comes from the outside of the system and causes destruction in some areas as a negative effect. In the case of (10), '*kiken*' (risk) is sometimes integrated into the system primarily, or it comes from the outside of the system. In any case, it is not much different than the other.

4.5.5.1.3 Neutral Effector

Neutral effector means that it can have either negative or positive influence on system. Whether it is positive or negative depends on the contexts. Here are examples of neutral effector.

(11) Okusan no rouhiheki ga, kare niha *ookina* kurou no tane datta.   (E-DIC)

(12) Kono kone ha waga sha nitotte *ookina* chansu ni naru.   (E-DIC)

(13) Sonokoto koso ga, hitobito o hikiyoseru mottomo *ookina* youso de aru to kankou toukyokusha ha itte imasu.   (PDF document)

(14) *Chiisana* himitsu ga futari no kankei o kimazuku sisou.   (*Eijiro* on the Web)

As can be seen, the words modified by *ookii* or *chiisai* are, '*tane*' (seed) in (11), '*chansu*' (chance) in (12), '*youso*' (factor) in (13) and '*himitsu*' (secret) in (14) are

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neutral effectors.

In (11), *ookina* modifies *tane* (seed), which is originally a physical object. The growth processes of plant is applied to the mechanism in which '*kurou*' (trouble) occurs. The meaning of '*kurou no tane*' is 'cause of trouble'. The bigger '*tane*' is, the bigger the trouble is.

As to '*chansu*' (chance) in (12), '*chansu*' sometimes brings us a good result, and sometimes a bad result. Thus I categorize '*chansu*' into the neutral effector. When *ookina* modifies '*chansu*', they mean that '*chansu*' is influential and significant.

Let us move on to (14). As to '*himitsu*' which is modified by *chiisana*, if it is revealed to someone, it has influence on the people who share that '*himitsu*'. The bigger '*himitsu*' is, the bigger influence it has and it means a significant secret. On the contrary the smaller it is, the smaller influence it has and it means an insignificant secret. In (2), '*himitsu*' is changed into negative effector by its context. However, if it is changed into positive effector by the context, it refers to closeness among people.

As can be seen, when the aspect of effector is modified by *ookii* and *chiisai*, they refer to the degree of influence, and then they mean significant/important/serious or insignificant.

4.5.6 The Aspect of Number

In this section, I investigate words which have the aspect of number in Japanese, and I categorized the aspect of amount (which includes money and business), probability and distance as subcategories of this aspect. The physical experiential bases and the processes of metaphorical extension of this aspect and subcategories' in

Japanese are pursuant to those of English. (For detail, see 3.5.6 The Aspect of Number.)

Here are some examples of the aspect of number.

(1) Kazu ga *chiisa* kereba, anzan ha hayaku seikakuni dekimasu.   (*Gendai kokugo*
    yourei jiten)

(2) Onazi omosa no mizu to kōri no taiseki o hikaku suru to kōri no houga *ookii*.
    (E-DIC)

(3) Keitai denwa no hukyū supīdo ha sekaijū de *ookii* desu kara.   (*Eijiro* on the Web)

In (1), '*kazu*' (number) is modified by *chiisai*, and they mean that the number is small. In (2), *ookii* modifies *kōri* (ice) in literal, but it modifies '*kōri no taiseki*' (volume of ice) actually. *Ookii* is connected with the numerical value of '*taiseki*' (volume), and they indicate that the numerical value is small. '*Supīdo*' (speed) is modified by *ookii* in (3). Speed generally involves an actual number, but in the case of (3), it does not. *Ookii* is connected with notional speed, and they mean 'being rapid'. In general, if numerical value increases, velocity increases proportionally. Thus I am sure that *ookii* refers to the numerical value of speed.

4.5.6.1 The Aspect of Amount

I deal with words which have the aspect of amount in Japanese. When the aspect of amount is connected with *ookii* and *chiisai*, they represent that the actual number of the

amount is big or small.

Here are examples of the aspect of amount.

(4) Gazou dēta no ryou ga *ookii* tame, denwa de gazou o okuru niha choujikan kakatte

simau noda.

(5) Enjin no haikiryou o *ookiku* suru igaini houhou ha nai.

(6) Undouryou no *ookii* hokou de taijū o otoshite kudasai.

The word which is modified by *ookii* in (4) is '*ryou*' (amount), and this is a typical example of this aspect. They mean that actual number of '*ryou*' is big. In (5) and (6), the words which are modified by *ookii* are the compound words (*haikiryou* (displacement) *undouryou* (amount of exercise/momentum)) which have suffix –*ryou*. All of the compound words which have suffix –*ryou* can be modified by *ookii* and *chiisai*, because that suffix serves as a foothold which leads *ookii* and *chiisai*.

However, there is no peculiar example like 3.5.6.1 in Japanese. Japanese translations of those expressions are not consistent in expression. They are separate expressions and they do not share any principle. (e.g. small eater (*shoushoku*), big eater (*oogui/oogurai*), big spender (*rouhika*) etc.)

3.5.6.1.1 The Aspect of Money

I examine words which have the aspect of money which is subcategory of the aspect of amount.

(7) Maitsuki maitsuki, syūnyū ijou no seikatsu o shite ita node kare ha *ookina* syakkin ga dekita.   (E-DIC)

(8) *Ookina* housyū o yakusoku sarete, syounen tachi ha kiai o irete shigoto ni torikakatta. (E-DIC)

(9) Hajimete no aite de torihiki gaku mo *ookii* node, gouijikou no oboegaki o kawasu koto ni natta.   (E-DIC)

The words which are modified by *ookii* and *ookina* are '*shakkin*' (debt), '*housyū*' (reward) and '*torihiki gaku*' (transaction amount). They have the aspect of money, and when they are connected with *ookii*, they mean that the amount of money is big.

4.5.6.1.2 The Aspect of Business

Now I look into words which have the aspect of business in Japanese. While only the amount of money is focused in the previous aspect, the amount of money, the transaction amount and the scale of company are focused in this aspect.

(10) *Chiisana* kaisha ga sukoshi demo seikou o osameru ya inaya, sore ha yori *ookina*

kaisha ga nottoru kakkou no kikai ni naru.   (E-DIC)

(11) Netto tūhan ha *ookina* sangyou to natte iru.   (E-DIC)

(12) Waga sha ha doitsu no bouekigaisha to *ookina* torihiki o oeta bakari da.   (E-DIC)

In (10), *ookii* and *chiisai* modify '*kaisha*' (company), but the scale of '*kaisha*' is modified by *ookii* and *chiisai* actually. The scale of '*kaisya*' is determined by the factor like transaction amount, transaction value, the number of constituent members and so on. After all, *ookii* and *chiisai* are not connected with 'scale' but they are connected with those factors. Thus '*kaisha*' is categorized into the aspect of business. As to '*sangyou*' (business) in (11), this is a typical example of this aspect. *Ookii* is connected with transaction value, transaction amount, the rate of utilization and so on. In (12), '*torihiki*' (transaction) is modified by *ookina*, and they mean that it is a big-scale transaction. The actual parts which are modified by *ookina* are transaction amount and value, thus '*torihiki*' is categorized into the aspect of business.

4.5.6.2 The Aspect of Probability

I deal with words which have the aspect of probability in this section. Here are examples of this aspect.

(13) Jiko no hassei kakuritsu o dekiru kagiri *chiisaku* suru.

(14) Jouyousha ha unyu bumon no haishutsuryou de *ookina* wariai o shimete iru.

    (PDF document)

In (13) and (14), the words which are modified by *ookii* or *chiisai* are '*kakuritsu*' (probability) and '*wariai*' (rate). Both are indicated by the numbers and the unit of measure % so that I categorized them into this aspect. *Ookii* and *chiisai* are connected with their number-parts, and they mean that the actual number is big or small.

4.5.6.3 The Aspect of Distance

As the aspect of number, lastly I investigate words which have the aspect of Distance in Japanese. Here are examples of this aspect.

(14) Takusī ha nenkan soukou kyori ga *ookii*.   (PDF document)

(15) Nippon dake de naku sekaikeizai nimo *ookina* purasu ni naru darou.

(16) Bijinesu ni okeru amerikajin no kangae kata to nipponjin no kangae kata niha *ookina* sa ga aru.

(17) Mata, seihu ha koushotokusya ni takai zei o kasita node, kokumin no shotoku kakusa ha *chiisakatta*.   (*Eijiro* on the Web)

In (14), *ookii* modifies '*kyori*' (distance), which generally involves an actual value. Thus *ookii* is connected with this actual value, and they mean that the actual value is big.

In (15), '*purasu*' (plus) is modified by *ookina*. '*Purasu*' has a numeric value as a starting point. The increase from that point is a '*purasu*'. Regarding the numeric value before change and the numeric value after change as points, the distance between a point before change and a point after change is '*purasu*'. '*Mainasu*' (minus) which is the antonym of '*purasu*' can also be accounted for in the same way. *Ookina* modifies that distance and it can be considered as the numeric value. When you say that '*kyori*' is big, it is synonymous with the claim that the numeric value of '*kyori*' is big.

In (16), *ookina* modifies '*sa*' (gap). '*Sa*' involves the image of a gap between two numeric values. Extended from this image, '*sa*' comes to mean a gap without numeric value, that is, a notional gap. (16) indicates that this notional gap is big.

In (17), *chiisakatta* modifies '*shotoku kakusa*' (income differential). All the same, this involves an actual number of money, so that *chiisakatta* is connected with this number.

Thus, when the words which have the aspect of distance are modified by *ookii* and *chiisai*, they refer to the numeric values of the distance between two points. This shifts to the meaning which refers to the degrees of differences.

As can be seen, when the words which have the aspect of number are modified by *ookii* and *chiisai*, they basically mean that the number is big or small. Then, various meanings are derived from this.

4.5.7 The Aspect of Emotion

Now I investigate words which have the aspect of emotion (*kanjou*) in Japanese. This is a unique aspect of Japanese. Emotion has various aspects in Japanese, for example, an aspect serving as the driving force for humans just like gasoline for a car, an aspect which interferes with human action like the negative effector, and an aspect like an object thrown by someone. (e.g. *kanjou o butsukeru* (throw), *ikari* (anger) *o butsukeru* etc.)

It seems that an emotion is a kind of substance generated in our body, and it has influence on our body. Thus Japanese speakers regard an emotion as a physical substance. When an emotion is modified by *ookii* or *chiisai*, they mean it has big or small influence on a human body.

Here are some examples of the aspect of emotion.

(1) *Ookina* siawase to minori ooi sinnen eno goaisatsu o itashimasu.　　(E-DIC)

(2) *Chiisana* kanashimi niha nintai o motte tachimukae.　　(maxim (Japanese translation) : by Victor-Marie Hugo)

(3) Hito ga sono tomo no tame ni jibun no inochi o suteru koto yorimo *ookina* ai ha nai. (E-DIC)

(4) Aru hitotsu no kuni ga jiyuu o motomete sakebu toki ni ajiwau yorokobi ha jissai ni jiyuu o eta toki yorimo *ookii*.　　(*Eijiro* on the Web)

(5) Sono watashi ga haha no iitsuke douri gakkou no kagyou o houridashite, yasumi

    mae ni kaette kita toiu koto ga, chichi niha *ookina* manzoku deatta.   (Novel:

    Nstsume: *Kokoro*)

(6) Kega yori kyoufu no hou ga sarani *ookikatta*.   (E-DIC)

    In (1) to (6), the words which are modified by *ookii* or *chiisai* are respectively '*siawase*' (happiness), '*kanashimi*' (sadness), '*ai*' (love), '*yorokobi*' (pleasure), '*manzoku*' (satisfaction) and '*kyoufu*' (fear). All of them are concrete examples of emotion. When *ookii* and *chiisai* modify the words which have the aspect of emotion, they refer to the scale of emotion and the degree of emotion.

    In English, *big* and *small* cannot modify the referents to emotion. I hypothesize that this has roots in the framing in which speakers conceive the emotion. According to Lakoff (1987), speakers regard emotion as a material noun, which has indeterminate form and it is regarded as an uncountable noun. Thus speakers do not regard the emotion as a physical object, but they regard it as physical substance or material. On the other hand, there is not primarily the concept of material noun in Japanese. Thus emotion is not considered to be different from all the other physical objects. This is why while *ookii* and *chiisai* can modify the referents to the emotion, *big* and *small* cannot modify them.

4.5.8 Idiomatic usages in Japanese

In this section, I examine idiomatic phrases in Japanese.

(1) Yokumo sonna *ookina* kuchi ga kiketa mono da.   (*Koujien*)

Ookina modifies '*kuchi*' (mouth) in (1). Unlike 'big mouth', the English literal translation of '*ookina kuchi*', it does not mean indiscreet or boastful person. The idiomatic phrase '*ookina kuchi o kiku/tataku*' means that a person tells a big thing which is improper or inappropriate for his position. This is an idiomatic phrase, because the expression '*chiisana kuchi o kiku*' is ungrammatical. The path by which the meaning was extended has already been lost out of sight. (To borrow Goatly's words, this is dead metaphor.) However, I put the following two processes forward as hypotheses.

First, *ookii* modifies the difference between the saying based on one's appropriate position and the saying which he says now. The bigger difference is, the more inappropriate the saying is. This meaning is extended to the 'mouth' which generates his saying. This is why *ookii* comes to modify '*kuchi*' and '*ookina kuchi o kiku*' means that a person tells a big thing which is improper or inappropriate for his position. This case is regarded as having the aspect of distance.

Second, if someone says something, *ookii* is connected with the aspect of influence of that speech (*hanashi*) and the expression '*ookii hanashi*' arise. It is used as irony (in fact, '*ookina hanashi*' is regarded as irony by the context), and that irony is applied to the mouth which generates that speech. This is why *ookii* comes to modify '*kuchi*'. This case is regarded as having the aspect of influence.

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(2) Ikura yakyū ga umaku temo, ichinensei buin ha *ookina* kao ha dekinai.　　(*Gendai kokugo yourei jiten*)

The word modified by *ookina* is '*kao*' (face). '*Kao*' is the most important part to distinguish a person from others. 'Big things tend to be noticeable' is applied to this, and '*ookii kao*' is a noticeable face, that is, it means a famous person. Taking up bad manners of such person, they are arrogant, proud and unrepentant. These images are applied to '*kao*', the beginning of this derivation. After these processes, '*ookii kao*' is used to represent the meaning of 'arrogant', 'proud' and 'unrepentant'.

This phrase is also the idiomatic phrase. In token of being idiomatic, '*chiisana kao o suru*' is an ungrammatical phrase.

Chapter 5: Comparison of English and Japanese

I have investigated *big* and *small* in English and *ookii* and *chiisai* in Japanese up to now. Now I will compare the two languages based on the data of my investigation.

As I stated in the Introduction, chapter 1, I am premised on two claims for my investigation. The first claim that 'the core meanings of *big*, *small*, '*ookii*' and '*chiisai*' are 'to represent the sizes of three-dimensional physical objects', and 'the other meanings are generated by the linkage between each aspect which is included in nouns' and '*big*, *small*, '*ookii*' or '*chiisai*'' And the second claim is that 'the essential concepts of *big* and *small* in English and *ookii* and *chiisai* in Japanese are the same'. Based on my investigation, I think that these two claims have been correct.

I have looked into lots of aspects in English and Japanese. It may be noticed that there are gaps in semantic extensions between two languages. The examples of small gaps are 'day', 'illness' and so on, and the example of a big gap is the whole category, 'the aspect of emotion'. As I stated in 4.5.7, The Aspect of Emotion, there is the fact that the framing to perceive things is different in English and Japanese. The gaps in semantic extensions between the two languages arise from this difference. Japanese language does not have the concept of 'material noun' as a framing, thus the emotion is treated as 'object' on the same plane as other general objects in Japanese. Whether the emotion and its kinds can be modified depends on this framing.

From the viewpoint of my first claim; 'the core meanings of *big*, *small*, '*ookii*' and '*chiisai*' are 'to represent the sizes of three-dimensional physical objects', and the other meanings are generated by the linkage between each aspect which is included in nouns', the aspects which are modified by adjectives have gaps in each language, which causes different semantic extensions in each language, although the same concept, to represent

the sizes of three-dimensional physical objects, is used. In example of 'day', whether it is able to be modified or not is decided by the way speakers perceive 'day' in their own language systems.

If the essential concept; 'to represent the sizes of three-dimensional physical objects' were primarily different in every language, we would have tremendous trouble in learning a certain language as a second language, because intuition of the native language does little to understand the second language. However, if the essential concepts are the same, we can learn the languages through a certain amount of trial and error processes. In fact, when Japanese native speakers learn English, they first think in Japanese and translate into English. Sometimes the concept of Japanese accords with that of English, at other times, it does not. This discord results from a gap of a framing for perception.

Now I consider the gaps in detail. When I compared English and Japanese by each aspect, I was not able to find big gaps between two languages. However, as to matching connection, the semantic scopes of *ookii* and *chiisai* in Japanese are larger than those of *big* and *small* in English, because 'large' and 'great' in English also belong to the category of *ookii* in Japanese translations. The semantically extended scope of *small* almost corresponds to that of *chiisai* in Japanese translation, but 'little' partly corresponds to it. Maximally similar points seem to be *big* and *ookii*, and *small* and *chiisai*. To cover these corresponding connections in detail, I think that 'large', 'great' and 'little' in English and Japanese prefixes; '*dai-*' and '*syou-*' are needed to be included.

I summarize my statement of this chapter as follows. The essential concepts of *big* and *small* in English and *ookii* and *chiisai* in Japanese are the same, but the framing for interpreting an aspect in a noun is different in each language, which causes the gap of

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semantic extensions. The framing for interpreting the aspect has a little difference between English and Japanese, and the semantic scopes also have a little difference except for the aspect of emotion. If it has gaps, they do not arise from the essential concepts; they arise from the gap of framing for perceive things. This is the conclusion that I have reached by comparison of English and Japanese.

Chapter 6: Conclusion

I make an overall conclusion of this thesis here. The purposes of this thesis are to investigate the processes of semantic extensions and semantically extended scopes of *big*, *small*, *ookii* and *chiisai*, and to find the differences between English and Japanese by comparing the investigation data. I have given an explanation of semantically extended scopes in English. Since I added a lot of new examples to previous database and I reorganized the aspects, categories, more systematically, the semantically extended scopes of *big* and *small* are specified more clearly. In addition, I categorized the aspects and examples based on the concepts which are used in categorization in English. Thus I categorized Japanese aspects in high precision. Furthermore, I have proved physical experiential bases and the processes of semantic extension, so that I made my theoretical bases stronger.

As to literary metaphors, I also added new examples to the database of literary examples and I examined them, but as I stated in Literature Review, literary metaphors and mundane metaphors are basically the same, although each context used for decoding is different. For this reason, I did not make mention of literary metaphors here.

I claimed that the core meanings of *big*/*small*/'*ookii*'/'*chiisai*' is 'to represent the sizes of three-dimensional physical objects', and the other meanings are generated by the linkage between each aspect which is included in nouns and *big*, *small*, '*ookii*' or '*chiisai* in chapter 1, but this is not incorrect in my opinion. Assuming that complicated concepts consist of combinations of simpler concepts, this assumption is similar to the process in which meanings are generated by the linkage between prototypical meanings and aspects. That means this process is coherent with the thinking processes of human beings, and the processes of semantic extensions of my study is valid. Thus this process

can be applied to the investigation of other adjectives.

I introduced 'the Superordination Hypothesis' in Terms and Definitions. Here I consider the validity of that hypothesis. This hypothesis is that 'the category name which I set as the aspect is a prototypical word in each category and that, when 'big' can modify this prototypical word, all of the words in that category can be modified by 'big'.' If the category name which I set as the aspect is a prototypical word in each category, all of the words which are categorized into are similar to the prototypical word. Because the occurrence of metaphorical extensions is based on similarities, it is natural that the connection between adjectives and aspects spreads to the words in that category from the prototypical word. Take 'the aspect of event' for example, concrete words of this 'event' category are explosion, party, accident, festival etc. According to that hypothesis, because '*big*' can modify 'event', '*big*' can also modify the words in 'event' category unconditionally.

If there were exceptional instances, those would be caused by the mistake of categorization or being the mistake of the selection of framing, etc. I did not actively apply this hypothesis to each aspect, but if I apply this, considering to my opinions above, I think that it is valid.

At the end of this chapter, I state the three challenges which are discovered from this thesis for the future. The first challenge is to expand the research targets as I stated in chapter 5. The second challenge is to add the data involved in expanding the research targets. I quoted a lot of examples from the Internet, where the living words are recorded as the writings, and it is the frontier of semantic extension. But the expressions on the Internet would not be refined expressions, so that they possess an element of danger of being inaccurate or incorrect, but I think they are worth citing. The third challenge is to investigate the framing for interpreting a noun. For example, the framing

to conceive material nouns should be analyzed. To analyze this will enable us to comprehend what kind of nouns is contained in each aspect.

These are the overall conclusion of this thesis.

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Cheers to woman drinking on their own terms

China worries neighbors as its navy comes of age

DPJ funds found to have 'amakudari' link

Corporate sentiment on recovery track

Getting a glimpse behind the mask

Ishihara's bid for legacy was Olympian waste of taxpayer money

Lessons of total devotion and high cruelty

Pandemic test eyed for cell phones

The first Western diplomat in Japan

The man who delivered pizza to Japan

Toyota planning affordable 'family car' for China

Welcome to autumn, and the insect world

Yuri Geller tells all about M.J., adventures with Tamori and kyabakura drama

Times Online (http://www.timesonline.co.uk/tol/news/)

Ask the Boss: Eric Schmidh, chairman and chief executive of Google

Big shot of the week

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