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# The Theoretical of Linguistic Categorisation : From the Cognitive Linguistic Perspective

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# 言語のカテゴリー化

## —認知言語学的視点から—

高野 秀之

### 〈Abstract〉

This paper aims to introduce 'categorisation' as a theoretical principle of cognitive linguistics. Before that, the historical background of linguistic study is briefly remarked upon, so that we can understand why cognitive linguistics is required.

As its name suggests, the cognitive view of language attempts to investigate human cognitive activities by referring to the nature of language. This approach regards language as the most important medium for the purpose of 'construal', so that cognitive linguists believe that language use is realised by the interaction between the two functions of language; i.e. the communicative function and the function of making sense. Especially cognitive linguists are interested in the fact that the human subjectivity plays a primary role in the cognitive process of the meaning production, and then the process is represented in the coding system of language in a certain specific context. Therefore, it is very important to examine two questions; i.e. how we construe our surroundings and how our realisation is expressed in the practical use of language.

Cognitive linguistics is a relatively new approach to language, so that there are many things to be discussed; e.g. the consensus about the unification of technical terms, the counter arguments for some criticisms, and so on. Also, this paper isn't big enough to cover all the theoretical issues, but only examine categorisation as a salient principle of the theory.

### 〈概要〉

本稿は、言語研究の必然的要求として認知言語学が提唱されるようになった経緯を概観した後、その理論の根幹を成す一原理として「カテゴリー化」を紹介するものである。

認知言語学は、その名称が示す通り、言語を主たる媒体として行う人間の認知活動に関心を示し、人間の内面的な「曖昧さ」や「心のゆらぎ」を扱うという点において、生物学的・心理学的側面を持つ。また、言語の在り方（本質）という問題に関して言えば、「コミュニケーション機能」と同様、「意味づけの営み」としての側面を重視する。人間は主体的に意味を読み取り、経験を通じてその修正を繰り返しながら新たな意味を創り出していく。その媒体となる言語自体が人間の認知活動によって動機づけられていると仮定すれば、言語は本質的に認知の営みの特徴づける傾向性によって制約を受けていると考えられるからである。

認知言語学は比較的新しいアプローチであるため、その一部を紹介するだけでもさまざまな問題が伴う。（例えば、術語の整理や批判への回答）また、認知言語学に至る歴史的背景に哲学的な議

論まで持ち出すには、紙面の制約を破らなければならない。そこで、本稿は認知言語学の入門として「カテゴリー化」の問題だけを取り扱うものとする。

### (Key Words)

cognitive linguistics (認知言語学), construal (状況把握), categorisation (カテゴリー化), subjective world (環境世界), human cognitive activity (人間の認知活動), the Principle of Compositionality (構成性の原理), prototype (プロトタイプ理論)

### Foreword

One day, when I was watching TV programme, a man was explaining a certain situation. He said, "Here is a glass of water. Now, I will drink half of it. (He showed us him drinking it.) Well, then. Which do you say — that this is a half full of glass or a half empty glass?" What he tried to say was that if we answer "Half full", we are probably optimistic. But if we say "Half empty", we are likely to be pessimistic. Towards the end of the programme, he mentioned, "When you say something, you should be more optimistic. Because, you know, no matter how you express what you intend to say, you mean that'll be exactly the same thing." I was so shocked. It was not, of course, because I was classified as a pessimistic person through the trite psychological experiment conducted by the man, but because two different linguistic expressions were taken for granted as the same.

I was very sure that the two interpretations of the experiment were obviously different from each other. At first, there was a full glass of water, and then the man actually drank the half of it, so that the total amount of water was reduced by the action of drinking. Since the circumstantial change emerged as time went by, the 'sequential scanning' operated. Secondly, even if the experiment started from the situation that the glass was half full, my 'mental scanning' unconsciously operated in terms of the prototypical function of a glass. We use a glass as a container to pour a certain liquid into it, so that we can drink the content of it. No one would expect that the amount of liquid in the glass was automatically increased. Thirdly, the linguistic expression 'half full' should have required some presuppositions or 'context of situation'; for example, under the casual circumstance a TV personality was speaking to people in front of TV sets at home, he was standing in front of some cameras in a TV studio in order to entertain the people, he took a jug to pour water into an empty glass for the purpose of a psychological experiment, and the glass became half full, and so on. And, finally, if it is true that we can express an event in some different ways, it is also true that we can have different interpretations mapped on a particular linguistic code. Our language use is motivated by means of how we interpret the event, so that if the linguistic forms are different from each other, the meanings of them are inevitably different from each other, too.

The discussion above is a kind of cognitive linguistic approach to an event. As we have seen, there can be some different interpretations when some people construe one event. Accordingly we can easily assume that even one person can construe one event in different ways in the different context. Cognitive linguists regard these phenomena as human cognitive activities with the representation of biological and psychological

evidence. Following this view of language, it is deduced that we interpret any event in subjective ways by means of language as the reflection of our cognitive process. To investigate this mechanism of human cognition through the language use is the issue that cognitive linguists are most interested in.

## I. Introduction

This paper aims to introduce **categorisation** as a salient threshold of cognitive linguistics after I briefly remark upon the historical background of linguistic study. Although it is not my main purpose to trace the shadows of pioneers in the 20th century, it seems very useful in explaining why cognitive approach is needed for the study of language. I may not be able to explain each aspect of language sufficiently with a limited amount of information, but I am optimistic in that the readers of this paper will be able to obtain some ideas about how language has been studied. And, even if I may not be able to examine each view of language impartially, I am optimistic in that the readers of this paper will understand that each space used has nothing to do with the value of each aspect examined.

Cognitive linguistics is a relatively new approach to language, so there are many things to be discussed; for example, unifying technical terms amongst the scholars, arguing some criticisms to the theory, and so on. Also, this paper isn't big enough to cover all the issues about the theory or the historical background of it. Therefore, we are going to examine only categorisation as an important principle of cognitive linguistics.

I wish to acknowledge the following people for each reason. An enormous debt is owed to my colleague, Simon Clay, for his encouragement. Professor Ikegami constantly gave me a great amount of suggestive information both directly and indirectly.

I am, of course, solely responsible for any inadequacies which, despite the support of all my concerned, remain in this paper.

## II. Brief Remarks of Historical Background

At the beginning of the 20th century, structural linguistics (the main figure proposing this view being Ferdinand de Saussure) argued that language was a structured system of signs, in which the place of each sign was mainly defined by how it related to another. This view of language as the 'sign system' showed us that there could be a conventional correspondence between the form and the meaning (in the term used by Saussure, 'signifiant' and 'signifie'). As traditional structural linguists expanded the theoretical applicability to every state of affairs, many linguists adapted this aspect of language to their own interests. It was then claimed that language was the most significant system of sign of any other system. However, since structuralism strongly emphasised the form-meaning pattern as **arbitrary** so that language was entirely autonomous in its nature, theoretical defects were discovered through some linguistic research.

The most effective argument from linguistics was in that structuralism violated the economic principle of language. If there had already been a certain agreement established between the form and the meaning under a sign, there must be an extreme number of lexical items — as many as correspond to the form-

meaning patterns. And, if so, it was necessary for us to memorise a great number of words even when we attempted to indicate our surroundings. Also, the structural view of language was open to criticism because of the aspect of the realisation of meanings. Structural linguists believed that the context for the definition of a meaning was language internal. In defining a linguistic form, we don't specify the meaning only in terms of the other relevant forms in the linguistic sign system, but also with a combination of knowledge and belief in the cognitive structures. In addition, structural linguists were criticized because they measured the **linguistic relativity** in terms of the gap to what extent a particular language was different from the scholars' first language<sup>1</sup>. As a consequence, they emphasised the differences amongst languages too much, but they weren't interested in similarity (or iconicity) shared between their languages and the others.

Although we never deny the contribution of structural linguists who investigated the internal and external structures of signs, we cannot accept all of their aspects of language. Structural linguists were forced to modify their theory, and then shifted their interest to accounting for the syntactic structure of natural language.

In the middle of the 20th century, the **transformational generative grammar** theory (hereafter, represented as the 'TG theory') of Norm Chomsky dominated the domain of language study. Chomsky carefully demonstrated that we all shared the intrinsic tacit knowledge of grammar that helped us to create language as well as its interpretation, and he established his influential view of language on the basis of the interaction amongst the basic principles; e.g. poverty of stimulus, Universal Grammar, and transformational (generative) rules.

Generally speaking, when children acquire their mother tongue, they can't choose their race (i.e. parents) or place (i.e. nationality), so that they incidentally acquire a particular language in their social community as their first language. Although children have a relatively small amount of information of their language without any systematic education at the early stage of their language acquisition, they grow up to be good speakers and listeners with a certain standard. This is because, Chomsky argued, a certain kind of linguistic module is constructed as a biological endowment in our brain, and the module as the 'language acquisition device' (LAD) interacts with other cognitive modules that are essential to acquire language through our experience as extra stimulus. This 'foundation' of language makes it possible for us to construct a particular grammar by which we can intuitively (but unconsciously) judge the grammatical adequacy of our own language. Chomsky believes that Universal Grammar has already been formulated as innate in our mind from which the 'linguistic competence' and 'linguistic performance'<sup>2</sup> are derived.

In the TG theory, Chomsky would seem to investigate the priority of syntax over semantics and phonetics, though he recognised the necessity of interface among those three levels of language. According to the theory, the syntactic level indicates the infinite sets of abstract formal objects, under which the semantic and phonetic levels are combined as subordinate structures. On the one hand, the conceptual base of meaning is evoked on the syntactic level as the 'semantic representation', which is potential in its nature and called **deep-structure**. On the other hand, actual speech is reflected on the syntactic level as the 'phonetically represented signal' that is called **surface-structure**. These two structures correspond by transformational rules. Following this view, the TG theory would seem to suggest that 'transformations don't

affect the meanings of the structures on which they operate'. Some sentences in different constructions can share a single meaning if those surface-structures are generated from the same deep-structure in terms of the operation of the transformational rules<sup>3</sup>.

The contribution brought by Chomsky has at least two different aspects. The first one is that he brought linguistics onto the stage of scientific studies, and successfully demonstrated some common issues in biology, neuroscience, psychology, and ultimately physics. Chomsky discusses that human beings are the only species that has language with sophisticated systems, so it seems natural that there should be a certain amount of overlap between linguistics and biology. Humans are one of species that has a brain by which our physical and mental activities are controlled. If we regard language use as one of the physical activities of our mind, we can't find any reason that linguistics must avoid studying the mechanism of our brain. And, if language represents our consciousness, the social and the psychological approach to language would also be very effective. From the evidence above, Chomsky pointed out the importance of language study for the purpose of investigating 'human cognitive activity'.

Another aspect was that Chomsky continued to elaborate the transformational rule in order to describe any syntactic structure of sentences. By generalising the rule, he tried to prove that a finite number of rules operated could generate an infinite number of sentences. However, in the process of the generalisation, the transformational rule had to have, at least, two different kinds of problem. On the one hand, the nature of the TG theory gradually became abstract so that it was more difficult for linguists to demonstrate the applicability of the rule to language as a whole. On the other hand, Chomsky separated the logical meanings from the linguistic meanings so that he could guarantee the explanatory adequacy to the theory. As an inevitable consequence, Chomsky tended to avoid referring to 'linguistic performance' or the variability of language, in which meanings are regarded as too delicate to treat.

Just after Chomsky, Michael Halliday established a linguistic theory in terms of **functional grammar**. Halliday argues that language is a semiotic system of 'meaning potential' in its mature, so that the conceptual system of meaning isn't emerged until language is used. Halliday's functional theory is defined as **choice**<sup>4</sup> in the 'paradigmatic' relation of linguistic items. Therefore, for Halliday, grammar would seem to be a certain convenient configuration of the most effective linguistic forms, and the arrangement of linguistic items would be realised in the process of our construal in a specific context. Our actual linguistic choice from the potential possibilities is a variation of the significant evidence expressing the **system of meanings** through our practical use of language.

Halliday's approach enabled us to discuss that the correspondence of the form-meaning pattern under a sign as being **motivated** by 'function'<sup>5</sup>. Thus, the language study is to demonstrate that a certain society requires a specific framework in which meanings are constrained, and to investigate how we can exchange the functions of language in the conventionalised world. This approach requires answering these questions: how language is used and how language is structured for use. Halliday proposed the 'register' theory for the questions. Halliday's registers (**field**, **mode**, and **tenor**) were a kind of framework expressing the stylistic value, and realised three different meanings that represented three functions. The 'experiential' function<sup>6</sup> is realised by examining what is going on in the text. This function remarkably reflects on the **transitivity**

patterns of the text. The 'textual' function is realised by investigating how the information is exchanged. This function especially reflects on the **theme** patterns of the text. And the 'interpersonal' function is realised by representing the interpersonal relationship between the speaker and the listener. This function exceedingly reflects on the **mood** patterns of the text.

Halliday's functional approach was one of the most influential shifts in the history of linguistics. Before Halliday, as we have seen, the language study was almost synonymous for describing syntactic structures of sentences, while the study of meaning was treated as too delicate to handle in the domain of linguistics. But, by demonstrating how richly language was interpreted in context, Halliday claims how important 'context' is. His contribution has much in common to the other fields concerning to language in terms of the notion of **context of situation**<sup>7</sup> that is essential for the study of meanings. Let's look at Halliday's definition of context.

There is text and there is other text that accompanies it: text that is 'with' text, namely the con-text. This notion of what is 'with the text', however, goes beyond what is said and written: it includes other non-verbal goings-on — the total environment in which a text unfolds. So it serves to make a bridge between the text and the situation in which texts actually occur.

(Halliday and Hasan P. 5)

From the definition above, we can assume that the study of meanings goes beyond a limited syntactic structure (e.g. a sentence or a paragraph) to the text level, and that a meaning should be defined in the context that reflects the human behaviour having been conventionalised in a certain society or a culture.

The over-sentential aspect of language study in the social and cultural dimension is called **discourse analysis**<sup>8</sup>. For discourse analysis, it is necessary to regard any text not as an accidental series of sentences, but as one of the functional unit of speech being exchanged between the participants in a particular context. British philosophers like Austin (1975) and Searle (1969) argue that if we take the text as the unit of **speech act**, we need to see three aspects simultaneously; namely, 'locutionary act', 'illocutionary act', and 'perlocutionary act'. Locutionary act represents an aspect in which the speaker appropriately uses language phonologically, semantically, and syntactically. Illocutionary act represents an aspect of what the speaker intends to do; e.g. requesting, promising, denying, and so on. Perlocutionary act represents an aspect of how the listener interprets the utterance; e.g. threatening, gratitude, apology, and so on.

Accordingly, philosophers found it necessary to have some extra linguistic knowledge for the language study. They focused not only on the relationship between the referent of linguistic signs and the meaning, but also on the participants' rolls in discourse, so that language study became 'multi-dimensional' and required another disciplinary domain in linguistics; that is, **pragmatics**<sup>9</sup>. By this, we became aware of the importance of human rolls in actual language use of our daily life. For instance, we usually cooperate with each other in our social life, so that our speech act is gradually becoming socially conventionalised in a broader sense. This isn't simply because our language use is governed by linguistic rules, but because our behaviour as a whole is constrained in terms of the social principles such as cooperative principle<sup>10</sup> of Paul Grice. Such principles are elaborated and modified through our experience, and finally, accepted and licensed as the elements of a particular culture.

### Cooperative principles of Grice

- Quantity : Make your contribution as informative as is required (for the purposes of the exchange).  
Do not make your contribution more informative than is required.
- Quality : Do not say what you believe to be false.  
Do not say that for which you lack adequate evidence.
- Relation : Be relevant.
- Manner : Be perspicuous. Avoid obscurity of expression.  
Avoid ambiguity. Be brief (avoid unnecessary prolixity). Be orderly.

(Brown and Yule P. 32)

Functional approach to language discovers the fact that a certain meaning comes to be conventionalised in the process of our practical use of language, so that we create and recreate the conceptual network of meanings through our social and cultural life. The meaning is recursively used in our daily life, added in the conceptual network, and then standardised as an element of a culture. Because a particular culture would seem to considerably constrain the language use, the extension or recreation of new meanings comes to influence the language as a whole. This process of conceptualisation couldn't be fully understood if we tried to examine the nature of language in the specific environment, where language is isolated from the other phenomena. Therefore, we must bear in mind that the study of language is to be multi-dimensional; for example, social and cultural, biological and psychological, and multi-functional.

After Halliday, we tend to avoid the extremely rationalistic approach to language like the TG theory. And we accept that humans are playing important roles as the participants of discourse, so that the 'fuzziness' or 'emotional' characteristics of human beings become an important subject matter for linguists. And, at last, we're arriving at the next stage where the mechanism of cognitive process and its representation are investigated from the viewpoint of the nature of human beings and that of language.

### III. Cognitive Linguistics

Cognitive linguistics is, as its name suggests, the study of human cognitive activity by means of language as an essential medium. The cognitive linguistic research discovered that the nature of language is motivated by 'humanity' that is realised by our sensory organs and/or physical functions, which human beings have acquired as a species in the process of evolution for generations. If we can mutually recognise the fact that humans have much in common as a species, there is a finite number of frameworks for the purpose of the relative segmentation of language. We use different languages, but, at the same time, the difference of language must be as much as we can predict<sup>11</sup>. Language is constrained by a certain tendency that characterises humanity, so that any language must be understandable, if only we intend to interpret it.

Cognitive linguists also try to investigate the nature of language by exploring the mechanism of **cognitive process**. Our language use is remarkably influenced by how we create the **subjective world**<sup>12</sup>, and the process of construal depends upon a certain culture in which we use language. In the cultural (and



also social) context, we are often forced to represent the conceptual structure in our consciousness. In other words, we have to follow at least two coding systems; i.e. the socio-cultural code and the linguistic code. As language is a linguistic sign system, it would seem necessary to investigate the nature of language from the viewpoint of the socio-cultural semiotics.

Cognitive linguists recognise the importance of human beings in cognitive subjectivity (i.e. as 'cognisers'), and find it necessary to examine deliberately the human properties in the process of language study. The researchers require examination of the 'ambiguity' and/or the 'fuzziness' that humans inherently possess, so that cognitive approach to language is biological and psychological in its nature. Also, cognitive linguistics follow 'functionalism', believing that language has a communicative function and the function of making sense. Especially, the latter function is of primary interest for the researchers, because human beings play an important role in the process of making sense.

In the following parts, human cognitive activity is discussed, and the mechanism of cognitive process is investigated, in terms of the notion of categorisation. Before that, we will remark upon 'Biological Aspect' of cognitive linguistics, so that we can offer a cue to explain why humans tend to act ambiguously and/or what differentiate human beings from other forms of life.

### 1. Biological Aspect

All the forms of life on Earth have been evolving for thousands of generations. Some species have become extinct and some have survived in the process of evolution. This means that the forms of life that couldn't adapt to the environment<sup>13</sup> didn't survive because those species didn't obtain those biological conditions essential to survive. What kind of conditions didn't they precisely obtain?

Generally speaking, the stimulus-response pattern of primitive (therefore, simple and developing) forms of life has only two stages; namely, 'sensation' and 'perception'. The former is the first stage where a form of life senses a certain external stimulus by means of its sensory organ. The latter is the second stage where a form of life perceives the stimulus to exist in the external world. These stages are normally followed by physical activities (e.g. keeping the stimulus away or attacking) or by mental activities (e.g. just leaving them). The stimulus-response patterns through these two stages can be seen as biologically programmed (more precisely, 'instinctive') behaviour, and all the forms of life universally share this process. In addition to this instinctive behaviour, humans have another stage (or, 'process'); that is, cognition. Through this stage, we can make sense of what is going on and appropriately react in order to accommodate a certain state of affairs. As this cognitive activity is mainly realised by means of language, it is said that language distinguishes humans from other forms of life<sup>14</sup>.

It is useful to make clear whether the human cognitive activity by means of language is an extension of instinctive behaviour or an alternative process to biologically programmed behaviour. If it is an extension (therefore, in the case of that human cognitive activity is the third stage), it can simply cause a delay in our reaction to the external stimulus. And, if it is an alternative process (therefore, in the case of that human cognitive activity is the second process), it can be evidence to explain human ambiguity between instinct and

reason. Cognitive linguists believe that both are the case; and, because of the duality, we sometimes tend to prefer vague attitudes. Vague, ambiguous, and fuzzy attitudes may be hard to explain why, but it is assumed that the fuzziness in our language use makes humans as they are, and this mechanism of our cognitive process is the issue that cognitive linguists are interested in.

## 2. Categorisation

When we choose two forms of life at random and give them a certain stimulus of the same quantity from the same direction at the same time, they respond in different ways. This means that these forms of life interpret the same external stimulus differently, so that they create their own subjective world, in which some different things are regarded as the same thing, and the one thing regarded as some different things. This kind of process of construal can be seen in our language use, too, so that it seems possible to say that human beings share the same characteristics with other forms of life. Then, a question arises; how many stimuli can humans distinguish as a form of life? There is no doubt that all the forms of life including human beings do not have so many sensory organs as to construe all external stimuli. Then, another question arises; how can we construe such a great number of states of affairs in our daily life, in spite of a finite number of sensory organs that are not correspondent to all the stimuli?

Everyday, we perceive and experience a huge number of events and effectively classify them in order to construe. This is because we are gifted to categorise those events by means of faculty biologically inherent to survive. We are also able to create the subjective world in terms of 'similarity' or 'generality' that are psychologically innate in our consciousness as certain 'norms' or 'standards'. This cognitive process for the purpose of classifying events (or, frequently, 'things') is called **categorisation**, which is one of the most important principles of cognitive linguistics. In the following sections, we are going to investigate the mechanism of 'linguistic categorisation' as the representation of our construal in daily life.

### (1) Traditional View of Categorisation

At the beginning of the 20th century, the 'Principle of Compositionality'<sup>15</sup> was taken for granted for any state of affairs amongst the Western cultures. It was the belief that 'a whole was just as much as the total sum of the parts'. By then, language was regarded as the systematic structure of signs, so that it was believed that there was a linguistic hierarchy which consisted on the basis of the syntactic structure of language; namely, morphemes, words, phrases, clauses, and sentences. Morphemes are combined as a word, words are combined as a phrase, phrases are combined as a clause, and clauses are combined as a sentence. This configuration of linguistic structure was called **grammar** in the traditional sense<sup>16</sup>.

Accordingly, the study of meaning was regarded as to synthesise (and, if necessary, analyse) grammatical units on the basis of the Principle of Compositionality, so it was considered that the combination of smaller units of meaning could be realised as a larger unit of meaning. It was, therefore, that the meaning of a word consisted of the total amount of the meanings of the morphemes that structured the word. The meaning of a

phrase consisted of the total amount of the meanings of the words that structured the phrase. The meaning of a clause consisted of the total amount of the meanings of the phrases that structured the clause. And, the meaning of a sentence consisted of the total amount of the meanings of the phrases that structured the sentence. Therefore, it can be said that the study of meanings was to combine the smaller grammatical units in order to interpret the meaning of the larger grammatical unit<sup>17</sup>.

Since the Principle of Compositionality strongly influenced the study of meanings, the traditional linguists simplified the process of meaning production. As an inevitable result, the study of meanings was regarded as combining the 'necessary and sufficient attributes' of an entity, and the traditional linguists attempted to list semantic features (or 'components') for each lexical item.

#### Semantic features of boy, gentleman, girl, and lady

<boy>	=	/+animate/	/+human/	/-adult/	/+male/
<gentleman>	=	/+animate/	/+human/	/+adult/	/+male/
<girl>	=	/+animate/	/+human/	/-adult/	/-male/
<lady>	=	/+animate/	/+human/	/+adult/	/-male/

In the beginning, the 'componential analyses' of words seemed to be effective to distinguish different linguistic forms from each other. This approach to meanings was also useful in order to discover the mutual relationship to the other words, so that we could easily explain the difference between <gentleman> and <girl> by means of the semantic features 'age' and 'sex'. Also, as we can see what attributes each entity consists of, it seems useful to define the meanings of words.

... the traditional (Objective) view of the nature of categories derived from Aristotle, which holds that members of any category share a set of necessary and sufficient features that define the category. According to this traditional view, category membership is an all-or-nothing matter, such that any entity that possesses the requisite defining features is a fully fledged member of the category, whereas any entity that lacks one or more of these features is excluded.

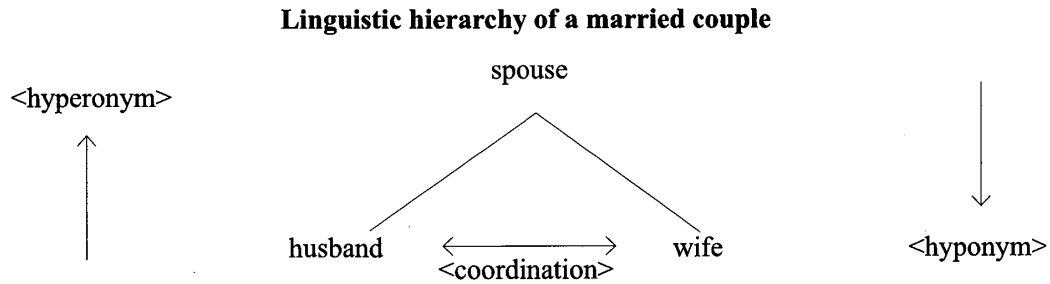
(Lee P. 53)

The traditional approach to meanings can also describe to what extent a certain word is abstract/concrete in terms of the number of the components. Generally, the more the numbers of the features are listed, the more concrete the entity is. As language is the linguistic sign system, by investigating to what extent an entity is abstract comparing to the others, we can understand the structural relationship in which the entities are vertically and horizontally structured. Look at the next example.

#### Semantic features of spouse, husband, and wife

<spouse>	=	/+animate/	/+adult/	/+married/
<husband>	=	/+animate/	/+adult/	/+married/ /+male/
<wife>	=	/+animate/	/+adult/	/+married/ /-male/

We can see these three words are related each other under the category of 'a married couple'. In this category, the word 'spouse' is regarded as more abstract than the others because of the smaller number of semantic features than the other two have, so that the word is regarded as 'hyperonym'. The words 'husband' and 'wife' are coordinate with each other, and they are regarded as 'hyponym' of the word 'spouse'. We can express the hierarchical relationship amongst these words as following.



(2) Towards the Categorisation in the Present Sense

As the linguistic research discovered many problems in the traditional approach to the meanings through the practical use of language, we tend not to accept the traditional view of categorisation. Firstly, the traditional (or more precisely, 'structural semantic') approach to meanings didn't provide any reason how the semantic features were chosen from the others. If the approach could have any reason why the attributes were necessary and sufficient for the entity, it would be possible to explain which component was prior to the other ones. Secondly, the structural semantic approach didn't mention how many attributes we need to list for the purpose of defining a meaning of a word. Thirdly, though componential analyses presuppose 'semantic field' of the words, there isn't any explanation of the field.

The defective nature of traditional categorisation was pointed out by a socio-linguist. Labov (1973) who conducted an experiment, in which he asked subjects whether they could clearly classify some household containers that were similar to each other. If the traditional categorisation had been useful enough, those containers might have been effectively classified in the experiment. However, unexpected result was emerged.

Labov studied the linguistic categorization of household receptacles like cups, mugs, bowls, and vases. His procedure was simple. Line drawings were prepared of receptacles of different shapes. These were shown to subjects, who were asked to name the depicted objects. A receptacle with a circular horizontal cross-sectional area, tapering towards the bottom, whose maximum width was equal to the depth, and which was provided with a handle, was unanimously called a cup. As the ratio of width to depth increased, more and more subjects called the object a bowl. \*Contrary to the expectations of classical theory, there was no clear dividing line between CUP and BOWL; rather, the one category merged gradually into the other. Removing the handle from the receptacles lowered the tendency for the depicted objects to be designated as cups, but again the effect was not clear-cut. Categorization was also affected by asking subjects to imagine the receptacles filled with different kinds of things. If filled with hot coffee, cup-responses increased, while bowl-judgements increased if the receptacles were thought of as containing mashed potatoes. Similar effects were found if the depth, rather than the width, was increased. In this case, cup-response gradually gave

way to categorization as vase. If the receptacles were of a cylindrical rather than a tapering shape, they tended to be categorized as mugs.

(Taylor P. 40)

\* underlined by myself

Through the Labov's experiment, we find the fact that there is no clear-cut line between categories, so that we assume that categories are overlapped by each other. And, in the case of the categories of containers was especially ambiguous when some different things were put in them, so that it is deduced that our cognitive activities can be influenced by our experience. From the evidence above, it seems necessary to discuss both internal and external structures of category.

### ① Components of Category : Family Resemblance

In the contrary, there is another aspect that excludes some linguistic components having been treated as synonymous in a category, and the aspect is called **construction grammar**. From the viewpoint of construction grammar, the meaning of a sentence is decided not only by the total sum of each component but also by the meaning the construction has.

- (a) 1. I backed Mary a cake.  
2. I backed a cake to Mary.
- (b) 1. I think John honest.  
2. I think that John is honest.
- (c) 1. Paul crossed the bridge.  
2. \*This bridge was crossed by Paul.

In the case of (a), we don't expect that Mary can appreciate the cake in 2 as much as 1. In (b), there seems to be some difference in terms of the intimacy between *John* and *I* and of how I know to what extent *John is honest*. In (c), the passive form is less acceptable in that the grammatical subject is too ordinal.

Although we may be able to find the 'typicality conditions' (or, 'prototypical attributes') amongst the attributes that many components have, it is impossible to indicate which attribute is shared by all the components. This is because the prototypical attributes are not more than the norm to measure to what extent the components of a certain category corresponds, and there are various ways the components correspond. Therefore, we assume, there is no such attribute that decides a specific category.

Here it is useful to explain why the typicality conditions can be the attributes that characterise the component in a certain category, although they aren't shared by all the components. For example, football and cricket belong to the same category of 'ball games', but the balls used are different from each other in their sizes, weights, and forms. Also, skating can be categorised as a kind of sports, but we don't usually call

skaters 'players'. This is because we subjectively classify these sports as the components of the same category, and the frame for categorisation varies in each case. This approach to categories is called 'family resemblance' in the term used by Wittgenstein.

## ② Internal Structure (2) : Radial Structure

The components in a certain category relate to each other in various ways. Among them, there is a component that seems to have a core meaning outstanding, and the component is called **prototype** that differentiates in each culture. However, the prototype tends to construct the similar structure in all cultures, and the formation is called the 'radial structure'. Let's take an example of a word [spring]. Originally, this word indicates *the first season in a year*, from which we may have an image of *youth, the early stage, and growing up*. Because many sprouts come out in the season, we are given an image of *something coming out*. We project this image to the natural *fountain*. Because a fountain is the starting point of water, this word has the meaning of *origin*. Also, the image of something coming out is reflected on *jaunty steps*. This motion is projected on the function of *coil*. All these meanings are extended from a word [spring] in the various ways. Some meanings are close to each other, and some others are close in different ways. A single linguistic form can construct the radial structure.

As we have seen, each component is different from each other in different ways, but all are still in the same category with family resemblance. From the evidence above, we can say that the more typicality conditions a certain component has, the more prototypical the component is. This is called **prototype effects**, with which we can see the components of a category in multi-dimensional ways. For example, [guppy] is not usually a prototype in the category of *fish*, but it is a prototype when we are talking about the *tropical fish*. Accordingly, we don't regard [pea] as a prototype of vegetable in Japan, but it is in some Western countries. Therefore, we have to bear in mind that 'prototype' and 'prototype effects' are different in different context or culture.

## ③ External Structure : Encyclopedic Meaning

It can be seen that the attributes are decided not only by the lexical meanings but also by the 'encyclopedic' meanings that are usually established in a particular culture through our daily life. Some colour terms, for example, have their own meanings in each culture. Japanese people have some difficulties to understand what *green eyes* are in Western cultures. Also, if we don't have such concept of week as well as the concept of colour, we can't understand the expression like *blue Monday*, either.

The linguistic research pointed out another fact that the traditional categorisation often has troubles in 'polysemy' that is an association of two or more related meanings with a single linguistic form. In the example below, we can easily find the different meanings in one linguistic form [car], but we can't explain this with the traditional sense.

**Different meanings in [car]**

- (a) to drive the car
- (b) to clean the car
- (c) to wash the car
- (d) to repair the car

In the case of polysemy, we unconsciously focus our attention on a certain profile in terms of our background knowledge. In (a), we naturally interpret the linguistic form [car] as a vehicle, so that our conceptual focus is profiled on the function of the word. We normally understand (b) as the inside of the car and (c) as the outside. And, we open the bonnet for the purpose of (d).

**IV. Conclusive Remarks**

In this paper, I introduced the historical background of Cognitive Linguistics and one of the crucial principles in the linguistic theory. The first half of this paper contributed not only to criticise the theoretical defects but also to introduce how many troubles the pioneers of linguistics had in the process of establishing linguistics as a new discipline. As I have briefly remarked upon, it seems to have been very difficult to establish linguistics as a scientific study those days. The second half accounted for categorisation referring to the basic concepts of cognitive linguistics. Although cognitive linguistics may have seemed to be established for the purpose of criticising the traditional views of language, it is actually based on the aspects that language should be studied as multi-functional as well as multi-dimensional. Therefore, many of the basic principles can be seen as the new versions of the traditional views of language.

As I have mentioned many times, this paper is based on cognitive linguistics that is relatively a new linguistic theory, so that there are many things that we have to revise. Also, there are many other principles that I didn't account for in this paper; for example, metaphor, image schema, conceptualisation, grammaticalisation, and so on. In the following paper, I will continue to study such principles and apply it to as many texts as possible.

**Notes**

- 1 It can be easily understood that Japanese language was regarded as strange for the traditional linguists because of its syntactic structure and the frequent ellipses of grammatical subject.
- 2 Chomsky exclusively refines the TG theory, so that he totally lost his interest to linguistic performance.
- 3 Imagine there are two sentences expressing the same state of affair; 'John opened the door' and 'The door was opened (by John)'. We can simply conceive that these texts are obviously different from each other. At first, between the active-passive couple, we can see to what extent the speaker of the text focuses on the 'actor' (or 'doer'). Then, if the passive text doesn't involve 'by John', we may deduce that there is a certain intention; e.g. the speaker doesn't want to show the actor who actually opened the door. Also, if the grammatical subject of the passive is too ordinary, the acceptability of the sentence

reduces.

- 4 Behind the functional theory, there is the tradition of systemic grammar in Britain. In systemic theory, 'system' is defined as choice in the linguistic code on which the conceptual network of meaning emerges.
- 5 It is based on 'Functionalism' that claims the structure of language is governed by its function. For example, the functionalists argue that the conceptual meaning of [chair] isn't generated from the requirement of its physical structure. The linguistic form of [chair] may have arbitrarily been decided in the process of our language use, but its function can't. First of all, we would physically require our feelings of rest and/or relaxation, so we stopped and lay down on the ground as a result of our active movement of working and standing. Under the circumstance that we were awake but not stood or moved, we might discover another posture; i.e. sitting. Then, we would find an implement in order to successfully accomplish this purpose; that is, a chair which had its foot with a certain height, stability, back, cushion, arms, and so on. And, the comfortable tool to sit was named [chair]. It was ramified in terms of its use, mobility, and the place where it was used. Then, the linguistic form [chair] coordinated the relationship with other linguistic forms such as *stool*, *bench*, *sofa*, and *couch*, under the more abstract concept of *something used for the purpose of sitting comfortably*.
- 6 Halliday also calls this function 'ideational'.
- 7 A technical term of cultural anthropology. Halliday used this term in order to indicate that his theory came from the linguistic tradition of Malinowsky and Firth.
- 8 Between the sender and receiver of the message, a certain conceptual situation or context is set up as 'discourse world', in which the specific function(s) is exchanged. In the context, the message, the participants' rolls, and their interpersonal relation are analysed by means of some frameworks such as transitivity, politeness, or speech act. Discourse analysis is theoretically synonymous to 'Text Linguistics' because its function is often emerged through over-sentential analyses.
- 9 A multi-dimensional analysis of text that has many analytical frames on the basis of philosophy, psychology, sociology, and so on. On the one hand, pragmatics has much in common to semantics, so that we sometimes regard semantics is a variation of pragmatics. On the other hand, it is said that there is a theoretical borderline between semantics and pragmatics. Nevertheless, both are interested in meanings in context, but it is not easy to draw the clear-cut line between them.
- 10 Paul Grice established 'Cooperative Principle' in 'Logic and Conversation' (1975) on the basis of four maxims, and this framework is used to measure to what extent a certain speech act is following (or deviating) it. Generally, this approach is studied in the field of pragmatics concerning to 'Relevance Theory'.
- 11 Human beings use languages by means of the sensory organs and physical functions that are shared by all humans. The difference of languages is the difference of choice from the limited number of possible ways we use our sensory organs and physical functions. Therefore, we have much in common in using languages.
- 12 A technical term translated from German *Umwelt*. Morphologically, /um/ stands for 'around' and /welt/ for 'world'. This comes from the fact that even if forms of life are put into the same (or similar) environment, the environment has different meanings for each form of life. From this, cognitive linguists assume that any forms of life categorises the external stimuli in its own world. Therefore, the difference of interpretation comes from the difference of the subjective world.
- 13 Here, 'adapting to the environment' doesn't mean only mobility, the frequency of their reproduction, or size, but also 'subjective construal' that is recognised by means of their cognitive knowledge.
- 14 It is said that some species have their own language to communicate each other, so that their language seems to have the communicative function. However, their language doesn't seem to have another function; that is, making sense. Therefore,



it cannot be expected that their language can be useful enough to say what they don't believe or know. Accordingly, they cannot suggest or infer something to the listeners in discourse.

15 This is the traditional view of semantics on the basis of 'componential analyses'. The origin of this view ascended to Aristotle. However, the linguistic research criticised it with the study of Gestalt psychology.

16 The smaller units than a morpheme doesn't have a specific meaning. Nor can we find any additional meaning even though we divide two and more sentences into each. That's why 'lexico-grammatical' study of language was regarded as the primary interest for the traditional linguists.

17 This view of meanings was called 'Structural Semantics'.

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