

A Theoretical Consideration of Fundamental Cognitive Abilities Underlying English Grammar for Communication

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1. Introduction

In this era of communicative language teaching, as a result of too much emphasis being placed on communicative activities in the classroom, it is sometimes misunderstood that grammar and communication are two opposite extremes, and they are not compatible with each other. The author speculates, however, that this common misunderstanding is not factual. Native speakers of any language can understand or produce their mother tongue because they *know* the grammar of the language. The meaning of *know* is, however, different from what ordinary people usually assume. More precisely, it can be said that native speakers of English know the grammar of English, but they do not necessarily know about it. In other words, native speakers' knowledge of grammar is usually subconscious. They know whether some expressions are right or wrong, but they may not always be able to give explanations to the reason why. In learning English as a foreign language, native-like process of acquiring grammar is desirable, but in reality, it is mostly difficult to realize because the environment in which learners learn the target language differs from that of native speakers. In this sense, conscious knowledge of grammar rules is often inevitable, efficient, and helpful. The problem is that the grammar rules which have been taught in most Japanese junior or senior high schools are not necessarily beneficial in the EFL context from the viewpoints of acquiring useful English for communication. Thus, we need to develop a

new educational grammar for communication which will help learners acquire the target language more efficiently. The author believes that Langacker's cognitive grammar will surely shed light on developing a new educational grammar.

Cognitive grammar regards language ability as one of the embodiments of human cognitive abilities. In other words, language expressions are reflections of the ways in which humans as conceptualizers construe things or situations. Considering a realistic grammar for learning English as a foreign language based on the viewpoints of cognitive grammar, the author believes that there are some fundamental cognitive abilities underlying English grammar. If English grammar is based on those fundamental cognitive abilities, those abilities should explain not all but most grammatical features more efficiently. The purpose of this article is to present a tentative version of the cognitive abilities which the author speculates underlie English grammar. And he will proceed to discuss what kinds of English grammar should be beneficial for learners of English.

2. Fundamental Cognitive Abilities Underlying English Grammar

2.1 Five fundamental cognitive abilities which underlie English grammar

The author speculates that there are five fundamental cognitive abilities which underlie English grammar. Those five abilities are: (a) the ability of categorization, (b) the ability of figure/ground segregation and alternation, (c) reference point ability, (d) the ability of adjusting granularity, and (e) the ability of figurative use of language. Those five abilities are not mutually exclusive. They are also tentative, by which I mean some other abilities can be added or those five abilities can be synthesized into fewer abilities. In the

following sections, the details of those cognitive abilities will be explained one by one and they will be elucidated by giving some concrete examples.

2.2 The ability of categorization

The first fundamental cognitive ability underlying English grammar is the ability of categorization. This ability reflects the ways in which humans group things or situations into categories. Consider, for instance, how we think of birds. Swallows, sparrows, seagulls, crows, hawks, eagles, chickens, ostriches, penguins are all categorized into members of birds. However, some members are considered to be more typical (prototype examples), while others are regarded as less typical (peripheral examples). This is the ways in which humans categorize things or situations. Even among the members of the same category to whom the same name is given, the features each member possesses are diverse. This idea is called prototype model of categorization in cognitive grammar.

Another good example of considering prototype and peripheral examples of a category is that of odd numbers and even numbers. 1,3,5, 23, 77, 99, 1567893 are all members of odd numbers, while 2,4,6, 48, 986, 234574 are examples of even numbers. However, the smaller numbers like 1, 3, 5 or 2, 4, 6 are considered to be typical examples, while 99, 1567893 or 48, 986, 234574 are regarded as peripheral examples.

This ability of categorization is also true of language. Words or sentence structures (constructions) which share the same form have the same schematic (or core) meaning.

Consider the following example of preposition, *over*. *Over* has the schematic image shown in figure 1. Most Japanese learners of English have been taught that the meanings of *over* given in example-sentences a) through e) are different. In reality, however, all of them are mutually related and share

the same schematic meaning illustrated in figure 1.

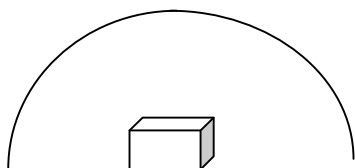


Figure 1 : The schematic image of OVER

(1)

- a) The dog jumped **over** the fence.
- b) There are some clouds **over** the mountains.
- c) John's house is just **over** the hill.
- d) School is **over**.
- e) Jack has been seeing Maria **over** the years.
- f) Let's talk about the issue **over** a cup of coffee.

These polysemous meanings of *over* are categorized under the same form *over* because these meanings are related to each other, and share the same core meaning. The way of grouping seemingly different meanings into the same form *over* is also an embodiment of the ability of categorization. The reason why the meanings of *over* in the above example-sentences are interpreted differently, but each meaning is related to one another, can be explained from the ability of figure/ground segregation and alternation, or the ability of figurative language use. These abilities will be discussed in the following sections.

2.3 The ability of figure/ground segregation and alternation

The second fundamental cognitive ability underlying English grammar is the ability of figure/ground segregation and alternation. Take a look at the

illustration given in figure 2. In this figure, two images can be visualized according to which part of the picture, the black part or the white part, is foregrounded, while the other part is backgrounded. If the black part is foregrounded, two human faces are visualized. If the white part is foregrounded, a vase is visualized. This



Figure 2 : figure/ground segregation and alternation.

is the ability of figure/ground segregation and alternation. Humans do not see things or situations as they are. They see things or situations based on their construal.

This cognitive ability is also applied to language. Consider example-sentences in (2) and figure 3 below.

(2)

- a) This glass is half-full.
- b) This glass is half-empty.

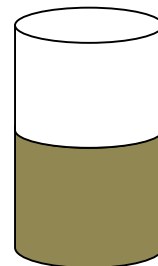


Figure 3

In figure 3, if the part of the glass which is filled with liquid is foregrounded, the situation is described as presented in example sentence a). If

the part which is not filled with liquid is foregrounded, on the other hand, the situation is described as shown in example sentence b). This is a good example of the same situation being construed in different ways, according to whichever part of the situation is foregrounded.

Consider another example. The meaning of each example-sentence in (3) can also be explained based on this figure/ground segregation and alternation ability.

(3)

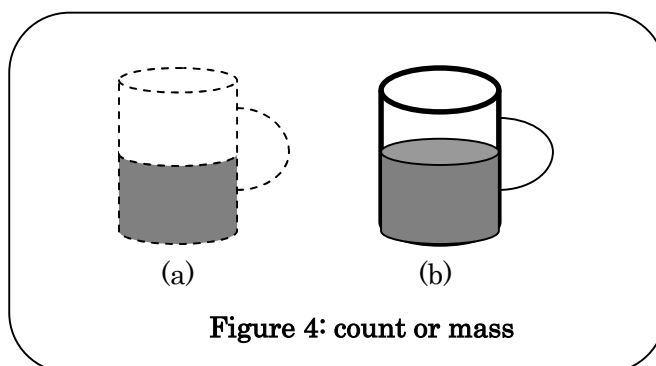
- a) I wash the *car* twice a month.
- b) I have to fill up the *car* before going to work.
- c) I vacuumed the *car* yesterday.

In all the example-sentences above, a noun *car* is used, but a different part of the car is visualized according to the context. In example a), the surface of the car is foregrounded. In example b), the gasoline tank of the car is foregrounded. In example c), the interior of the car is foregrounded.

Consider another example. This is about the difference between count nouns and mass nouns.

(4)

- (a) I like coffee.
- (b) I'll have a coffee.



In example-sentence (a), the coffee is construed as a mass noun, while in (b) it is construed as a count noun. Langacker's cognitive grammar considers that any noun can be construed as either a mass noun or a count noun according to the construal. This count/mass alternation, the author speculates, is also explained from the figure/ground segregation and alternation ability. Imagine a situation in which a mug is filled with coffee as illustrated in figure 4. If the coffee inside the mug is foregrounded, coffee is construed as a mass noun, while the mug which holds coffee is foregrounded, coffee is construed as a count noun.

2.4 Reference point ability

The third fundamental cognitive ability underlying English grammar is reference point ability. Figure 5 is an illustration of reference point construction given by Langacker. He explained reference point construction as follow:

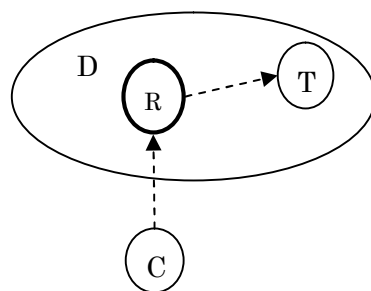


Figure 5 : Reference Point Construction

The circle labeled C represents the conceptualizer, R is the reference point and T the target, i.e. the entity that the conceptualizer uses the reference point to establish mental contact with. The dashed arrows indicate the mental path the conceptualizer follows in reaching the target. Finally, the ellipse labeled D represents an abstract entity that I refer to as the dominion, which can be defined as the conceptual region (or the set of entities) to which a particular reference point affords direct access (i.e., the class of potential targets). (Langacker: 1993, 5-6)

This reference point ability is frequently used in our daily lives. If we are asked by someone to show the person the way to the civic center, for instance, we are more likely to show the person some conspicuous landmarks first as reference points, and then go on to explain where the civic center is. The reference points will make it easier for the person to reach the target, in this case, the destination, that is the civic center.

This ability is also applicable to language communication. If viewed in the macro level, the author thinks that all language expressions are basically reference points to understand speakers' meaning. What the speaker wants to convey is regarded as a target. Hearers always try to infer speakers' meaning by using such reference points as language expressions, facial expressions,

tone of voice, body languages, and so on. Consider the next dialogues from a drama titled *Crossroads Café* as an example.

(5) Mr. Brashov: How many ovens have you fixed?

Jamal: Well ... there is a first time for everything.

The dialogue (5) is a conversation between Mr. Brashov, the owner of the restaurant, and Jamal, the handyman of the café. In this dialogue, Jamal did not answer Mr. Brashov's question directly. That is, the discourse is not cohesive, although it is coherent. The utterance given by Jamal does not seem coherent at first, but Mr. Brashov understands that Jamal's answer to his question is "No, I haven't fixed any ovens." by inferring Jamal's meaning via the language expression given as a reference point. This process commonly happens in daily communication.

Consider another example of some word being used as a reference point.

(6) Maria is our *next-door* neighbor.

In the example sentence (6), the *next-door* literally means the door next to you, but the expression refers to the next room, house, or building. Such a mental path the hearer follows is another example of reference point ability.

Furthermore, this reference point ability is used when understanding the network of polysemy or figurative use of language.

2.5 The ability of adjusting granularity

The fourth fundamental cognitive ability underlying English grammar is the ability of adjusting granularity. This ability enables humans to construe things or situations schematically or specifically. Depending on the

schematicity level which is focused by the conceptualizer, things or situations could be construed in different ways. It is sometimes said that people are the same, while it is also mentioned that each person is different. The reason that these two statements are not contradictory could be explained by humans' ability to construe things or situations both roughly and precisely.

By way of illustration, consider the next example-sentences.

(7) "How old are you?"

- a) I'm young.
- b) I'm in the early twenties.
- c) I'm 21.
- d) I'm 21 years, 3 months, 6 days, 5 hours, and 37 minutes old.

The example-sentences given in a), b), c), and d) reflect the different level of granularity. The example sentence c) is the normal way to answer the question. D) is too specific to be regarded as normal. Just for reference, this level of granularity is actually employed in a novel the author has read before. The title of the novel is "the curious incident of the dog in the night time."

The policeman squatted down beside me and said, "Would you like to tell me what's going on here, young man?" I sat up and said, "The dog is dead." "I'd got that far," he said. I said, "I think someone killed the dog." "How old are you?" he asked. I replied, "I am 15 years and 3 months and 2 days."[Underlined by the author] (Haddon: 2003, 6)

A) and b) are more schematic ways to answer the question. Humans can adjust the granularity according to how much information is required in context.

Grice's cooperative principle can also be observed by this ability of granularity.

2.6 The ability of figurative uses of language

The fifth and last cognitive ability underlying English grammar is the ability of figurative use of language. This ability is so common that most people use this ability without realizing it. The reasons for which humans use this ability are diverse. Basically, people use metaphorical language in order to convey what could not otherwise be described for various reasons.

This figurative use of language is usually divided into three components. They are metaphor, metonymy, and synecdoche. In cognitive linguistics, these three kinds of figurative use of language are defined as follow:

Metaphor: Understanding one entity or thing in terms of another, based on some similarities between two entities or things.

The cognitive ability of comparing one thing with another underlies metaphor. By way of illustration, consider the example-sentences in (8).

- (8) a) John is in his den.
b) John is in a great company.
c) John is in love.

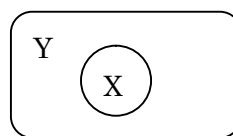


Figure 6: The core image of "X is in Y"

In these example-sentences, the structure that *X is in Y* is used in all the sentences. The schematic image of this structure is shown in figure 6. In a), this image is applied to physical space. In b), the same image is applied to social space. In c), the image is applied to psychological space. The space to which the schematic image shown in figure 6 is applied is different among a),

b), and c), but all of them share the same core image.

Consider other example-sentences in (9).

(9) a) I'm **going to** the post office.

b) I'm **going to** write a term paper.

In example (9), *be going to + X* is used in both sentences, but these two *be going to + X* commonly deal with different items. Cognitive grammar, however, considers that if two expressions share the same form, they share the same schematic meaning. The humans' metaphorical ability explains the phenomenon here. In a), the subject of the sentence is moving to the post office physically, while in b), the subject is thinking of writing a term paper. This situation can be explained as follow: in a), the destination the subject of the sentence is heading to is a location, while in b), it is an action. In a), *be going to + X* is used in physical space, while in b), it is metaphorically used in time space.

Synecdoche: Using the specific for the general, or the general for the specific.

This figurative use of language is based on the cognitive ability of construing an entity or a thing at a different level: precisely or roughly. For example, if someone says, "I didn't *drink* last night," *drink* in this context refers specifically to drinking alcohol. If you are asked, "How do you like your *eggs* – fried or boiled?", *eggs* refers to chicken eggs. *Walkman*, *Kleenex*, *xerox*, *hoover* are some examples of synecdoche. These words originally meant a particular product, but they are now used to refer to things or acts which have similar functions. This ability can be regarded as an embodiment of the ability

of categorization and the ability of adjusting granularity, both of which were presented in this article. The reason why synecdoche is regarded as a figurative use of language is the discrepancy between the granularity level of the concept and that of the word. That is to say, the expression which should refer to a more specific or schematic level is used instead for indicating some granularity level of the concept.

Metonymy: one entity or thing is used to indicate, or provide mental access to, another entity.

This ability is based on the reference-point ability. For example, if someone says that I'm reading *Shakespeare*. *Shakespeare* here refers to any of Shakespeare's works, not the writer himself. If someone says that America doesn't want another *Pearl Harbor*. *Pearl Harbor* refers to the attack that happened there.

3. Native speakers' knowledge of English Grammar

In the introduction of this article, the author mentioned that native speakers of any language can understand and produce their mother tongue because they know the grammar of the language. This section is going to discuss more specific features of grammar which native speakers of English possess and then go on to discuss what kinds of grammar should be helpful for learners of English.

Let us start the discussion by considering example-sentences in (10) below.

(10) a) Open me a beer.

b) ? Open me the door. (cf. Shirai: 2008)

Regarding the acceptability of the sentences, what do you think about a) and b) above? Is either one correct, or are both of them correct? Native speakers of English will say that a) is acceptable, while b) is awkward. Some might explain the reason why b) is awkward, while others cannot explain it. Regardless of whether they can explain why b) is not acceptable, they feel that b) is awkward. This subconscious knowledge of grammar is the manner in which native speakers of English know the grammar of their mother tongue. This subconscious knowledge seems to be somewhere between the two extremes: conscious knowledge and unconscious knowledge. Even when we learn English as a foreign language, this kind of subconscious knowledge of grammar is most desirable, but in reality, this sort of knowledge is difficult to realize due to environmental constraints. For this reason, conscious knowledge of grammar rules is sometimes effective for learners of English to acquire the grammar of the target language, although the rules should be different from the school grammar rules which have been taught for a long time.

Then, what kinds of grammar rules are desirable and helpful? Before explaining the acceptability of example sentences in (10), paying attention to a fundamental principle of the English language helps. The principle is that word order counts. In other words, if the word order changes, the meaning also changes. This principle can also be interpreted in such a way that a certain word order has its own meaning. The word order which should be focused on here is what is called juxtaposition, which is the word order of two words being side by side as in X – Y. In example sentence (10)-a), *me* and *a beer*, and in b), *me* and *the door* are juxtaposed respectively. As also stated by Tanaka (1989), if two words, X and Y, are juxtaposed, the meaning of the structure could be either (a) X BE Y or (b) X HAVE Y as illustrated in figure 7. Whichever one of the interpretations is chosen depends on the context. Consider, for instance, example sentences in (11) below.

- (11) a) She made me a pie.
 b) She made her son a doctor.

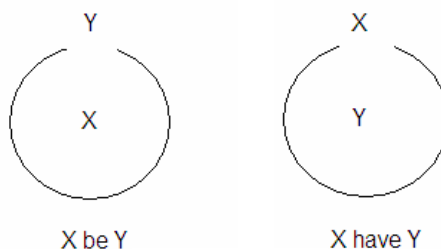


Figure 7

In example sentences in (11), *me* and *a pie*, and *her son* and *a doctor* are juxtaposed in a) and b) respectively. In

a), the interpretation that I have a pie is acceptable, while I am a pie is not. Thus the meaning of the sentence can be paraphrased as follow: She made a pie for me and I ate the pie. In b), her son is a doctor is acceptable, but her son has a doctor is not. The meaning of the sentence can be understood as this: Thanks to something the mother did for her son, the son became a doctor. This is how people interpret the meaning of the sentence in context.

Let us go back to the examples in (10). Here in a), the interpretation that I have a beer is possible, because if someone opens a beer for you, you can drink it. Drinking something can be regarded as one example of having something. In b), on the other hand, if someone opens a door for you, is it possible for you to have the door? Of course, it is not possible. That is the reason for which native speakers of English feel that b) is awkward. The author predicts that if this sort of conscious knowledge of grammar, which native speakers of English subconsciously possess, are presented in the language classroom, the knowledge can facilitate the learning process of learners of English.

Consider another example to test whether this conscious knowledge of grammar is helpful or not. Which one of the two sentences below is awkward?

- (12) a) I gave a watch to her, but she refused to accept it.
 b) ? I gave her a watch, but she refused to accept it.

The point here is the word order of the first clause, where juxtaposition is employed. The awkward sentence is b), because the word order that *her a watch* implies that she has the watch I gave her. However, the second clause, following *but*, indicates that she refused to have the watch. This is contradictory. That is why native speakers of English feel b) is awkward. The example sentence a), however, does not imply that she has the watch I gave her, because the word order employed here is *a ring to her*. The interpretation drawn from this word order is just that the watch I was trying to give her is put in front of her and at that moment she can decide whether to accept it or not. That is why a) is acceptable.

Related to these example-sentences in (12), the differences in meaning can be illustrated by one of the cognitive ability introduced in this article, figure/ground segregation and alternation. Following Langacker, the difference in meaning between a) and b) in (12) can be illustrated as shown in figure 8. In (a), the process of the watch moving to her is foregrounded, while in (b), the result of her having the watch is foregrounded.

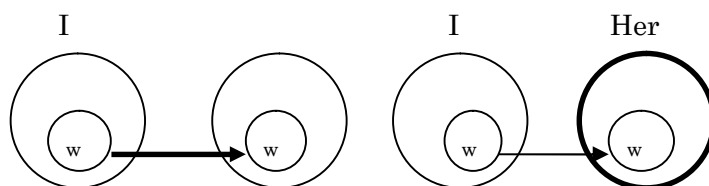


Figure 8 (a)

(b)

4. Grammar for Examination and Grammar for Communication

In this section, the author is going to discuss the differences between English grammar for examination and English grammar for communication. Most people probably have learned such a grammar rule as shown in (13) when they learn English in their high school days.

(13) Inside the clauses indicating time or condition, simple present form of a verb is used instead of will + base form even though the message conveyed in the clause is for the future.

Is this grammar rule applicable in any situation? The author thinks that this rule is only valid for the purpose of getting correct answers in examinations. In actual language communication, however, this rule is too strong to explain some peripheral usages of if-clause construction. In other words, this rule is not compatible with the reality that language is dynamic. Consider a pair of example-sentences in (14).

(14) a) If I'm late, I'll mail you.

b) If I'll be late, I'll mail you.

Which one of the above sentences do you feel is correct? Are both of them correct? Applying the school grammar rule indicated in (13) to these examples, only a) is regarded as correct. In reality, however, both of the sentences are acceptable according to the context, although the default one is still a). However, the meaning is slightly different because the form is different. In a), the present simple form *am* is used, while in b) *will be* is used. The difference in meaning between *am* and *will be* is that the former means the content indicated inside the if-clause is factual, while the latter means prediction. If the speaker is in fact late for the appointment, she will choose a). If she just predicts that she will probably be late for the appointment, but in fact she might not be late, she will choose b). Both situations can be imagined in context.

Consider another similar example.

(15) a) If I **win** the lottery, I'll travel around the world, taking a long vacation.

b) If I'll **win** the lottery, I'll travel around the world, taking a long vacation.

In this pair, a) is correct, but b) is awkward. This pair can be explained even if the school grammar rule in (13) is applied. In examinations, since such an example as in (15) is always employed; most learners of English consider that the rule (15) can be applicable to any context. Then why is b) awkward? The reason is that most people do not decide to travel around the world unless winning the lottery is factual. They do not make the decision just based on their prediction that they will win the lottery. That is the reason why native speakers of English feel b) is awkward. The important thing for learners of English to keep in mind is the acceptability of a sentence is decided according to the context.

As has been observed so far, language is dynamic and the acceptability of some expression changes according to context, background information, or something else. In examinations, however, if a sentence could have multiple interpretations, it is not employed. That is why the school grammar rules are used to get correct answers in examinations. In real communication, however, language is dynamic and creative. If this reality of language were employed more in teaching English, foreign language learning would be much more interesting and motivating for learners. People are motivated to learn something which they think is interesting.

5. Implications for EFL Teaching

In teaching or learning EFL, acquiring communicative ability is inevitable. The details of communicative ability have been discussed by

many scholars. Canal (1984), for instance, stated that communicative competence consists of four components; grammatical competence, sociolinguistic competence, pragmatic competence, and strategic competence. As for foreign language ability, Yanase (2007) construes language ability from a different enlightening viewpoint. He stated that foreign language abilities are three-dimensional; physical ability, language ability, and mind-reading ability. This article has focused on investigating a better way of teaching grammatical competence or language ability.

Then what is language ability? Tomasello (2002) defines linguistic skills as follow:

The linguistic skills that a person possesses at any given moment in time——in the form of a “structured inventory of symbolic units”——result from her accumulated experience with language across totality of usage events in her life. This accumulated linguistic experience undergoes processes of entrenchment, due to repeated uses of particular expressions across usage events, and abstraction, due to type variation in constituents of particular expressions across usage events. (Tomasello: 2002)

Tomasello stated that linguistic skills are structured inventory of symbolic units. The author thinks that letting learners know about how the symbolic units are structured is very effective in helping them to acquire grammatical competence. The ways in which symbolic units are structured can be explained based on the cognitive abilities discussed in this paper.

Four temporary cognitive abilities; the ability of categorization, the

ability of figure/ground segregation and alternation, reference point ability, the ability of adjusting granularity, and the ability of figurative use of language.

In addition, it should also be kept in mind that language is dynamic and creative. The acceptability of some expression changes according to the context or the passage of time.

The author speculates that teaching learners these two points will surely enhance the acquisition of grammatical competence in EFL environment. Since this article is just a theoretical consideration based on the author's teaching experience and study of several ideas from cognitive grammar, the theory introduced in this article has yet to be proved. Further research will continue.

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