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How Do Speakers Communicate with Different Linguistic Knowledge?:

The Internal and External Stabilizers of a Language*

Takuto NAKAYAMA

1. Introduction

In linguistic research, two models are mainly assumed to explain how language works among speakers: the dictionary-grammar model, in which speakers innately have some modules that involve certain processes whereby they generate grammatical sentences, and the usage-based model, in which speakers empirically build their linguistic knowledge from their experiences. Thus, in the dictionary-grammar model, speakers are supposed to have the same knowledge as each other, whereas in the usage-based model, they do not necessarily have the same knowledge because the process that linguistic knowledge is built through is dependent on their own experiences.

The usage-based model is more partible with research about individual differences than the dictionary-grammar model. For example, as Petré and Anthonissen (2020) point out, construction grammar, one of the research fields that applies the usage-based model in its theories, is an appropriate research fields for studying diversities in a language. However, do the assumptions of the usage-based model truly explain how speakers manipulate language? What could be most problematic here is that the usage-based model does not explicitly show how a speaker communicates with others depending on the particular linguistic knowledge of each speaker, which is derived from different experiences. Because the model assumes that speakers build their linguistic knowledge from their experiences, there has to be something that constrains a language so that it is not too divergent to the extent that speakers can no longer communicate with each other. However, such a thing has not been discussed because of the optimistic view of some cognitive linguists (e.g., Hayase and Horita, 2005). Approvers of the usage-based model claim that the circumstances in which a speaker speaks in a similar way the others speak make linguistic knowledge of each speaker similar. However, it is not obvious whether such circumstances are actually adequate enough to explain convergence of linguistic knowledge.

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The aim of this paper is to suggest that (i) there is a conflict between the idea that language is for communication and the assumption that individual differences are prerequisite, which are two features of the usage-based model; (ii) it is significant to identify the location of a "stabilizer" in a language; and (iii) "the external stabilizer" must be considered in order to reconcile the conflict in the usage-based model. Section Two will propose the problem that under the usage-based model, speakers in a certain community have to use language depending on different linguistic knowledge based on their own experiences. Then, in Section Three, it will be discussed how the conflict in the usage-based model can be resolved.

2. Conflict within the Usage-Based Model

The following sections will discuss the two features of the usage-based model: the idea that language is for communication and the assumption that individual differences among speakers are prerequisite. The reason why those two features are to be considered as such significant factors in this paper is that, from the perspective of the usage-based model, speakers do not necessarily have the exact same knowledge, so speakers have to understand utterances of others with their own knowledge, which might be different from that of others. This could be a contradiction because, generally speaking, different materials will yield different products. It is required to determine how speakers can speak the same language despite having different linguistic knowledge.

2.1. The Usage-Based Model Focuses on Communication

In the usage-based model, linguists focus on "language to communicate," which emphasizes the interactive aspect of language (Nakayama and Otani, 2020). This is one of the elements that distinguishes it from generative grammar, the research field that assumes speakers innately have the linguistic faculty that makes it possible to generate grammatical sentences. The idea "language to think," which emphasizes the introspective aspect of language, represents the basic idea of generative grammar. From the usage-based point of view, linguists have been involved in many kinds of fields whose topics are related to communication and discourse. For example, Discourse Function Linguistics (e.g., Du Bois, 2014; Hopper, 1987, etc.) is one of the fields that applies the usage-based model in its theories. It focuses on how syntactic features for linguistic interactions are formed, which sheds light on communication research. Thus, the usage-based model has an aspect that focuses on actual communication.

In the usage-based model, linguists believe that the diversity in the linguistic knowledge of each speaker should be focused on because the model emphasizes actual communication.

Before the usage-based model arose, generative grammar and other fields of formalism assumed a model called "the dictionary-grammar model" (Nakayama and Otani, 2020). In this model, the focus is on how speakers combine lexical items in their lexicon with syntactic rules in order to generate a grammatical sentence. The assumption of the model is that every speaker follows the same universal rules of syntax. Thus, linguists with a generative point of view establish, for the sake of adequate research, an idealized world in which there are no deviations. The model regards some sentences that do not follow syntactic rules as deviations that do not deserve to be scrutinized. This is because generative grammar does not focus on deviations but on abstract rules. In order to achieve this point, generative grammar intentionally ignores deviations in language. Moreover, regarding its methodologies, it is thought impossible to strictly observe all the linguistic phenomena including, in the terms used by Chomsky (1965), “actual usage” or “performance.”

On the other hand, the usage-based model focuses on the very phenomenon that the dictionary-grammar model ignores. One reason for this is that, in real conversations, speakers utter such forms too many times to be regarded as mere deviations. For example, in observing data on spoken Japanese from the perspective of traditional grammar, Iwasaki (2015) illustrates that there are some systematic usages of certain expressions, or “deviations.” Researchers who engage in the usage-based model believe that those deviated forms, or "garbage" forms, cannot be thrown away in order to determine the nature of language.

2.2. Individual Differences in Linguistic Knowledge

2.2.1. Previous Studies on Individual Speakers' Differences

Dąbrowska (2012) illustrates several studies in which native speakers behave differently in a series of experiments. For example, comprehension of some complex constructions in English (e.g., The nervous-looking student that Chris met after being told his girlfriend wanted to jilt took the 11 o’clock train (Dąbrowska, 2012: 17)) by native speakers varies according to their educational experience. Those who had experienced full-time education for a shorter time performed worse than those who had had for a longer time; however, after attending a make-up lecture following the experiment, the speakers with a shorter full-time education performed as well as the speakers with a longer full-time education.

The Polish masculine genitive case is also one of the examples of individual differences among native speakers that Dąbrowska introduces (Dąbrowska, 2012). This experiment shows how different Polish native speakers decline the case of a masculine noun. In the experiment, adult Polish native speakers are asked to form a nonce masculine noun in the genitive case.

Simply speaking, an object is usually in the form "-a," while a substance is usually in the form "-u." Only two out of 20 subjects were able to consistently distinguish between the two forms of the genitive case. This result illustrates that speakers have different abstract linguistic knowledge: some acquire more abstract knowledge, while others learn in more concrete forms.

Moreover, Dąbrowska investigates "the extent of individual differences in adult native speakers' knowledge of a range of constructions as well as vocabulary size and collocational knowledge" (Dąbrowska, 2018, p. 222). She also explores the relationship between linguistic abilities and non-linguistic factors, including a nonverbal IQ test, language aptitude, print exposure, and educational background. As a result, no matter what dialect a subject speaks or how difficult a subject finds it to participate in the experiments, the subjects' aptitudes for their interpretation of constructions vary. Dąbrowska concludes that one's experiences, such as education and exposure to written language, affect one's linguistic aptitude, and these variations yield individual differences in linguistic knowledge.

Divjak et al. (2016) also mention individual differences in linguistic knowledge. In their experiment, they scrutinize whether a model can predict, from a set of synonyms, which verb should be used for a certain context as precisely as human beings do. They observe Russian verbs for "try." According to the result, one model cannot predict the verb well, but using several models can improve the prediction. However, they also find that human beings, in fact, do not predict completely, but some of them choose a "wrong" verb (in the experiment, the criterion regarding which verb is correct is based on corpus data). In fact, this does not show that knowledge of individual speakers is totally different at a basic level, but it can suggest that speakers do not share exactly the same knowledge of certain words with each other.

2.2.2. Absence of a "Stabilizer" of Linguistic Knowledge among Individual Speakers

Because speakers in a certain community use the same or similar language, there might be some systems that make it possible for the speakers to possess similar linguistic knowledge to communicate with each other. Therefore, in order to explain a language, linguistic models should require a linguistic "stabilizer" that constrains something interfering with speakers' having common linguistic knowledge.

For example, generative grammar, or the dictionary-grammar model, assumes that all human beings innately possess a linguistic faculty, which generates grammatical sentences in their mind (Nakayama and Otani, 2020). Conversely, in the usage-based model, speakers learn abstract knowledge from actual usages in the bottom-up direction and build their own networks of linguistic knowledge by themselves. However, this model does not explicitly claim that all

speakers must deal with such a bottom-up process in the same way. Thus, generative grammar explicitly proposes a stabilizer in its assumptions, whereas the usage-based model does not unequivocally have a stabilizer in its assumption.

In this sense, generative grammar, which does not focus on communication, can better explain the sharing of linguistic knowledge among speakers than the usage-based model. The problem arising here is how speakers can communicate with each other under the assumptions of the usage-based model, in which there is no explicit stabilizer for sharing language among speakers. To consider this problem is particularly significant for the usage-based model, which aims at communication. The next section will discuss this point in more detail.

2.3. Conflict Between Commonalities and Differences in Language

The two features introduced above—language to communicate and individual differences among speakers—belong to the fundamentals of the usage-based model. However, those two features are not simply compatible, because if the features are accepted, speakers must communicate with each other with different linguistic knowledge; In the usage-based model, language has to be a tool for communication, but individual differences in speakers' linguistic knowledge, which has been deducted from the fundamental idea of the usage-based model, might interrupt linguistic communication. Although such strangeness resides in the assumptions of the usage-based model, no linguist has explicitly explained how speakers with different linguistic knowledge can communicate with each other at all. This problem is what the present paper attempts to resolve.

Hayase and Horita (2005) claim that speakers are never isolated and keep responding similarly to each other's utterances, which leads to minor changes and some aspects that are conservatively inherited. However, this cannot be an adequate answer to the problem because it is not explicit whether responding similarly makes the knowledge of speakers converge, and whether speakers really inherit some aspects conservatively. In any case, the problem of how speakers with different linguistic knowledge can communicate should be discussed and solved in order to make the usage-based model a more adequate model of language that focuses on actual communication.

Moreover, linguists can explain the problem of how speakers can have the similar linguistic knowledge through their own experiences with the idea that speakers have the same general cognitive abilities that are used to manipulate a language. However, one of the problems with this idea is that speakers have to gain the same linguistic knowledge that enables communication through different experiences of their own if linguists accept the assumptions

of the usage-based model. Thus, if speakers are supposed to use the same system to manipulate a language, then the problem is not so controversial as described above. Simply speaking, through the same system, everyone can learn the same linguistic knowledge from different experiences. This is compatible with the assumptions of the usage-based model. However, for some reasons that will be introduced in Section Four, this paper claims that another approach is better than this approach.

3. How Can the Problem of Differences in Linguistic Knowledge be Resolved?

3.1. Internal Stabilizer and External Stabilizer

The sections above have discussed the conflict between the commonalities and differences among speakers' linguistic knowledge under the assumptions of the usage-based model. The following parts, then, will introduce two ideas that can reconcile the contradiction in the usage-based model:

- The Internal Stabilizer:
  Human beings have the same brain structure and cognitive system, so linguistic knowledge that is built from such systems will be (almost) the same.
- The External Stabilizer:
  People interpret events in the world in their own ways, so linguistic knowledge that is built in such unique ways will be different from each other. Nonetheless, linguistic interactions converge the linguistic knowledge of each speaker to the extent that is possible for them to communicate with the language.

The first approach is the "internal stabilizer," which explains how language works only by considering the mind of the speaker. In this approach, all the speakers in a certain community can speak the same language because they innately have the same general cognitive abilities, even though these abilities are not specialized for linguistic faculties as generative grammar assumes. As is written above, this approach is compatible with the assumptions of the usage-based model, and it may actually play a significant role in manipulating a language. However, considering only this approach can lead to inadequacies in understanding how linguistic communication is possible. One of the reasons is that if having the same general cognitive abilities were the only factor that allows speakers to have a language for communication, there would be no differences in the linguistic knowledge of speakers, which does not correspond with observations in the previous studies introduced above. The fact that even native speakers may use a language in different ways of their own opposes this prediction. Then, even if people had similar cognitive abilities (but not the same), actual usages by them would have

divergences, which is compatible with empirical facts. However, in that case, linguists would have to explain why the differences in cognitive abilities are constrained in as narrow the range as people can learn similar linguistic knowledge, which would increase the number of unnecessary assumptions. Another reason for the inadequacy of the internal stabilizer is that no one can directly observe such cognitive aspects in people's minds. For those aspects, the internal stabilizer, i.e., a commonality of cognitive abilities, indeed plays an important role, but another factor is necessary to reconcile the conflict in the usage-based model.

The second approach is the "external stabilizer." This assumes that speakers can communicate because some factor outside of each individual people, such as interactions among people, makes a language a useful tool for communication. For example, linguistic interactions between speakers converge linguistic knowledge of each speaker into similar of identical knowledge, which speakers can use for communication. However, how each interaction by individual speakers actually affects the linguistic knowledge of all the speakers in a community has not been explained clearly. If this were resolved from both a micro (individual) and a macro (communal) perspective, it could be seen as one of the adequate factors for manipulating a language.

Neither approach outweighs the other; rather, both stabilizers impact language in some unique way. One of the differences between the two is just whether the system that keeps a language as a tool for communication, or kind of "stabilizer" of a language, resides within people, i.e., within one's cognitive abilities, or outside of them, i.e., convergence by interactions among speakers. It thus important to determine which stabilizer is more significant than the other. This does not mean that one side is false, but proposes the point of view of research. If the internal stabilizer is more important, the influence by interactions among speakers of a language is not so much a basic factor but negligible, while if the external stabilizer is greater, the number of linguistic phenomena that cannot be adequately explained only by the internal stabilizer is not so little that linguists cannot deal with it as just deviations.

This paper argues that the latter approach is a better one because it allows us to see commonalities and differences as being derived from the same system. If linguistic knowledge of individual speakers converged into a certain range through interactions among speakers, it can be said that the linguistic knowledge of each speaker can be similar because of convergence through interactions, and it can be different because the interactions will not converge a language at one single pinpoint, but just into a vague range.

Therefore, the approach of the internal stabilizer has a contradiction between individual differences of linguistic knowledge and its assumption, whereas the approach of the external

stabilizer does not have such a problem. The external stabilizer can also explain commonalities and differences in a language in the same way without setting another assumption. Researchers prefer fewer prerequisites to more for the basic idea of Occam's razor. Because of this, this paper approves that that approach, external stabilizer, has better adequacy of explanation for with the smaller number of assumptions.

3.2. Commonalities and Differences from the Same System

The advantage of the external stabilizer, "explaining commonalities and differences of linguistic knowledge of individual speakers in the same way," is still oblique, though it is a focal feature of the approach under the external stabilizer. This will be explained in more detail in what follows.

If the internal stabilizer is assumed to be more significant than the external stabilizer, linguists can explain why speakers can communicate in a language straightforwardly, because speakers have the same cognitive abilities in their mind, such as categorization. On the other hand, explaining why linguistic knowledge of individual speakers differs is not so simple as explaining the commonalities of linguistic knowledge among speakers. As Dąbrowska showed, differences in individual linguistic knowledge are observed. In the approach of the internal stabilizer, linguists have to explain why differences in linguistic knowledge among individual speakers emerge despite that the knowledge is derived from the same cognitive abilities. Because of this, the current approach will have to introduce the influence of interactions among speakers, which corresponds to the external stabilizer. Thus, from the approach of the internal stabilizer, linguists cannot settle individual differences without any contradictions.

In the case of the external stabilizer, linguists can assume differences in the linguistic knowledge of each speaker as something deduced from the assumption of the external stabilizer, because the external stabilizer suggests that individual speakers naturally have different knowledge. Then, the external stabilizer, such as interactions among speakers, makes a language converge into a certain range, which allows speakers to communicate via the language. Thus, the approach of the external stabilizer can consider that the linguistic knowledge of individual speakers is different originally, then, the external stabilizer converges a language is a tool for communication. In this case, the commonalities of a language come

from the compression of differences among speakers. Those two stabilizers are illustrated in Figure 1.

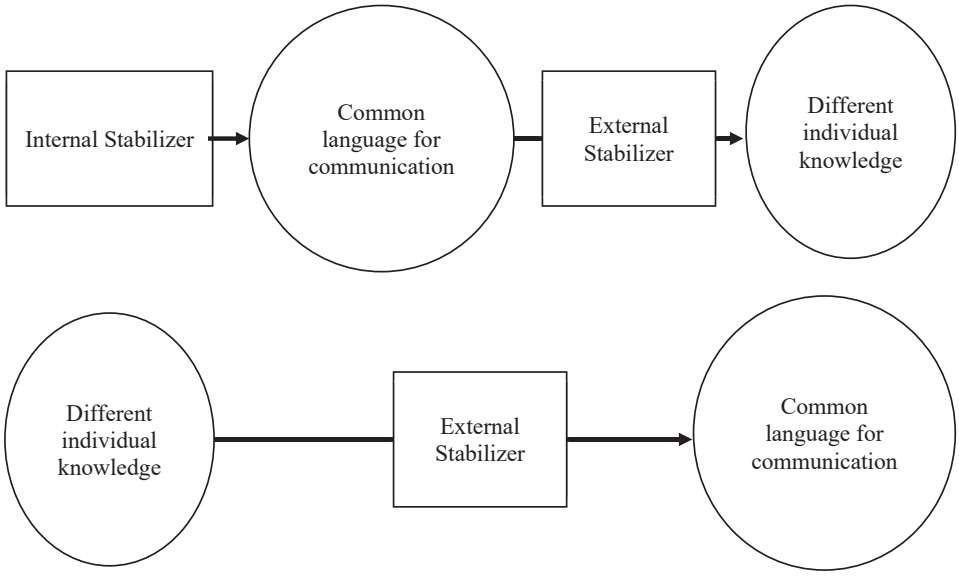

Figure 1: Two Stabilizers
(Upper is the internal stabilizer; lower is the external stabilizer)

4. Conclusion

This paper has proposed that the usage-based model includes a conflict between two features, language to communicate and individual differences, and that the conflict may be reconciled by the external stabilizer. The usage-based model focuses on the communicative facet of language, but it does not explicitly assume a system to keep a language in a range small enough for speakers to communicate. This system has been called a "stabilizer" in this paper. A conflict, under the usage-based model, speakers communicate with each other with a common language depending on different knowledge among individual speakers, arose. In order to reconcile this conflict, the two approaches, the internal stabilizer and the external stabilizer, were introduced. Both approaches are significant to consider linguistic phenomena. However, the approach taken by a researcher determines the direction of the research. In the case of the approach of the internal stabilizer, commonalities of linguistic knowledge among speakers are a prerequisite from the assumption, and interactions yield some differences in linguistic

knowledge among speakers. On the other hand, in the case of the approach of the external stabilizer, differences among speakers are assumed as a prerequisite, and the external stabilizer converges linguistic knowledge of speakers into a range that allows speakers to use a language for communication. The external stabilizer proposes that commonalities and differences of linguistic knowledge can be dealt with as something derived from the same way. Therefore, this paper claims that the approach of the external stabilizer is a more adequate explanation than the internal stabilizer.

For applying the approach to research, this paper claims that within linguistics, the field of construction grammar should be focused on. Construction grammar is a research field whose theoretical assumption can look into differences in the knowledge of individual speakers (Petré and Anthonissen, 2020). However, as has been pointed out, it does not focus on that topic. "[R]elying on usage-based storage and the idea of a constructional network, construction grammar is more robustly equipped to deal with variation than a modular system with linking rules" (Petré and Anthonissen, 2020, p. 202). This can lead to the idea that in the usage-based model, linguistic knowledge that is built by one individual is possible different from that of others.

In future research, applying the approach of the external stabilizer will shed light on the ontology of construction. From the point of view of that approach, a construction can be seen not as something that can be distinguished from others but as something with blurred boundaries that emerged from converging by interactions, or the external stabilizer. Construction grammar—which studies systems of linguistic knowledge that speakers must know to manipulate a language—can be improved by applying this approach.

The claims of this paper will provide a model that offers a more adequate explanation with fewer prerequisites factors than ones in the current time. If such a model is established, not only how speakers communicate via language but also other facets, such as how languages change, what grammar is, and how children acquire a language, can be studied from the point of view that is inherited from the usage-based model. The problem to consider, however, is how the model can be analyzed. What is predicted is researched through computational methods, or simulations on a computer.

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