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Viewing from Grammatical Errors of Second Language Learners

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Abstract

We explore a new approach to the long-standing issue in linguistics: of whether knowledge of language is innate or not. To this empirical issue, a variety of approaches have been proposed, but the purpose of the present study is not to deny those approaches but rather to examine a new one for further verification of the innateness hypothesis. Our new approach is based on the methodology adopted in first language acquisition. Concretely, if a second language learner produces a string of words which is neither accepted grammatically in the target language nor attributed to their first language transfer but can be analyzed as a corresponding grammatically accepted structure in another language, then it follows that he/she can access to knowledge of the language to which he/she is never exposed and thus that knowledge of all particular languages is innately available. As a preliminary study, we analyze the relevant errors of Japanese-speaking learners of English and consider future issues for our new approach.

Key Words: logical problem of (first/second) language acquisition, innateness of human language, Japanese-speaking learners of English, error analysis

アブストラクト

言語知識が生得的であるか否かは言語学における長年の課題であるが、本研究はその課題に対して新たなアプローチを探る。言語知識の生得性という経験的課題に対して、これまでさまざまなアプローチが提案されてきたが、本研究の目的はそれらのアプローチを否定することではなく、新たなアプローチを検討し、言語生得説に対するさらなる検証に貢献することである。新たなアプローチは第一言語獲得で採用されている方法論に基づいている。具体的には、第二言語学習者が、目標言語で文法的に容認されず、学習者の母語による干渉にも帰因しないが、他の言語では文法的に容認される構造であると分析できるような文を産出したとしたら、当該学習者は一度も経験したことのない言語に関する知識にアクセスしたことになり、すべての個別言語に関する知識は生得的に利用可能ということになる。予備的な研究として、日本人英語学習者が産出するこのような誤りを分析し、新たなアプローチに対する今後の課題を検討する。

キーワード: (第一・第二) 言語獲得の論理的問題、人間言語の生得性、日本人英語学習者、誤り分析

1. Introduction¹

Whether we like or not, is it the fundamental fact about language that humans can acquire it naturally, i.e., without any effort or special training, whereas non-humans cannot even with serious training. This suggests that language is definitely species-specific and probably genetically endowed to the human species. Then, there is a long-standing empirical issue of whether knowledge of language is innate or not. Notice that the above fact means that only humans have a special capacity for language acquisition but does not indicate that knowledge of language is innate. That is why we have to prove the innateness of human language empirically and a variety of approaches have been proposed so far (note that Universal Grammar, UG, is one of them, theorizing the innate knowledge of language in generative grammar).

To approach to the issue of the language innateness, error analysis of child languages has attracted much attention. The rationale behind it is that if a child produces a string of words which is not accepted grammatically in the language being acquired but can be analyzed as a corresponding grammatically accepted structure in another language, then it follows that he/she can access to knowledge of the language to which he/she is never exposed and thus that knowledge of all particular languages is innately available. The purpose of the present study is to verify that the same holds in error analysis of second languages. That is, we will examine whether an ungrammatical string of words produced by a second language learner can be analyzed as grammatical in a language which he/she never experiences.

The sections below are organized as follows. Section 2 summarizes the previous approaches to the innateness of language. In Section 3, we explore a new approach in the light of second language acquisition. In Section 4, as a preliminary attempt, we analyze the data produced by Japanese-speaking learners of English and discuss why those data are relevant for our approach. Finally, Section 5 considers future issues for our approach.

2. Previous Approaches

A logical problem of language acquisition, which is also called Plato's Problem (Chomsky, 1986), has been pointed out: why children can acquire a language with impoverished input. In language acquisition, children cannot be always exposed to grammatically accurate input because care-takers surrounding them do not pay careful attention to their talks, causing incomplete sentences for some times and even ungrammatical sentences for other times. Moreover, the linguistic input is clearly not rich enough to account for children's output. That is, four-or-five-year-old children can produce the much larger number of sentences than what they have experienced for four or five years. This input-output discrepancy leads to a concept of Poverty of the Stimulus (Chomsky, 1986; Berwick, Pietroski, Yankama, & Chomsky, 2011), resulting in the innateness hypothesis that some knowledge of language should already exist in newborns. To verify the hypothesis, a variety of approaches have been proposed. We summarize the major ones in what follows.

A first approach to the innateness of language is to observe children's production/comprehension in their first language. The rationale behind it is that if children can produce/comprehend a complex sentence which rarely occurs in their input, then grammatical knowledge relating to that sentence should be innate. For example, Crain and Nakayama (1987) observed the question formation of the three-to-five-year-old chil-

dren acquiring English. They found that no participants produced such an ungrammatical sentence as in (1).

- (1) *Is the boy who unhappy is watching Mickey Mouse?

The corresponding grammatical sentence in (2) is rather complex and rarely appears in the linguistic input to children as Crain and Nakayama (1987) pointed out.

- (2) Is the boy who is unhappy watching Mickey Mouse?

To form the question in (2), we should know not about a linear-order-dependent rule such as that we must move the first *be*-verb, but about a structure-dependent rule such as that we must move the *be*-verb of the main clause. Since such structure-dependent rule is rather abstract and thus can be hardly taught by the parents, it should be the case that children innately know about the rule, leading to the results found by Crain and Nakayama (1987).

A second approach is to observe adults' grammatical judgment in their first language. The logic behind it is that if adults can judge whether the sentence in question is grammatically acceptable or not, then knowledge relating to that sentence should be innate because they are never taught about subtle grammaticality of the sentences in their language acquisition. Consider the following example (Chomsky, 2013):

- (3) Can eagles that fly swim?

Since there are two verbs in (3), two possible auxiliary-verb relations are shown in the declarative sentences in (4) and (5).

- (4) Eagles that can fly swim.
 (5) Eagles that fly can swim.

In reality, however, the corresponding declarative sentence to the question sentence in (3) is (5), not (4) (the corresponding interrogative to (4) is *do eagles that can fly swim?*). Although this may be hardly taught, native speakers of English know about the fact that the sentence-initial auxiliary in (3) should be extracted from the main clause. In the case of (3), too, the structure-dependent rule holds, and it should be innately available due to its abstractness as pointed out above.

A third approach to the language innateness is to observe children/adults' performance in their second language. The logic behind it is the same as that in first language acquisition. That is, if they can produce/comprehend the sentences which rarely occur in their input or if they can make subtle grammatical judgments on the sentences, then knowledge relating to those sentences should be innate. For instance, White (1988) examined whether second language learners can make judgments on very subtle differences in grammaticality as seen in (6a-b).

- (6) a. John wondered whether Mary had chosen a good book.
 b. *Which book did John wonder whether Mary had chosen?

As seen in (6a-b), it is impossible to extract the *wh*-element from the *wh*-clause in English. This “*wh*-island” effect (Ross, 1967; Chomsky, 1977) is known to be unobserved in French (Sportiche, 1981). White (1988) showed the experimental evidence that the French-speaking learners of English rejected (6b) as ungrammatical in the same way as the native speakers of English, in spite of the fact that in French, the corresponding sentence to (6b) is grammatically accepted. Whether in a second or foreign language environment, is there hardly any opportunity for second language learners to be taught about such a grammatical difference as observed in (6a-b). Thus, grammatical knowledge relating to the sentences in (6a-b) should be available not from the input but innately.

A fourth approach is to analyze children’s errors in their first language. The rationale behind it is that if their errors can be analyzed as corresponding grammatical structures in languages other than the one being acquired, then the relevant knowledge should be innate. For example, Murasugi (1991) observed errors like the one in (7) produced by children acquiring Japanese.

- (7) *akai-no kaban
 red-GEN bag
 ‘red bag’

In Japanese, a genitive case marker (GEN) *-no* cannot be inserted when an adjective and a noun combine immediately (thus, the corresponding grammatical expression is *akai kaban*). Why do children make such an error as in (7) regardless of the fact that adult native speakers of Japanese do not produce such a string of words as (7)? Murasugi (1991) proposed that the string of words in (7) can be analyzed as a corresponding grammatical relative clause structure in English. That is, the genitive case marker can be analyzed as a relative pronoun, and the string of words in (7) can be interpreted as *a bag that is red*. If this is the case, such an error as in (7) should be reflection of children’s access to the innate knowledge of language because they are not exposed to the English language and thus they should not know about relative clauses in English on the basis of their input from the Japanese language.

3. New Approach and Predictions

As seen in the previous section, a variety of approaches have been proposed to verify the innateness of language. The purpose of the present study is not to deny those approaches but rather to explore a new one to the language innateness and advance its verification. The results of the previous section suggest that there is a room for a new approach to the innateness of language from second language acquisition. Based on the same methodology as adopted in first language acquisition, we observe errors of second language learners and examine whether their errors can be analyzed as grammatical in a language to which they are never exposed. Note that errors of second language learners have been analyzed in terms of transfer from their first language (e.g., Odlin, 1989), but that what is new here is that we analyze those errors from other languages

than their native language. If errors of second language learners are looked at in the light of other languages than their native or target languages and can be analyzed as grammatical in the language which they never experience, then those errors should reflect second language learners' access to the innate knowledge of language.

Notice that our approach is based on the following assumption: as seen in first language acquisition, the hypothesis space for second language acquisition is also constrained by the innate principles of human language (called UG in generative grammar). Then, it follows that the grammatical errors of second language learners conform to the innate principles and thus that those errors should be grammatically accepted in other natural languages than the learner's first or target language. Thus, if we can prove that the grammatical errors of second language learners can be analyzed as the corresponding grammatically accepted structure in the language that they have never experienced, then it means in turn that second language learners can access to all natural languages, supporting the innateness of human language. Note, however, that the above assumption should be empirically examined. For example, Yusa (2002) analyzed some types of grammatical errors produced by Japanese-speaking learners of English and found that the properties of those errors are observed not in their first or target language but in other natural languages. White (2003) argued that grammars of second language learners should be constrained by the innate principles as those of first language acquirers, which she called 'possible' grammars, while there are some studies on second language grammars that do not conform to the innate constraints ('impossible' in White, 1982, 1988; 'rogue' in Thomas, 1991; 'wild' in Goodluck, 1991; Klein, 1995; or 'illicit' in Hamilton, 1998; cf. Christie & Lantolf, 1998; Klein, 1993). (For possible and impossible grammars, see also Moro, 2016.) The present study is in line with these studies and further examines whether the hypothesis space of second language learners falls within the range constrained by the innate principles of human language.

There are three logically possible types of errors of second language learners. The first type (i) is related to the first language transfer, i.e., those errors which can be traced back to their first language. The second and third types are not related to such language transfer, i.e., (ii) those errors which can be explained in terms of other languages than their first language and (iii) those errors which can be accounted for in terms of neither their first language nor any other natural languages. Errors of the type (ii) are of particular interest to us here. If all errors of second language learners are traceable to the transfer from their first language, only the type (i) should be observed. If any errors could be attributed to the innate knowledge of language, we should also find the type (ii). The purpose of the present study is to examine whether the latter prediction can be borne out. Note that if grammars of second language learners are in fact constrained by the innate principles, the type (iii) of errors should be never found because if it is the case, then it follows that the property of a grammatical error produced by a second language learner should be observed in a natural language.

4. Data Analysis and Discussion (Preliminary)

In this study, we focus on errors of Japanese-speaking learners of English and examine whether those errors can be analyzed as the first type (i) (i.e., errors due to the first language transfer) or the second type (ii) (i.e., errors suggesting the learners' access to the innate knowledge of language). The data as in (8a-f) (extracted from Yamada, 2019) can be analyzed as the (i) errors attributable to the transfer from the learner's first

language.

- (8) a. *I met old friend in my house.
 (cf. I met an old friend in my house.)
- b. *I belonged to soccer club.
 (cf. I belonged to the soccer club.)
- c. *My grandmother make “Soba.”
 (cf. My grandmother makes “Soba.”)
- d. *Books is very fun.
 (cf. Books are very fun.)
- e. *My school has many student.
 (cf. My school has many students.)
- f. *I went to Osaka every years.
 (cf. I went to Osaka every year.)

In (8a-b), the required determiners (indefinite in 8a and definite in 8b) are dropped and thus the sentences are ungrammatical. This is related to the fact that the Japanese language does not have the determiner system like the one that the English language possesses. Hence, Japanese-speaking learners of English tend to drop the determiners as in (8a-b) because they can express the Japanese corresponding sentences to the ones in (8a-b) without determiners in their first language. The errors found in (8c-d) are related to the fact that in English, the subject and verb have to agree in terms of their person and number information. In (8c), the suffix *-(e)s* has to be attached to the verb because it is used in the present tense and its subject is third-person and singular. In (8d), the *be*-verb has to be changed to the appropriate plural form because its subject is also plural. This kind of subject-verb agreement is not observed in the Japanese language in which the verbs do not change their forms depending on their subjects. That is why Japanese-speaking learners of English also tend to make errors in the subject-verb agreement in English because they do not have to pay attention to such linguistic aspect in their first language. In (8e-f), there are errors in the number agreement within a noun phrase. In the English language, the countable nouns have to change their forms depending on the number information of the modifiers like *many* and *every*. In (8e), the noun *student* has to be pluralized as *students* in accordance with its modifier *many*. In (8f), the noun *year* has to be used as its singular form due to the number information of *every*. This type of number agreement is also not found in the Japanese language, and thus Japanese-speaking learners of English suffer from its errors because they do not change the noun forms depending on the preceding modifiers in their first language. As seen above, many of the errors produced by Japanese-speaking learners of English are traceable to their first language transfer (see Yamada, 2019, for more data).

Now, let us take a look at the data as in (9), which was found when observing a speaking activity in the English class that the author taught at university.

- (9) *Speak you English?

In (9), the subject and verb are inverted. To form a grammatically accepted question, however, *do*-insertion is required in Present-Day English as shown in (10).

(10) Do you speak English?

Such an ungrammatical sentence as in (9) would be hardly experienced in the language-learning class. Then, why does such error happen? Notice that the error as in (9) is difficult to interpret as a result of the transfer from the learner's first language because in the Japanese language, the subject and verb are not inverted to form a question. There are other possibilities to analyze the data as in (9). A first possibility is that the learner may confuse the question-formation with a general verb like *speak* with the one with a *be*-verb as in (11) in which the subject and *be*-verb are inverted to form a question.

(11) Are you happy?

A second possibility is that the learner might apply his/her knowledge of imperatives in English wrongly to questions because he/she starts the sentence in (9) with a verb like an imperative. A third possibility may be that the learner might use knowledge of another language to which he/she is never exposed. For example, there are languages like French in which the subject and general verb are inverted to form a question as shown in (12).

(12) Parlez-vous français?
 speak-you French
 'Do you speak French?'

Based on the third possibility, we can analyze the data in (9) as the (ii) errors which suggest the learner's access to knowledge of the language that he/she never experiences.

5. Future Issues

In this paper, we have discussed what the empirical issue of language innateness is, reviewed the previous approaches to it, and explored a new one. As a preliminary study, we have analyzed only a few data from Japanese-speaking learners of English and discussed whether their errors can be interpreted as grammatical in the language that they never experience. If our new approach is on the right track, however, the following conditions should be satisfied: (i) those errors which can be analyzed as grammatical in a language to which a learner is never exposed should be observed pervasively if the relevant knowledge is innate and thus universal; (ii) errors of second language learners should be analyzed thoroughly in terms of their first language transfer; otherwise, there remains a possibility that errors are the reflection not of the innateness knowledge but just of the first language transfer. Furthermore, as pointed out in the previous research, we should be careful about the proficiency levels of second language learners, particularly about whether the learner in question can deal with a grammatical structure in question (otherwise, we should treat the ungrammatical

sentences produced by second language learners not as errors but just as mistakes). More data and careful analysis are needed to make our approach contribute to our deeper understanding of the language innateness.

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Note

1. This paper is a revised and extended version of the manuscript (Yamada, 2019) presented at MAPLL (Mental Architecture for Processing and Learning of Language)-TCP (Tokyo Conference on Psycholinguistics)-TL (the technical group of thought and language of the Institute of Electronics, Information and Communication) 2019 at Konan University on July 27th, 2019.

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