TOWARD THE PRECISE AND EFFECTIVE LEARNING OF ENGLISH VOCABULARY
—An Application of Psycholinguistic Study of Bilingualism—

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I

It has been of theoretical interest for linguists as well as psychologists to inquire how a person who has an ability to use a second language besides the first one, can keep two languages coexisting. Two languages which he can handle are different in phonological, lexical and syntactic as well as semantic systems. The systems of two languages are all the more different when the two languages are not related. To the extent that the phonemic systems of two languages are different, the person has to maintain two sets of differential ability of decoding the sounds and two sets of vocalic skill components on encoding sounds. Likewise, he maintains two sets of alternative systems in other systems of language besides phonemic.

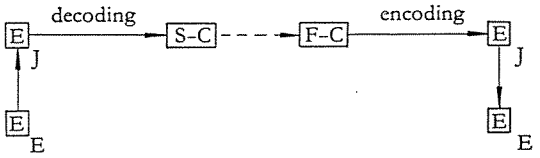
Among these aspects of language, the present study is interested in the semantic aspect of lexicons. And the languages in concern are Japanese as the first and English as the second language. The question is how Japanese students learn signs of English vocabulary; that is, how the expression of English vocabulary is correlated to the content of Japanese equivalent vocabulary in the minds of Japanese students. Later in this paper, the results of the study on the mechanism of bilingualism are applied to the learning method of English as a second language.

II

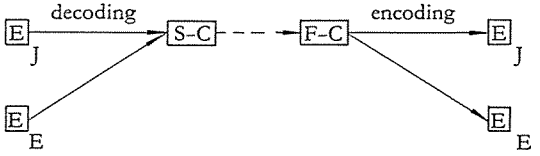
The mechanism of the coexistence of two languages has been most evidently stated in terms of decoding and encoding habits. The decoding habit refers to learning (listening and reading) signs of a language while the encoding habit refers to using (speaking and writing). The mechanism of the correlations of two languages differs according to the

way one learns the second language. It is theoretically distinguished into two extreme situations and the variant situation of one of them. They are *compound A* and *coordinate* situations, and *compound* B which is between the extreme situations but is called *compound* because of its close situation to *compound A*. These situations are illustrated in the followintg figure.[1]

Compound A



Compound B



Coordinate

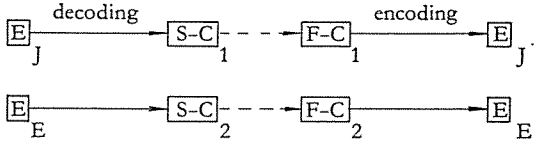


Figure 1. The scheme of the three situations
E (in the squares): The Expression of language
S-C: The Substance of Content of language
F-C: The From of Content of language
J: Japanese E (without the square): English

Compound A is one of the situations when Japanese and English constitute a single *compound* language system as we see in figure 1. It happens

[1] In drawing the figure the writer owes the linguistic theory of bilingualism to Uriel Weinrich, *Language in Contact* (The Hague: Mouton & Co., 1967, originally published as Number I in the series " Publications of the Linguistic Circle of New York " in 1953), 9–11, and the psycholinguistic scheme to Susan M. Ervin and Charles E. Osgood, " Second Language Learning and Bilingualism," in C. E. Osgood and F. Sebeok (Eds.), *Psycholinguistics, Journal of Abnormal and Social Psychology*, Supplement, IL (1954), 139–46. However, the present figure is independent of these preceeding theories as it is partly based on glossematic theory of language.

when a Japanese learns a English word by means of the Japanese equivalent word; that is, he learns it by referring to the expression of the Japanese word, not to the content of the English word. Let us take, for example, the situation of learning the color name " blue." When a Japanese learns English word " blue," he equates the expression of " blue " with that of " あお," the equivalent word for " blue," and decodes the expression of " blue " to the substance of content of " あお." When the substance of the content of the color " あお " is formed in a certain range of the color which is the form of content, he encodes the form of content to the expression " あお " which is to be equated with the expression of " blue." Therefore, what he gets for the content of " blue," is exactly equal to that of " あお." This is typical of school-learning of English by indirect method using English-Japanese dictionaries. It is one extreme of bilingualism which can be called the *pure compound* as the contents of both languages entirely overlap. In this situation not only the denotative meanings but also the connotative meanings of both languages are exactly the same.

Compound B is the other situation when Japanese and English constitute a single *compound* language system as we see in figure 1. It happens when a Japanese learns a English word by means of a object or some referent. When a Japanese learns " blue," the expression of " blue " is decoded to the substance of content of " あお " and also that of " blue." The substance of content, in this case, consists of the outer range of both " あお " and " blue." When the color is formed in the form of content in the merged process of English and Japanese, he encodes the form of content to the expression " blue " just the same way as he does for his first language " あお." This *compound* situation is different from *compound A* in that a English word is introduced referring to the object instead of the Japanese equivalent word. Therefore, the content of the word " blue " merges in that of " あお," which makes it possible to take the maximum content of both " blue " and " あお " for the individual color. This is the case when English is learned by a child who grows up in a home where Japanese and English are spoken more or less interchangeably by the same person in the same situation, or when English vocabulary is learned at school by means of object for the content of the vocabulary, that is the meaning of the word.

Coordinate is the situation when Japanese and English constitute *co-*

ordinate language systems in a single nervous system as in figure 1. It happens when a Japanese learns a English word in the English speaking environment. When a Japanese learns the expression "blue," he decodes it in the English context just as he did when he learned his first language and he gets the substance of content of "blue" independently of his native equivalent word "あお." The substance of the content of "blue" he learns is the exact content of English "blue" which a native speaker of English should have. Then the substance of the content is independently processed to the form of content which is to be encoded to the expression of "blue." The process of learning English is parallel to that of Japanese. The content of the equivalent Japanese word rarely coincides with the English word because the total situation, external and internal, in learning and using the language are different. This is typical situation of the "true" bilingual, who has learned to speak Japanese at home, for example, and English from friends and at school like Japanese immigrants' children in the United States. It can be the case of a Japanese who has come to the English speaking community after acquiring Japanese in Japan.

The following is the figure illustrating the distinctions of contents of "blue" and "あお" in the three situations.

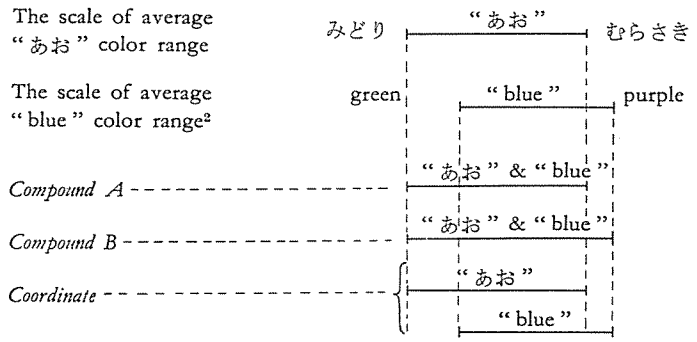


Figure 2

It is recognized that this distinction is a theoretical one and that in practice Japanese students would usually distribute themselves along a continuum from pure *compound A* to pure *coordinate* situation.

[2] The average color ranges were taken from the diagrams in Sachiko Ide, "Contents of Japanese and English Color Words—A Comparative Study—," *Studies in English and American Literature* (日本女子大学英米文学研究), 1 (1966), 53.

III

One of the significances of the distinctions of the three situations of language learning and bilingualism rests in its implications about cross-cultural misunderstandings. As a language is embedded in its own culture, the second language, if not learned within its culture, cannot be acquired without interference.

Theoretically, the contents of the second language acquired in *compound A* situation are exactly the same as those of the equivalent first language; hence the interference in learning the second language. The contents learned in *compound B* situation are broadened to the maximum contents of the two languages or they make a neutralized formation out of the two languages; hence the interference not only of the second language but also of the first language which has been affected by the learning of the equivalent word of the second language. The evidence supporting the theories about the effects of *compound* and *coordinate* situations on the second language learning have been found in some of the studies on bilingualism and second language learning done by Professor Wallece E. Lambert and his colleagues at McGill University, Montreal, Canada using the French-English bilinguals as informants. The evidence for the interference in *compound B* is found in the study of Lambert and others on the attitudinal and cognitive aspects of second language learning in which they found that "(the students learning French as second language by direct method) manifest an increase in semantic similarity of French and English concepts ....."[3] The cross-cultural interference in the equivalent words of two languages might be very small. The small interferences are most likely to occur when the cultures or the experiences associated with the languages are alike. It is these small interferences that should be noted since they are very likely to be neglected.

[3] W. E. Lambert, R. C. Gardner, H. C. Barik and T. Tunstall, "Attitudinal and Cognitive Aspects of Intensive Study of a Second Language," *Journal of Abnormal and Social Psychology*, LXVI (1963), 367–68. The parenthesis is inserted by the writer. The direct method, perfomred in the Summer School on which the study is based, belongs partly to *compound B* situation of the second language learning. This is to be discussed further in the paper.

On the other hand, the contents learned in *coordinate* situation have the exact contents of the language itself. There is no cross-cultural interference because of the independent association of the two languages. Lambert and others in the study of language-acquisition contexts found the evidence " that experience in separated contexts (*coordinate* situation) comparatively increases the associative independence of translated equivalents in the bilingual's two languages. If the bilingual has learned his two languages in culturally distinctive contexts, the semantic difference between translated equivalents is comparatively increased."[4] Another experiment by Lambert and Witelson[5] shows that when two artificial languages are learned simultaniously in a common laboratory context (*compound* situation), translated equivalents do become semantically close.

It is hypothesized that *compound* situation, especially compound A, is more efficient than *coordinate* in translating a word of one language to another, as two languages are associated in terms of the common contents. It seems theoretically reasonable. However, the findings of the experiments so far have not proved it so. The experiment by Lambert and others on language-acquisition contexts proved that " there was no difference found in facility to switch from one language to other."[6] The similar statement is made in the discussion after the experiment by Jacobovits and Lambert on semantic satiation by bilingualism. It says that " an experimental situation in which the bilingual is required to switch from one language to the other is inefficient and inhibitory for the compound, facilitative for the coordinate."[7] These findings out of the experiments are not enough to prove the dominant switch facility in *compound* over *coordinate* nor vice versa. There is, however, no distinction made between *compound A* and *compound B* in these experiments. There still remains the possibility that if one made distinction between

[4] W. E. Lambert, J. Havelka and C. Crosby, " The Influence of Language-Acquisition Contexts on Bilingualism," *Journal of Abnormal and Social Psychology*, LVI (1958), 243. The parenthesis is inserted by the writer.

[5] W. E. Lambert and S. Witelson, " Concurrent and Consecutive Orders of Learning Two 'Languages,' " Mimeographed, Montreal: McGill University, 1961.

[6] W. E. Lambert *et al.*, " The Influence of Language-Acquisition Contexts. . . . ," *op. cit.*

[7] L. Jakobovits and W. E. Lambert, " Semantic Satiation among Bilinguals," *Journal of Experimental Psychology*, LXII (1961), 580.

two *compound* situations, *compound A* might show more facility in switching the translated equivalent words from one language to the other.

IV

The analysis of the cross-cultural interferences in terms of the three bilingual situations may be applied for the preference of the learning method of the second language.

The old distinction of *direct* and *indirect* learning method seems somewhat analoguous to that of *compound* and *coordinate* situations. Distinct from the standpoint of Lambert and others who correlate *direct* method to *coordinate* situation and *indirect* to compound,[8] this study relates the situations to the learning methods as follows. *Compound A* situation is made when the second language is learned by *indirect* method since a word of the second language is introduced through the association of the equivalent symbol of the native language. *Compound B* is made when it is learned by *direct* method since a word of the second language is learned through the association of the referent itself which can be shared by the referent of the first language. *Coordinate* is made when it is learned by *direct* method, as a word of the second language is learned in the total second laguage environment without any reference to the learner's native language. The distinction between two *direct* methods can be made by calling one of *coordinate* situation *direct A* and the other of *compound B* situation *direct B*. *Direct A* is purer *direct* method than the other because a foreign word is learned not only in reference to the referent but also in the total cultural environment characteristic of its language. *Direct B* method, on the other hand, is limited in use as some of the foreign word can not be shown by objects or referents which can be, even partly,

[8] This paper does not aim at criticizing the standpoint of Lambert and his colleagues on which most of the studies in this field is based. However, it is evident in the light of this analysis that the confusion of *compound B* and *coordinate* situations seems to have led them to the failures in proving the hypothesis in the experiments. For example, in the study of "Attitudinal and Cognitive Aspects. . . . ," *op. cit.*, the failure to recongnize the factor of *compound B* situation in *coordinate* situation in teaching French in *direct* method prevented them from proving their hypothesis: " The *direct* learning context of the Summer School's course should engender interlingual sematic distinctiveness and thereby reduce bilingual interference." The result of the study showed *rapprochment* of the concepts of the two languages because *direct* method performed in this case was not perfect *coordinate* situation but the mixture of *compound B* and *coordinate*.

shared by the native language enviromnent.

Which of the learning methods is most efficient in learning the second language vocabulary? The experiment by Wimer and Lambert on the effects of word and object stimuli on the learning of new words[9] gives evidence of the efficiency of *direct B* over *indirect* method. In this experiment nonsense-syllables are learned with the paired objects (*direct B* method) and the paired names of objects (*indirect* method). It was found that object-word pairs were learned faster and with fewer errors than the word-word pairs. It means *direct B* method is more effective than *indirect* method at least for the learning of simple and basic vocabulary.

The investigation of advanced students learning the second language[10] found " that these students who kept their two languages functionally separated throughout the course did poorer in their course work than did those who permitted the semanitc features of their two languages to interact."[11] This indicates that *indirect* or *direct B* method, in which the relation of the two language is *compound A* or *compound B*, are more effective than *direct A* which constitute *coordinate* situation. Thus this tendency toward linguistic interdependency apparently assists students to learn the second language. There is, however, one factor to be remembered before supporting this evidence. The investigation is based on American students learning French. The two languages in question are related and have long been in contact; hence a large number of cognates and loanwords in English, the learner's native language. It might be because of this factor that the interdependency of the two languages worked in favor of the effective learning of French. If it is the case of Japanese students learning English, unrelated languages, the linguistic interdependency might not work as in the case of English speaking students learning French. But the fact that Japanese has a large number of loanwords owing to the close contact with the United States for the past couple of decades suggests the worthiness of the linguistic interdependency, *indirect* or *direct B* method, at least for learning English vocabulary borrowed into Japanese.

[9] C. Wimer and W. E. Lambert, " The Differential Effects of Word and Object Stimuli on the Learning of Paired Associates," *Journal of Experimental Psychlogy*, LVII (1959), 31–36.

[11] Lambert *et al.*, "Attitudinal and Contextural. . . . ," *op. cit.*

[12] W. E. Lambert, " Psychological Approaches to the Study of Language, Part II: On Second-Language Learning and Bilingualism," *The Modern Language Journal*, XLVII (1963), 120.

V

It has been discussed how the contents of lexicons of the two languages are related to the expressions in the situations of the second language learning.

For the *precise* learning of the contents of English vocabulary, *direct A* is quite the best, *direct B* is the second best and *indirect* is the worst method. This is evident if one is aware of the intereferences caused by *compound A* (*indirect*) and *compound B* (*direct B*) situation as we see in figure 2 and in the discussion in III section of this paper.

For *effective* learning, the evidences discussed in IV are far from enough to draw any general conclusions.

In practice, *direct A* which makes *coordinate* language situation is impossible for the majority of Japanese students even though it is the best way. It is taken only by going to the genuine, not artificial, English speaking community while they are young enough[12] to make a separate *coordinate* language system of English. *Direct B* which makes *compound B* situation has been proved to be effective at least to the learning of simple and basic vocabulary. This is the method which should be practiced as much as possible in teaching and learning of English in Japan. This would be effective for children who are still developing their own native language. *Indirect* method which makes *compound A* situation is being practiced in most of the school teaching (especially in advanced degree) in spite of the fact it causes the interferences in the learning and using of English vocabulary except for the words with accidental coincidence in the contents of the equivalent Japanese and English words. It is, therefore, important for Japanese students learning English to be aware of the potential interferences existing in the learning and using of English vocabulary.

[12] It is recognized that " as people grow older, the language learning centers in the brain harden." Einar Haugen, *Bilingualism in the Americas: A Bibligraphy and Research Guide*, (University, Alabama: American Dialect Society, 1956), 73.

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