

# Perceptual Strategy of Reading through the Structural Analysis of English and Japanese

Fumie TAKAYANAGI

## **I. Introduction**

Quite a few linguists have examined the nature of relationship between the language ability and structural differences between the first language and the second. Among those who have studied some aspects of this topic, are Kuno (1973), Toyama (1993), Stockwell (1965), Bowen (1965), Martin (1965). Especially, the basic differences between Japanese and English have been noted by many linguists : Kuno, for example, remarks :

“Many of the characteristics of Japanese seem to be attributable, or at least related, to the fact that Japanese is an SOV language with strict constraint that verbs must appear at the end of the sentence.”

There has been no lack of suggestions for applying these scholarly endeavors to the teaching reading.

In this paper I will discuss the structural differences between Japanese and English, and how these affect the ability of Japanese speakers to learn to read English. Secondly, I will suggest one dimension which may have some universal predictive validity for determining problems adult second language learners may have in learning to read a second language : That is when a *L1* surface structure pattern is the exact opposite of a *L2* pattern which performs the same function. Here it is assumed that the perceptual strategies are semantic and sequential labeling expectancy to achieve plausible interpretations and are instrumental in shaping the decoding process, which is reading.

## **II. Surface structure and deep structure word order**

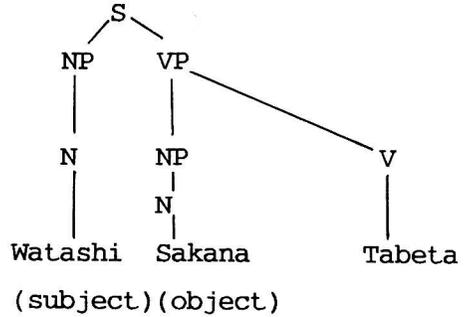
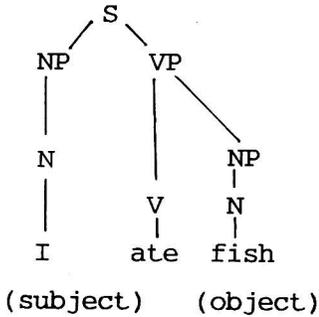
Perhaps the most fundamental structural difference between these two languages is the rigid constraint imposed in Japanese, that verbs must appear in the sentence final position. In English, verbs come before the object or the complement, if any.

(1) I ate fish.

Watashi wa Sakana o Tabeta.

I (Part.) fish (Part.) ate.

(Part.) indicates particle.



As can be seen in (1), English has S (subject), V (verb), O (object) order, while Japanese has SOV order. Regarding this argument, let us look at some major differences between the two languages. First, Japanese has many post-positional particles but no prepositional particles, while English has only prepositions. This characteristic of Japanese is shared by many other SOV languages. Secondly, Japanese is a left-branching language, while English is a right-branching. And finally, Japanese is characterized by backward gapping, whereas English only gaps forward. Observe the data in

(2) (a) I ate fish and Bill ate rice.

(b) Watashi wa Sakana o Tabeta Soshite Bill wa Gohan o Tabeta.

I (Part.) fish (Part.) ate and Bill (Part.) rice (Part.) ate.

(a') I ate fish and Bill rice.

(b') Watashi wa Sakana o Bill wa Gohan o Tabeta.

In English, only the first identical verb remains, and the others are deleted, while in Japanese, only the last remains, and the others are deleted. Later I will discuss how this characteristic affects the reading of English texts by Japanese learners. For the moment, I would like to concentrate on one basic syntactic phenomenon, the fact that Japanese is a left-branching language, since, in my opinion, this exerts a considerable influence on Japanese students' ability to read English.

### III. Simple sentences

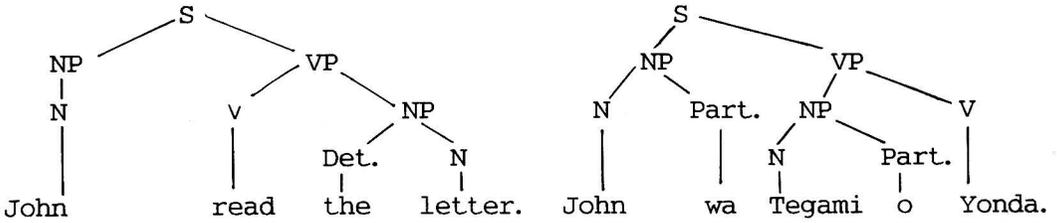
Consider the following basic sentences :

(3) (a) John read the letter.

(b) John wa Tegami o Yonda.

The sentence would be described in two ways in Japanese and English.

(4)



First, consider how Japanese students who have a little knowledge of English perceive this sentence. What they probably do is change the English word order, and then apply a word-by-word translation. At the final stage, they delete the article, put in proper particles, and decode the sentence.

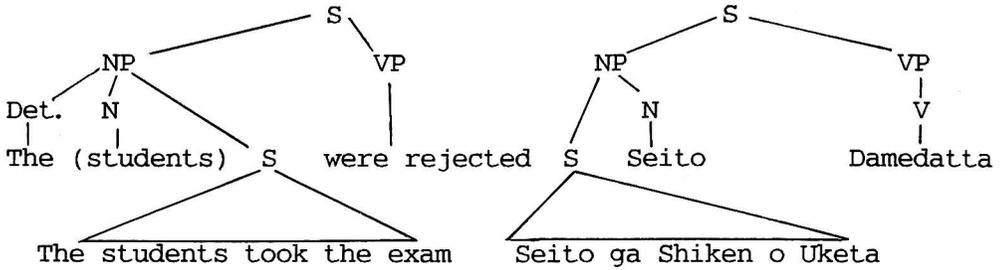
On the other hand, in the case of another SVO language, for example, Spanish, which has the same deep structure as that of English, what students do is change the English words into Spanish proper words. Only one stage is needed in Spanish, and a word-order changing process is not necessary. This is really a disadvantage for the Japanese student ; if he always has to change the word order for decoding, he will obviously have more trouble in reading English than SVO language speakers.

SVO language speakers set up expectations about the unprocessed portion of the text. These expectations are acquired by the experience that they have decoded by applying appropriate perceptual strategies. In case of Japanese speakers, however, there are many cases when the expectancies are not met and the decoding process breaks down. And they are forced to regress and examine the text more closely in order to be able to embark upon a course of decoding which results in comprehension. In a simple sentence, the trouble is not so serious, but let us now take a look at complex sentences.

#### IV. *Relative clauses*

Earlier, it was stated that Japanese is a left-branching language, while English is a right-branching. This difference is closely related to the formation of relative clauses. Consider (5) :

- (5) (a) The students who took the exam yesterday were rejected.
- (b) Kinoo       Shiken   o   Uketa   Seito   wa   Damedatta.  
       Yesterday   exam (Part.) took students (Part.) rejected.



Note that Japanese exhibits a left-branching configuration, while the opposite is the case in English. In Japanese, relative clauses precede their antecedents, while in English they follow them. Japanese also lacks the relative pronouns found in English. Therefore, the Japanese equivalent "tokorono" was created for translation. (5) (a) is translated; "Kinoo Shiken o Uketa *tokorono* Seito wa Damedatta", which I believe makes Japanese readers more confused in many cases.

It is unlikely, however, the relative clauses affect the Japanese speakers' efficiency in learning to read English, though English speakers studying Japanese would have trouble with it. The important thing is that Japanese students often have to go back to look for the head noun when they come across a long relative clause. Students who are used to the Japanese relative construction anticipate the head noun coming after the modifier clause, and do not pay so much attention to the sentence initial position of the structure. Here again, the expectancies of Japanese readers may fail. It is reasonable to suppose that learning to read English might be impeded by the learner's application of the perceptual strategy in Japanese.

Japanese has no phonological, morphological, or syntactic distinctions between restrictive and non-restrictive relative clauses. Proper names and personal pronouns can be freely preceded by restrictive relative clauses. They are discriminated pragmatically in context.

(6)

(a) Kinben dearu Nihonjin wa Jūjikan Hataraku.

This sentence is ambiguous because it could be interpreted in two ways :

(7)

(a) The Japanese, who are diligent, work for ten hours.

(b) The Japanese who are diligent work for ten hours.

The Japanese are not accustomed to distinguishing non-restrictive from restrictive clauses syntactically, so when a Japanese reads the two English sentences in (7), he has

difficulty in discerning the different meanings.

One more thing which is marked in Japanese relative clauses is the fact that particles attached to the relativized noun are deleted, together with the noun, while in English the preposition stays where it is, or before the relative pronoun.

(8)

- (a) The hole out of which a rat came is big.
- (b) Nezumi ga Detekita Ana wa Ookii desu.

Note that the word which corresponds to “out of” is deleted in Japanese. In order to make this fact clear, let us divide the sentence in two :

(9)

- (a) Ana wa Ookii desu.  
hole (P) big is
- (b) Nezumi ga Ana kara Detekita.  
rat (P) hole out of came

In sentence (b), *kara*, which means *out of*, has to be in the sentence. But when *ana*, (hole) is relativized, the particle of the relativized noun should automatically be deleted. When Japanese students face the sentences which contain the preposition with the relative pronoun, they often have to stop and think how the preposition relates to the relative pronoun. They may have to divide the sentence into two like (9) (a) (b). This results in a decrease of reading speed.

So far, I have dealt with the markedness of Japanese with respect to relative clauses. However, we should pay attention to the universality of relative clauses, too. On this subject, Paul Schachter (1972) has cogently remarked :

“There are some features which are common in all languages in terms of relativization……In the first place, one may expect some kind of linking, that is, some kind of explicit marking of the fact that the clause is syntactically connected to the head noun. Secondly, one may expect some kind of alternation of the identical noun, that is, alternation of the noun within the embeded sentence that is identical with the head noun.”

The structural changes are also true of Japanese. We have to distinguish what English and Japanese have in common from what they do not, and stress the differences when we teach.

## V. *Complex negative sentences*

There is another left-branching construction which greatly affects the reading ability of

the Japanese. Consider the following sentences :

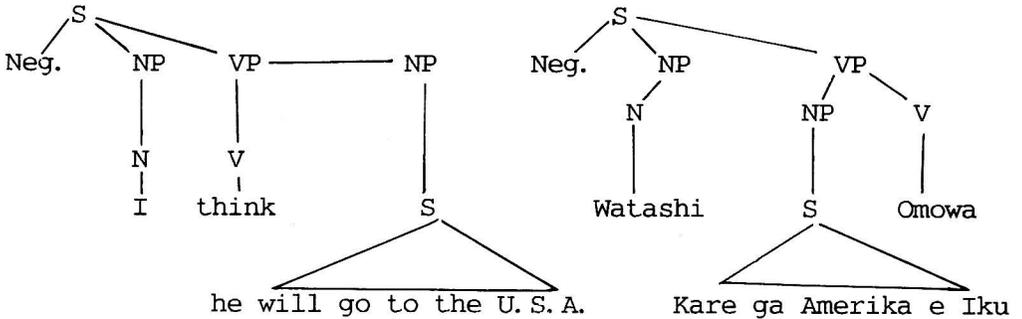
(10)

(a) I do not think that he will go to the U.S.A.

S<sup>1</sup> neg. V<sup>1</sup> S<sup>2</sup> V<sup>2</sup>

(b) Kare ga Amerika e Iku to Watashi wa Omowa nai.

he (P) U.S.A. (P) go that I (P) think neg



If we concentrate on the subject, negation, and verbs, English has an S<sup>1</sup>, Neg. V<sup>1</sup>, S<sup>2</sup>, V<sup>2</sup>, order, while Japanese has an S<sup>2</sup>, V<sup>2</sup>, S<sup>1</sup>, V<sup>1</sup>, Neg. order. As we see, negation comes at the end of the sentence with verbs, since Japanese is a left-branching language. What often happens when Japanese students read this English sentence is that they miss the negation signal. Because in Japanese negation always comes at the sentence final, they anticipate the negation or affirmation signal in the sentence final position, and miss the preceding *not*, in "I do *not* think.....". Where English speakers focus on the negation, Japanese students will process a sentence like this in the following manner : "He will go to U.S.A. I think not." This is a very serious problem, since affirmative and negative are opposite in meaning. When the student has such a trouble in reading, he has to regress and check the main verb in order to find whether it is negative or affirmative. This results in a decrease of reading speed.

The following is an example of an English complex sentence which is difficult for Japanese to decode because the corresponding LI structure is left-branching.

(11)

(a) Unless we all agree, we cannot start the project.

(b) Minna ga Sansei Shinai naraba Sono Keikaku o Hajimeremasen.

we all (P) agree Neg. if the project (P) start cannot



surface structure configurations he is accustomed to in his native language. This may cause him to miss certain important signals in the second language which may be positioned elsewhere in *L2* text. The result of this might be a comprehension error, but more frequently it will only mean that the reader must reprocess text and hence reduce the efficiency of his reading. Most of the problems seem to arise when a syntactic process in *L1* has a radically different surface structure order in *L2*. This may therefore be a parameter for predicting reading difficulties in any two languages, but only further research can confirm or disconfirm this hypothesis.

### Notes

1. For a more extremist view, see Kuno, Susumu, 1973. *The Structure of the Japanese Language*, MIT Press, Cambridge, Mass.
2. Ross, J.R. (1971), refers to gapping and the order of constituents in *New Direction of Linguistics*, ed., M. Bierwisch and R. Heidolf., The Hague : Mouton.
3. For a more detailed discussion of Japanese relative pronoun "tokorono", see Toyama, Shigehiko, 1993. *Eigo no Hassoh Nihongo no Hassoh*, NHK Press, Tokyo. pp. 22-32

### References

- Attneave, Fred, 1964. Criteria for tenable theory of form perception, in *Models for the perception of Speech and Visual Form*, Wathen-Dunn, ed., MIT Press, Cambridge, Mass., pp. 56-66
- Bever, Thomas G., 1970. The cognitive basis for linguistic structures, in *Cognition and the Development of Language*, ed., John R. Hays. pp. 279-362
- Greenberg, J.H., 1966. Some universals of grammar with particular reference to the order of meaningful elements, *Universals of Language*, 2nd ed., J.H. Greenberg, Ed., MIT Press, Cambridge, Mass. pp. 73-108
- Kimizuka, Sumako, 1973. *Teaching English to Japanese*. Los Angeles, Calif..
- Kuno, Susumu, 1973. *The Structure of the Japanese language*. MIT Press, Cambridge, Mass..
- McCawley, J.D., 1972. Japanese relative clauses, in *The Chicago Which Hunt*, Chicago : Chicago Linguistics Society, pp. 205-214
- Ross, J.R., 1971. Gapping and the order of constituents. *New Direction of Linguistics*, ed., M. Bierwisch and R. Heidolf. The Hague : Mouton.
- Schachter, Paul., Transformational grammar and contrastive analysis, *Teaching English as a Second Language*, pp. 268-275
- Stockwell, Robert P., T. Donald Bowen, and T.W. Martin, 1965. *The Grammatical Structure of English and Spanish*, Chicago.
- Toyama, Shigehiko, 1993. *Eigo no Hassoh Nihongo no Hassoh*, NHK Press, Tokyo. pp. 22-32