

Text Analysis of Japanese and English from the view point of implicature and syntactic reflections of information status

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1. Introduction

This introductory paper examines English and Japanese texts which describe the use of medicine. Three medicine labels will be analyzed: two which were obtained from the U.S., and one which was obtained from Japan. One of the U.S. medicine labels is for a prescription medicine, while the other U.S. label and the Japanese one are for over-the-counter medicines. Analysis will be done mainly through the viewpoints of implicature and syntactic reflections of information statuses, and additional attention will be paid to speech acts wherever relevant. I will also attempt to find out if any similarities or differences exist among the three texts regarding their pragmatic contributions. The comparisons will be made between the American and Japanese labels as well as between the American prescription medicine label and the American over-the-counter medicine label. In order to achieve consistency of analysis, I chose labels for medicines designed to treat similar illnesses, specifically stomach problems.

2. Data Analysis

2.1 Prescription medicine from the U.S.

I will start my analysis with the prescription medicine, “Flagyl 500 MG”, an antibiotic, which is used to treat stomach infections. The text starts with the product name, which is immediately followed by its generic name, METRONIDAZOLE. What this means is that Flagyl is a specific chemical name and not a generic medicine. It implicates that the generic counterpart exists and is available if the patient prefers the generic, and therefore this implication can be deduced from the information provided. Someone who has limited familiarity with prescription medicines would read the section as flouting the maxim of quantity, relevance and possibly

manner of Grice's Cooperative Principle (1975), since there is no detailed information of the relation between "Flagyl 500 MG" and GENERIC NAME, and therefore the text appears obscure.¹ I asked ten Americans whether they were familiar with reading medicine labels with respect to a given product name and the name of its generic version. It was found that seven out of ten people know what to make of a generic name vs. a product name. The same question was given to ten foreigners who had lived in the U.S. less than one year. Only two people knew how to read the medicine label correctly. This example helps to show how important a role that "shared knowledge" or "common ground" can play in the process of applying implicatures to understand a text.

The writer of the medicine label used expressions such as *in a few days* in the usage section and *within a few days* in the CAUTIONS section. *A few* can possibly vary from three through approximately six. This information can be considered insufficient and unclear, and thereby can possibly be interpreted as a violation of the maxims of quantity and manner in strictly Gricean terms, and implicature is needed to make clear what the writer implies here. Another interesting explanation would be that the reader cognitively processes the information and decides which interpretation of the sentence is most *relevant* to the context given based on the assumption that the writer has observed the Cooperative Principle (CP). (See 'Principle of Relevance' in Sperber and Wilson, 1986).

Scalar (quantity) implicature can be employed to understand the usage section of the label. In the last line, it says "*Do not take 2 doses at once.*" Based on the assumption that the writer observes the CP, the reader will interpret this sentence as "*Do not take more than 2, 3 or 4... doses at once*" by using scalar implicature. Here, it can be said that the writer is observing the maxim of quantity by not providing too much information such as "*do not take more than 2, 3, 4...*". Another scalar implicature can be used to understand another line in the caution section, "*at least 24 hours after the last dose.*" This implicates that it has to be over 24 hours since the last dose.

Lastly, the label contains a lot of lines with bold-capital letters as compared to the other two over-the-counter drug labels (both Japanese and American). This phenomenon might be caused by the fact that this medicine is an antibiotic and is stronger than the other two and therefore serious attention should be paid before and while taking this medicine. This premise would be in accordance with the fact that the section of CAUTIONS contains the most lines with bold-capital letters in

the text (4 out of 9 lines).

2.2 Over-the-counter medicine from the U.S.

Hereafter, an American over-the-counter medicine, Zantac, will be examined. Scalar implicature can be applied to a few sentences to understand the text in this data. First of all, in the section of DIRECTIONS, it states that “*Can be used up to twice daily (up to 2 tablets in 24 hours).*” The phrase in the parentheses implicates that one can take either one or two tablets within 24 hours. The first half of the sentence, “*Can be used up to twice daily*”, appears a little ambiguous since it does not indicate when and how to take the medicine. Some medicine requires it be taken with food or drink, and not doing so might cause stomach irritation. Due to the fact that the sentence does not indicate anything regarding when and how to take the medication, one might have to guess that it can be taken anytime either with or without food. Therefore, it can be said that this sentence lacks sufficient information and is ambiguous, and thus violates the maxim of quantity and possibly manner.

Again in the section of DIRECTIONS, there was a sentence which states, “*this product should not be given to children under 12 years old...*” Scalar implicature can be deduced in this sentence in that the medicine CAN be given to children over 12 years old. By not stating too much unneeded information, Grice’s Maxim of Cooperation is observed here.

Next, I will examine some interesting syntactic phenomena in this medicine label. Three coordination structures were found in this text. For instance, in the section of USES it states, “*For the relief of Heartburn, Acid Indigestion and Sour Stomach.*” The coordination structures were used in order for the text to be succinct. The information status of the omitted phrase, *for the relief of* in the above example, is classified as “old” by Kuno (1972) or “given” by Halliday (1967) and Halliday and Hasan (1976) due to the fact that the reader can reconstruct/predict the phrase in a sentence. Interestingly, the prescription counterpart, Flagyl, contains only one coordination structure. This might likely be the case because the significance of the consequences differs between these prescriptions and over-the-counter medicine. That is, the prescription medicine label attempts to be as specific and informative as possible in order to avoid any misunderstanding, since misuse of the medicine would cause more perilous results than would misuse of the over-the-counter drug.

Another interesting syntactic characteristic on the label of Zantac was that some omission of overt noun phrases (both subject and object position), a preposition

phrase, and ellipsis was observed. Again, these syntactic phenomena were not found in the prescription medicine label. For instance, in the section of DIRECTIONS, it states “*Do not chew*”. The object of the verb, “*chew*” is elided here, and the maxim of quantity and manner seemed to be flouted without context. Therefore, the reader has to assume that the writer is observing the CP, employ implicature, and interpret the sentence as “*Do not chew the tablet*.” *The tablet* here is old information and therefore can be reconstructed to interpret the sentence as above. An example of subject drop is also found in the DIRECTIONS section. It says, “*Can be used up to twice daily*.” One can use implicature which is inferred from the context that a noun phrase “*this medicine*” is omitted in the subject position. Omission of a prepositional phrase appears in the section called, READ THE LABEL. It states, “*Read the directions, consumer information leaflet and warnings before use*.” The same type of maxim violation (that is, quantity and manner) might be argued here. One would implicate that the last noun phrase ‘*use*’ can be followed by “*of the medicine*” to understand the sentence. Again these omitted phrases are given information since they can be inferable from the context.

It seems that the noun phrase and prepositional phrase drop occur with imperative sentence structure on the label (See Sadock, 1974 for this argument). However, we need to determine the reason why this phenomenon does not occur in the prescription medicine label which contains many imperative sentences. One interpretation of this phenomenon would be that there is a space limitation on the Zantac label, while the prescription counterpart has a rather large space available for information. However, noun phrase drop was found not only on the medicine label but also on the detailed package insert of Zantac. Instead, just as we found more coordination structures in the over-the-counter medicine than its prescription counterpart, I argue that the syntactic characteristics difference between the two medicines were caused by the fact that the prescription medicine label attempts to avoid misunderstanding by stating as much information as required since it is a strong antibiotic. In fact, noun phrase omissions can often be found on the labels of the household products, such as detergents and cleaners. Due to the fact that the misuse of these products might not cause life threatening events compared to the misuse of prescribed medicine, the above hypothesis would be supported.

Conditional clauses (if clauses) were found in both of the American medicines. On the label of Flagyl 500 MG, out of eight conditional clauses found, one is postposed. On the other hand, there are only two if clauses on the Zantac label, which are both

preposed. For example, the following sentence appears in the section of CAUTIONS on the label of Flagyl 500 MG. “*If your symptoms do not improve within a few days or if they become worse, check with your doctor*”. If clauses contain given information and topics when they are preposed. Therefore, the preposed if clause here is given knowledge, and is used to provide background knowledge for the new information, “check with your doctor”.

Postposed if clauses are categorized as topics or new information depending on pragmatic conditions (Schiffrin, 1992). Let us examine the postposed if clause which appears in the section called, POSSIBLE SIDE EFFECTS of Flagyl 500 MG. “*CHECK WITH YOUR DOCTOR AS SOON AS POSSIBLE if you experience rash or vomiting*”. I would interpret this if clause as given information because of the following two reasons. First, it provides a background for the main clause, “*CHECK WITH YOUR DOCTOR AS SOON AS POSSIBLE*”. Second, the preposed if clause in the previous sentence looks semantically parallel to this postposed if clause (“*If they continue or are bothersome, check with your doctor*”). Therefore, it seems that these two preposed and postposed if clauses have the same information status and this interpretation would support Schiffrin’s view of information status of postposed if clauses.

Additionally, another interesting phenomenon about this postposed if clause should be noted. This postposed if clause sentence is the only one whose main clause uses capital letters. Other conditional sentences use either small letters in both if clause and main clauses or capital letters in preposed if clauses. In other words, the main clause is not capitalized unless if clause is postposed. It seems to me that this sentence requires the reader’s attention immediately; therefore the solution to the possible problem — which is provided in the postposed if clause — is preposed and emphasized by being written in capital letters. It would be worthwhile to further investigate the relationship between clause order and the emphasis of information in other contexts besides medicine labels before we draw definite conclusions.

2.3 Over-the-counter medicine from Japan

From here, I will discuss the Japanese over-the-counter stomach medicine label which was obtained in Japan. English gloss is provided under the Japanese phrases or sentences.

The text starts with the name of the medicine, *Ebios*, which is followed by EFFECT OR EFFICACY. Despite the labeling as EFFECT OR EFFICACY, this

section mainly includes a description of the symptoms rather than illustrating the effect of the medicine. For example, the section labeled EFFECT OR EFFICACY consists of *loss of appetite*, *heavy stomach*, among other symptoms. The title for this section should be USES or COMMON USES, which are the words used in the labels of the American counterpart. After listing several symptoms, the content suddenly shifts to the actual “effect and efficacy” of the medicine. That is, the label states *nutrition supply*, which can be the effect/efficacy of taking this medicine. The last item on the list states *nutrition supply for pregnant women and people of weak constitution*. Again this can be the effect/efficacy of taking this medicine. This EFFECT/EFFICACY section would receive a poor rating if examined in light of at least two maxims: relation and manner. The writer provides information which is extraneous and different from what he indicated he would provide (violation of the maxim of relation), and suddenly shifts from ‘symptom’ to ‘effect’ without giving any prior indication (violation of the maxim of relation and manner). If one were familiar with how Japanese labels read, he/she would understand the listings of symptoms by using implicature that ‘the writer must mean what this medicine should be used for’, but the sudden change from illustrating symptom to describing effect/efficacy remains obscure.

After the EFFECT OR EFFICACY section, the MAIN INGREDIENT is listed and it is followed by CAUTIONS. Interestingly, in the CAUTIONS section, there are great differences between the Japanese medicine label and the American labels. First, all three imperative sentences start with *please* in the Japanese text, whereas the American text has basic imperative. For example, “*Keep the carton*” was found in the American medicine label, and “*Please keep (this) out of the reach of children*” was found in the Japanese label. The use of *please* is quite typical in Japanese language because Japanese culture values social status by using honorific expressions and the customer is in the position to be given homage. This syntactic feature can be explained from the view point of “negative politeness” since the writer respects the reader’s negative -face wants and will not impede with the reader’s freedom of action (See Brown and Levinson, 1987, for detailed discussion on politeness).

Next, objects are dropped in these sentences. Since Japanese is a so-called pro-drop language, these sentences remain grammatical. In fact, by not providing objects in the sentences, the maxim of quantity and manner has been followed. In other words, if objects were provided unnecessarily in Japanese, it could well violate the maxim of quantity because it would provide too much unnecessary information, and

the maxim of manner because the sentence with unnecessary lexical items would make the sentence obscure. Another observation regarding the section of CAUTIONS is that there is no direction in the Japanese medicine label as to how many days this medicine should be taken or what to do if problems persists, situations which were well explained in the American medicine labels (both prescription and over-the-counter). All it lists is as follows: “*Please keep (‘this medicine’) out of the reach of children.*” “*In case of taking (‘it’), would you please read the attached document.*” “*Please avoid direct sunlight, and close the cap tightly and keep (‘it’) in the cool area with little humidity.*” Nothing was stated about overdosing on the Japanese label, either. Instead, the writer politely requests that the reader take the mentioned dosage. On the contrary, the American counterparts, even the over-the-counter medicine, not only list the proper dosage, but also prohibit the reader from taking more than he/she should.

Shuy (1990) claims that one of the main aspects of warnings that need to be stated is that the warning has to involve the urgency of imminent disaster. Obviously, the Japanese medicine label does not state that on the product label. I checked other Japanese medicine labels on the packages, and as anticipated, there were no warnings which suggested seeing a doctor if the problems persist, or recommended avoiding overdoses of the medication. It appeared that the maxim of quantity is flouted here since the section of CAUTIONS seems to lack adequate information.

Thus far, a major difference between the warning portions of the U.S. and Japanese medicine labels was found. In order to explain the difference, I would argue from the perspective of the cultural differences between the two countries. An examination of liability issues might not be too far-fetched a method to explain this difference. Law suits are extremely rare in Japan compared to the U.S. In addition, U.S. FDA regulations might well be more specific or restrictive concerning the information requirements of labels than the counterpart Japanese regulations. Therefore, Japanese medicine companies do not have to be too apprehensive about not placing on the warning labels what Shy calls the “impending disaster” that a given medicine can cause. I would speculate that Japanese medicine companies might list serious warnings in the insert of the package, but not necessarily on the package itself, unlike the case of the American medicine labels.

3. Findings and Conclusions

The following is a summary of the main findings regarding the three medicine labels.

1) “Shared knowledge” is needed to process implicatures in order to understand the text. Examples were found in ‘the provision of generic name without presenting specific explanation’ in the prescription medicine from the U.S., as well as ‘the listing of symptoms in the effect or efficacy section’ in the Japanese medicine label.

2) There appear to be more violations of Grice’s Maxims on the label of over-the-counter medicines than with the prescription medicine. Examples of such a tendency include frequent omission of noun phrase and preposition phrase in the over-the-counter medicine labels (both Japanese and American labels), whereas there was no such case on the prescription medicine label. Another example of maxim violation in the over-the-counter medicine label is a frequent use of coordination structure in the over-the-counter medicine. It was argued that the prescription medicine label is supposed to be as specific as possible, because misapplication of such a drug might cause a hazardous outcome, as compared to the over-the-counter medicine.

3) There were more bold-capital letters in the prescription drug label, compared to its over-the-counter counterparts (both Japanese and American medicine labels). Such a tendency can be explained by the fact that the prescription medicine requires much more serious amount of caution than the over-the-counter drugs.

4) Conditional sentences were found in the American medicine labels. One post-posed if clause was observed on the prescription medicine label, and it was used when an urgent message was written in bold-capital letters in the main clause (i.e. check with your doctor as soon as possible). All the other if clauses were preposed, and there was no capitalization of the main clause alone.

5) There were immense differences in the warnings section between Japanese and American medicine labels. The Japanese label did not list anything that relates to a possible catastrophe which might be caused by the medicine. I attempt to explicate this phenomenon in relation to a cultural difference between Japan and the U.S.

6) “Negative politeness” was observed on the Japanese medicine label by the usage

of “please” in the caution section, while the American medicine labels use “direct” imperative.

The study was limited as I only examined three medicine labels. Conceivably the results might differ if I chose medicines for different illnesses. However, there were clear dissimilarities between the labels of the over-the-counter medicines and the prescription drug, as well as between the Japanese and American labels. It would be worthwhile to explore these differing patterns in different types of products, as well as to examine medicine labels of other countries.

Note

- ¹ Grice’s (1975) cooperative principle is a principle set for conversation. In the Cooperative Principle, Grice analyzes cooperation concerning four maxims: quantity, quality, relation, and manner. Speakers provide adequate information: quantity. They utter “truth” or facts: quality. Utterances are relevant to the context of the speech: relation. Finally speakers try to portray meaning clearly and succinctly, avoiding ambiguity: manner.

References

- Brown, P. and S. Levinson. (1987). *Politeness. Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Grice, H.P. (1975). Logic and conversation. In P. Cole and J.L. Morgan (Eds.), *Syntax and Semantics*. vol. 3, Speech Acts, pp. 41–58. New York: Academic Press.
- Halliday, M.A.K. (1967). Notes on transitivity and theme in English. Part 2. *Journal of Linguistics*, 3. pp. 199–244.
- Halliday, M.A.K., and R. Hasan. (1976). *Cohesion in English*. London: Longman.
- Kuno, S. (1972). Functional sentence perspective. *Linguistic Inquiry* 3. 269–320.
- Sadock, J.M. (1974). *Towards a Linguistic Theory of Speech Acts*. New York: Academic Press.
- Schiffrin, D. (1992). Conditionals as topics in discourse. *Linguistics* 30.1: 165–197.
- Shuy, R. (1990). Warning Labels: Language, Law, and Comprehensibility. *American Speech*. 65:4: 291–303.
- Sperber, D. and D. Wilson. (1986). *Relevance: Communication and Cognition*. Oxford: Blackwell.

