

Honorifics in Japanese Sentence Interpretation: Clues to the Missing Actor

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Abstract

Cross-linguistic research in the framework of the Competition Model (MacWhinney & Bates, 1989) has shown that case-marking is the major cue to sentence interpretation in Japanese, whereas other cues such as animacy and word order are much weaker. Japanese is a pro-drop language. Many Japanese sentences are grammatical without subjects and objects. When subjects are absent, case-markers are also unavailable to use. However, Japanese honorific and humble verbs may provide important information to determine the agent when the case-marking cue is absent. This study examined the usage of honorific and humble verbs as the agreement cue in Japanese sentence interpretation by native speakers in comparison to their usage by second language learners of Japanese.

Introduction

Japanese uses specific affixes on the verb to mark social relations of power and solidarity. These markings are called honorifics. This use of formal grammatical markings is a unique feature of Japanese that has often been used as evidence for the operation of links between language, culture and thought (Whorf, 1967). Apart from these fascinating links to culture, honorifics can also serve the more mundane function of helping to distinguish the actor of the transitive verb. This paper is aimed at discovering the role of the verbal agreement cue in processing by native speakers. We are also interested in tracking the acquisition of this cue by second language learners of Japanese. Our study is couched within the framework of the Competition Model (MacWhinney & Bates, 1989) which emphasizes the relation between statistical regularities in the language and the strength of these cues for both first (L1) and second (L2) language speakers.

In order to interpret a transitive sentence, we have to identify the actor or agent. In the English sentence, *the doctor met the patient*, native speakers interpret *the doctor* as an agent who was engaged in meeting someone. This is because nouns placed before verbs are considered to be the actor in English. On the other hand, Japanese uses a completely different set of cues to determine the actor or agent. Although it has a basic SOV word order as in *the doctor the patient met*, Japanese also allows other word

orders such as *the doctor met the patient* (SVO), *the patient the doctor met* (OSV), and *the patient met the doctor* (OVS). Each of these sentences yields the same interpretation with *the doctor* as the agent. Instead of relying on a word order cue, Japanese has case markers, such as *ga* (subject marker), *wa* (topic marker), *o* (object marker), and *ni* (dative marker) to mark case roles. The exact grammatical characterization of these participles has been the subject of dispute for years among Japanese linguists (Kuno, 1973), but there is little disagreement regarding the general importance of case role markings in the language. In general, a noun followed by the subject marker *ga* is likely to have an agentive role in any word order in Japanese. For example, a sentence like *kanja* (patient) *ni* (dative marker) *atta* (met) *isha* (doctor) *ga* (subject marker), in the order of OVS provides a meaning *the doctor met the patient*, although OVS order is not canonical in Japanese.

Cue Competition

Some theories tend to emphasize the universality of syntactic types across languages and the importance of a single “basic” order within languages (Chomsky, 1981). However, from the viewpoint of processing models, online sentence interpretation must rely at least initially on surface cues to role marking, and these cues vary markedly across languages. As we have already seen, English sentence interpretation relies heavily on word order (Bates & MacWhinney, 1989). This reliance would seem to support the central role of a fixed word order, as conceived in generative linguistic theories. However, other languages do not follow this pattern. A series of previous studies in the framework of the Competition Model have shown that case marking is the dominant cue in Japanese, Hungarian, and German, whereas subject-verb agreement cue is important in Italian, French and Spanish, and animacy distinction is the crucial determiner of interpretation in Chinese sentences (MacWhinney & Bates, 1989). English is unique in this sense in that it is the only well-studied language that depends so heavily on a word order cue.

Cue usage also varies developmentally within a single language. Children first focus on conspicuous cues that they can pick up easily (Slobin & Bever, 1982). Gradually they shift their cue usage to those that have high availability and

reliability in the language (McDonald, 1989). For example, Japanese children first focus on animacy distinction, because they already possess fairly clear ideas about which nouns are animate and which are inanimate. In contrast, learning of the case-marking system is a lot more complex than animacy, although it emerges eventually as the dominant cue in Japanese. Thus Japanese children rely on the animacy cue to interpret sentences first and then they later shift their cue usage to the case-marking cue which has high availability and reliability, i.e., it is a cue which is often present and which usually provides a correct interpretation.

Typically, languages make use of several cues for marking case roles. In most sentences, these cues agree with each other to guide a correct interpretation, though cues sometimes compete against each other. Sentences with inanimate subjects, such as *The study looked at Japanese children*, are quite common in written English. Here, word order provides a cue indicating that *the study* is the agent, whereas the animacy cue suggests that *Japanese children* should be the agent, because an animate noun is generally preferred as agent because of its dynamicity. Despite this cue competition, word order wins over animacy because word order has the highest availability and reliability in English (McDonald, 1987). On the other hand, when word order and animacy compete in Japanese sentences, animacy wins over word order because animacy is stronger in Japanese. Thus, in the parallel Japanese sentence *Japanese children* would be the agent (Sasaki & MacWhinney, in press). Similarly, when all of case marking, word order and animacy compete, case marking wins over animacy, and animacy wins over word order (case > animacy > word order), because case is the strongest cue in Japanese (Sasaki & MacWhinney, in press). Because Japanese word order is so flexible, it is the weakest cue in Japanese.

Unlike children's speech or child first language acquisition, in adult Japanese language use, in addition to these basic cues, new cue emerges to compete with the other basic cues. This new cue is the honorific cue which is used along with verbs as morphological markings. Honorific and humble verbs are not used in children's speech because children are not yet expected to fully understand hierarchical society in Japanese culture that is reflected in the language use. However, the appropriate use of honorific and humble verbs becomes crucial in order to survive in adult Japanese society.

Cultural and Linguistic Interactions

Like Spanish and Italian, Japanese allows frequent omission of subject and object nominals. In English, pro-drop sentences, such as *Ø saw the black cat*, are considered to be ungrammatical. However, *neko* (cat) *o* (object marker) *mita* (saw) in Japanese is completely grammatical. Some Japanese linguists even claim that it is inappropriate to use the word "pro-drop" to describe Japanese constructions because subjects are not dropped but absent from the beginning (Kaneya, 2002). In Japanese, sentences without

subjects and objects are completely grammatical. For example, the following short dialogue is very common in Japanese conversation.

A: "kuroi neko mita?"

[black cat saw?]

B: "un, mita."

[yeah, saw]

The subject is absent in utterance A, and both the subject and object are absent in utterance B. Yet, they are both grammatical (see more of these examples in Kaneya, 2002). Linguistically, word order cannot be an important cue because subjects and sometimes objects are both dropped in Japanese.

Japanese also marks cultural preferences regarding the status of the grammatical third person through the morphology of verbs and adjectives. Some verbs and adjectives carry information identifying the agent. However, the shape of this information is limited in specific ways, because Japanese culture inhibits stepping into others' psychological or physiological territory (Kamio, 1995). Verbs and adjectives that describe a third person's mental state have a special conjugation. Adjectives are usually used with *-garu* for third person, and verbs for third person are used in the *-teiru* form. For example, adjectives like *hoshii* (want, desirable), *ureshii* (happy), *itai* (painful) are all used with the adjectival third person marker *-garu* as in *hoshii-garu*, *ureshi-garu*, *ita-garu*. Verbs like *omou* (think), and *komaru* (have trouble) are used in the *-teiru* form in *omotteiru*, and *koma-tteiru*. It is ungrammatical to say *kanja* (patient) *ga* (subject marker) *ureshi* (happy-1st person, dictionary form), because a first person adjective cannot describe a third person subject. Rather, *ureshii* here should be *ureshi-garu* (3rd person). Therefore, even if subjects are dropped, sometimes verbs and adjectives will provide sufficient information to determine the agent.

Similarly, honorific and humble verbs are very useful cues that can be used for a variety of both transitive and intransitive verbs in Japanese. Honorific verbs cannot be used for the first person, but only for the second or the third person particularly for superiors. Humble verbs can be used only for the first person or the speaker's in-group members. For example, *o-hanashi-ninari-mashita* (honor + talk + honor + past tense) may indicate that the agent is someone superior to the speaker, and cannot be either the speaker or someone inferior to the speaker. Similarly, *o-hanashi-itashimasu* (honor + talk + humble + non-past) indicates the action of the (humble) speaker or the speaker's (humble) in-group members. Even without overt mention of the subjects, these honorific and humble verbs provide evidence that is sufficient to identify the agent.

Considering the fact that subjects are frequently absent in Japanese, these verbal markings of honorific status should be one of the more reliable cues in Japanese. Although these cues are not always available, they should always be reliable when they are available particularly in adult speech.

Previous studies (Sasaki & MacWhinney, in press) have shown that the case-marking cue is the dominant cue in Japanese. However, when subjects and objects are absent, case markers are also naturally absent. When the dominant cue is unavailable, other cues must be used instead. As we have seen already, other cues such as animacy and word order have been examined in relation to the case-marking cue. However, the use of Japanese verb marking for honorific status has not yet been examined.

This study has two goals. The first is to measure the use of the honorific agreement cue by native Japanese speakers in comparison to case-marking cue and word order. Honorific and humble expressions are used only when there are social and psychological distances between the speaker and the listener, or between the speaker and the target person addressed. The availability of the honorific and humble verb cue would be high, particularly in adult speech under a hierarchical pressure, although overall availability of the honorific verb agreement cue in general speech may not be higher than that of the case-marking cue. Therefore, we can hypothesize that honorific verb agreement cue may not be stronger than the case-marking cue, yet it should be an important cue when case is absent.

The second goal of the study is to examine how second language learners acquire this verb agreement cue. Unlike native speakers, second language learners have not yet developed an entrenched usage of the case-marking cue. Moreover, when they first begin to pay attention to honorific marking, they may at first tend to overestimate and overgeneralize its importance, because the instruction is focusing specifically on this structure which learners tend to master in a short period of time.

Methods

Participants

Twenty native Japanese speakers, 16 advanced level Japanese learners as a foreign language, and 29 intermediate level Japanese learners participated in the study. Native Japanese speakers were recruited in Pittsburgh with a mean age of 31.6, and with a mean of length of residence in the United States less than 3 years. L2 learners were recruited from advanced and intermediate levels of Japanese courses at Carnegie Mellon University. Both intermediate and advanced learners have learned honorific and humble verb systems in class, though advanced learners have been exposed to them approximately for a year longer than intermediate learners. Some of advanced learners had an experience of studying abroad in Japan. No learners have an experience of studying abroad more than three months.

Stimuli

Three factors controlled in the study were word order, case-marking, and honorific cues with three levels for each. Word orders consisted of NNV, NVN, and VNN (N=Noun, V=Verb). Thus there were always two nouns and one verb

used in every condition. The three levels for case-marking factor were nominative, dative and zero. When the first noun is marked with a nominative case and the second noun with a dative case, it is described as Nom_Dat condition, and Dat_Nom is used for the reversed case marking condition. Zero indicates the zero case marking condition. Honorific agreement cues were manipulated using simple transitive verbs such as *call*, *meet*, and *talk* with three levels of agreement: agreement-yes, agreement-no, and agreement-missing. Agreement-yes and agreement-no indicate whether the verb used in each condition agreed grammatically with the first noun. The agreement-missing condition contains plain verbs without modification of honorific or humble styles. Half of agreement-yes and agreement-no conditions used honorific verbs and the other half used humble verbs along with noun features differing in positional superiority. In order to control animacy effects, all nouns were animate. Each condition consisted of a noun combination differing in occupational superiority such as teacher-student, general-soldier, and president-employee.

For example, in the condition of order-NNV, case-zero, agreement-yes, sentences like, *sensei* (teacher) *gakusei* (student) *ohanashi ninari masu* (talk-honorific), was used. In this condition, we can see whether participants used either the case-marking or the verb agreement cue to interpret the sentence. Case is zero, so it provides no clues to determine the agent, whereas the verb agreement cue suggests that the honorable person should be the agent. In another condition where case is available, e.g., *sensei* (teacher) *ga* (subject marker) *gakusei* (student) *ni* (dative marker) *o hanashi itashimasu* (talk-humble), we can see clear competition between case and verb agreement cue. Case suggests *sensei* (teacher) marked with *ga* (subject marker) to be the agent whereas verb agreement with humble verb suggests *gakusei* (student) to be the agent although it is marked with a dative marker.

In addition to these three factors, filler sentences were inserted to guarantee that subjects treated the task in a natural fashion. The filler sentences excluded honorific agreement factor and superiority features in nouns. They controlled only word order and case-marking factors. The fillers also served the function of breaking up any tendency to lock into processing for specific verb types.

All three factors were fully crossed with three levels for three participant groups: native Japanese speakers, advanced learners, and intermediate learners. The full-factorial design of 3x3x3 was manipulated with the total of 54 sentences in addition to 18 filler sentences.

To create each sentence, the total of forty eight words was used: six base nouns (three superior and three subordinate nouns) with three case-marking forms (nominative, dative, and zero), and five base verbs with three agreement forms (honorific, humble, and plain) for experimental sentences, and five nouns (no superiority difference) with three case-marking forms for filler sentences. A male native Japanese speaker recorded the sentence components with a normal reading speed with no accents, and digitized with 16-bit

monaural .wav format at a 22-kHz sampling rate using CoolEdit 2000. Each sound file of nouns and verbs was combined into the appropriate sentence pattern using E-Prime 1.1 with complete random orders. The intonation patterns of combined words for all statements were indistinguishable, which prevented listeners from using any prosodic cues.

Procedure

In this task, all participants sat in front of a computer, and heard from a headphone a series of sentences that were composed of two nouns and a simple transitive verb. As the sentence began, the computer screen displayed pictures describing two nouns in each sentence. The pictures remained displayed until participants pressed a key indicating their choice of one of the pictures as the agent. Pictures were accompanied by words describing the pictures. For example, “teacher” (in Japanese) was shown on top of a picture of “teacher”. This is to decrease non-native speakers’ processing load. The subject identification task by itself for non-native speakers may put heavy processing load on their memory particularly when the cue competition is high, so they were instructed not to worry about memorizing words they did not know.

Participants were asked to choose or identify the picture that performed the action described in each sentence. They were instructed to choose either of the two nouns as agent, and to push a button corresponding to either of two pictures shown on the computer screen. If they thought the person on the right side did an action, they pushed the right button. If they thought the person on the left side did an action, they pushed the left button. They were instructed to press the button as quickly as possible after they heard a sentence. The response as a choice of the first noun was measured after 5 practice sentences.

All participants were tested individually in a small quiet room and were asked to complete the same task, although native Japanese speakers and non-native speakers were given different instructions before the task. Native Japanese speakers were told that sometimes sentences were culturally inappropriate or grammatically incorrect, and they were asked to respond quickly using their intuitions in the case they found some sentences unnatural. As it was mentioned earlier, these sentences were set up to test the usage of cue competition. For non-native Japanese speakers, additional instructions were given. In order to refresh learners’ memory and make them comfortable about the use of honorific and humble verbs, each non-native participant went through a brief review on verb conjugations. They were also briefly informed about social and hierarchical differences between roles such as general vs. soldier, and president vs. employee, which were used in the experiment.

Results

ANOVAs were performed using percentage of choice of the first noun as agent as the dependent variable. The main

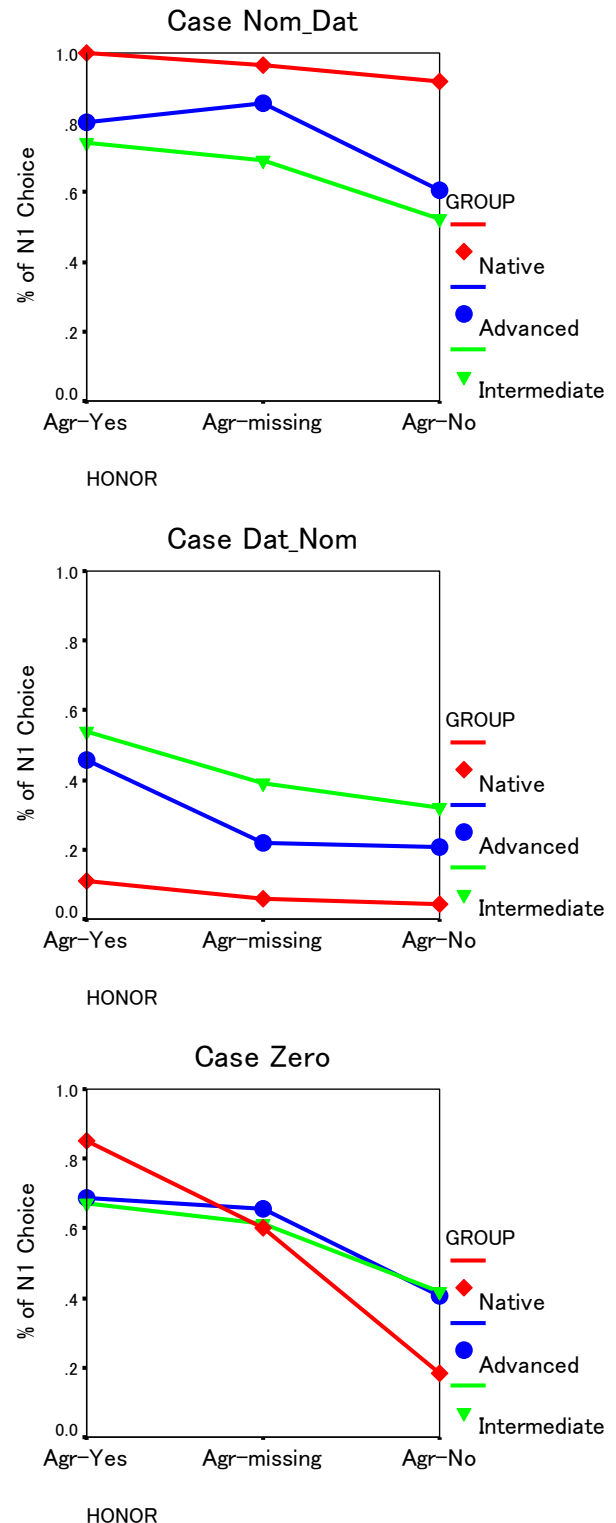


Figure 1: The percentage choice of the first noun as agent in the condition of (1) Nom_Dat case (the first noun is marked with the nominative case, and the second noun is marked with dative case) crossed with the agreement cue, (2) Dat_Nom case and (3) Zero case (neither nouns were marked with case).

effects of case and honorifics were significant (Case: $F(2, 61) = 164, p < 0.001$; Honor: $F(2, 61) = 17.7, p < 0.001$), but word order was not. The non-significance of the word order effect shows that none of the groups, including L2 learners, relied on the word order cue. The interaction between case and honorific agreement was also significant ($F(4, 59) = 20, p < 0.001$). The use of nominative case for the first noun and dative case for the second noun is shown in Figure 1. In the Nom_Dat condition, native speakers consistently used the case-marking cue, despite the presence of an agreement cue. L2 learners also made use of the case-marking cue, though they relied much less on case than did native speakers. Native speakers' first noun choice for Nom_Dat was over 95% in all three agreement conditions, whereas the first noun choice of advanced and intermediate learners dramatically decreased in the condition where verbs do not agree with the first noun feature (advanced: 60%; intermediate: 52%).

Similarly, in the Dat_Nom case condition, native speakers consistently showed the strong use of the case-marking cue to select the second noun as agent. The second noun is marked with a nominative case in this condition, so the lower percentage of the first noun choice indicates the heavier reliance on using the case-marking cue. The first noun choice by native speakers was less than 11% in all agreement conditions, whereas L2 learners' first noun choice was higher. When the verb agrees with the honorific status of the first noun, learners' first noun choice increased noticeably (advanced: 46%; intermediate: 54%). This shows that learners placed heavy reliance on the honorific agreement cue even when it contradicted the case-marking cue.

In the zero case-marking condition, the first noun choice by native speakers showed a clear decline from agreement-yes to agreement-no conditions (agreement-yes: 85%; agreement-missing: 60%; agreement-no: 18%). Because the case-marking cue was unavailable in this condition, native speakers relied on the honorific verb agreement cue to determine the agent. On the other hand, learners' usage of verb agreement cue was not as robust as native speakers'.

Discussion

The patterns of Japanese native speakers' performance in the experiments showed that the case-marking cue was still the dominant cue in Japanese. Despite the presence of the honorific verb agreement cue, native speakers consistently chose nouns marked with the nominative case as agent. However, when case was absent, the honorific verb agreement cue became an important and reliable cue to determine the agent. Even though Japanese has a canonical SOV word order, we did not find any effects of the word order cue in the absence of case. This confirms the results from the previous studies. Importantly, we demonstrated within a single experiment both inattention to word order and attention to honorific agreement. Thus, it appears that

honorific agreement is the second major cue in Japanese sentence processing, after case-marking.

The second important finding of the study is that cue availability determined cue strength. Native speakers' first noun choices were not entirely controlled by the agreement cue. There was 85% first noun choice in the agreement-yes condition and 18% in the agreement-no condition. This suggests that even native speakers are sometimes unsure about the correct use of honorific and humble verbs. As we have already discussed earlier, honorific and humble verbs are not frequently present in younger people's daily linguistic input until they start working in businesses. Some of the participants of native speakers in the study were graduate students who have no experience working in businesses. Therefore, their cue usage of the honorific verb agreement cue might not have been as strong as we could find in speakers from the business environment. Further study of the use of this cue by speakers from the business community may help us understand the extent to which increased availability of the cue could lead to an increase in its relative strength when it is placed in conflict with case-marking.

The third finding of the study relates to the cue usage patterns by L2 learners. As we predicted, their usage of both the case-marking cue and the honorific agreement cue was more variable than that of native speakers. Interestingly, they overused the honorific agreement cue even when the case-marking cue was available to use. On the other hand, they did not use the honorific cue as much as they could, when case was absent. This suggests that learners' use of the case-marking cue has not yet stabilized at native speaker levels after about two years of learning Japanese. Moreover, the overuse of the honorific cue indicates that learners tend to focus on a single cue when this is at the focus of an instructional module or experiment. This tendency to focus on individual cues may prevent them from fixing the relative strength of each cue among all available cues in the target language. To counteract this tendency, instructors may need to present learners with input that illustrates competition between the relevant cues. In particular, learners need more experience with sets of sentences in which case marking is either present or absent and in which honorific agreement is either present or absent.

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