

Language Change in Progress: Evidence from Computer-Mediated Communication*

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0. Introduction

Computer-Mediated Communication (CMC) has become an increasingly well investigated research area (cf. Herring 2001), and has led to the uncovering of interesting sociolinguistic findings involving variation (e.g., Herring 2003, 2004). For example, in their investigation of the relationship among language, gender, and genre in weblogs, Herring and Paolillo (2006) observe that the style difference of female vs. male features varies depending on the sub-genre of diary and filter (cf. Herring et al. 2004), regardless of the gender of the author. They find that the diary entries exhibit more female features while the filter entries more male features. The results shown in their study cast a fresh look at a gender-indexing distinct from the one that is generally characterized in spoken and written language. Research in CMC is not limited to English-based on-line communication. Nishimura (2003a, b) examines the nature of Japanese websites. She reports that an unconventional way of written scripts gives rise to, for example, puns based on Kanji (=Chinese) characters and playful coinage of new words resulting from replacement of two similar-looking characters. These phenomena together create a unique communication environment that is characteristic of the CMC mode.

In this paper I will present a preliminary observation from CMC in Japanese that offers an intriguing data source that can be interpreted to suggest a possible language change in progress. The type of data to be discussed below is not conventional by nature in that they have traditionally been considered “ungrammatical” or speakers’ “errors” in more conventional modes of communication (Miyaji 1956). However, such ungrammatical or erroneous patterns regarding certain constructions that I shall discuss have turned out to be amply instantiated on the Japanese Internet. The large number of such patterns

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available in CMC leads us to a possible interpretation that they are not simply individual speakers' errors but may reflect a currently on-going linguistic change in the language. In what will follow below I will describe the range of the CMC data of two morpho-syntactic constructions in Japanese, and will discuss their possible interpretations under the premise of the apparent-time construct, as advanced by Labov (1972).

2. Two Intransitive Constructions

The case that I would like to focus on involves the two intransitive constructions consisting of the gerundive form of a verb immediately followed by either the verb *iru* or *aru*, as is exemplified by (1-2).

- (1) Doa-ga ai-te **iru**. (*aite* < *aku*: intransitive) <resultative reading>
 door-Nom open
 'The door is open.'
- (1') Taroo-ga arui-te **iru**. <progressive reading>
 Taro-Nom walk
 'Taro is walking.'
- (2) Doa-ga ake-te **aru**. (*akete* < *akeru*: transitive) <resultative reading>
 door-Nom open
 'The door has been opened.'

The verb in (1), *aite*, is the gerundive form of the intransitive verb *aku* "open", and the subject corresponds to the theme/patient of the event of opening, i.e., an entity that is acted upon or undergoes change of state or position. The verb in this example is intransitive, of the unaccusative type. The sentence describes the state of the door being open, following the inchoative event of its opening. This interpretation has been termed the resultative reading. When the verb is unergative, such as *aruku* "walk" and *warau* "laugh", the subject of the intransitive construction corresponds to the agent, and the sentence describes the action in progress. The sentence in (1'), for example, has the progressive reading. The verb in (2), *akete*, is the gerundive form of the transitive verb *akeru* "open", which forms a morphologically related transitive-intransitive verb pair with the verb in (1), *aku*: these two verbs share the verbal root of *ak-*. The subject in (2) also corresponds to the theme/patient of the event, as is the case in (1). The object of the transitive verb *akeru* in this sentence is suppressed, and hence the structure is generally considered an intransitivizing construction. The meaning of (2) is also similar to (1) in that it describes the state of the subject resulting from the event denoted by the transitive verb: the door is in the state of open as a result of having been opened. The intransitive verb with *iru* in (1) and the transitive verb with *aru* in (2) are similar in three respects: (i) the structure is intransitive, (ii) the subject, which is marked with the Nominative Case, corresponds to the

theme/patient, and (iii) the meaning is the resultative state. The subtle semantic difference between (1) and (2) has been characterized such that the construction in (2) implies the existence of an individual who has undertaken the event denoted by the verb while such an implication is not associated with the construction in (1). The focus of the paper will be on the minimal pair of (1) and (2), and hence I will not consider the pattern in (1') throughout the paper except a brief reference to it toward the end.

The two constructions exemplified by (1-2) may appear with verbs that do not employ morphologically related transitive-intransitive pairs, as is illustrated in (3-4).

- (3) Tori-ga shin-de iru.
 bird-Nom die
 ‘A bird is dead.’
- (4) Shatsu-ga arat-te aru.
 shirt-Nom wash
 ‘The shirt has been washed.’

In (3), the verb *sinu* “die” is an intransitive verb and does not have its transitive counterpart that shares a verbal root. Similarly, the verb in (4), *arau* “wash”, is independently transitive, without having a morphologically related intransitive counterpart. In both sentences, the subject is the theme/patient of the verbs and the meaning is resultative. The crucial pairing between the transitivity of verbs and the *iru/aru* distinction is schematized in (5).

- (5) a. [theme/patient]-ga ... intransitive verb (gerund) + *iru* <resultative>
 b. [theme/patient]-ga ... transitive verb (gerund) + *aru* <resultative>

3. **The CMC Data**

The pairing of an intransitive verb with *iru* in (5a) and that of a transitive verb with *aru* in (5b) seem to leave no room for variation since their absolute and unique grammatical status has never been questioned. (cf. Miyaji 1956) For instance, the mismatch between the transitivity of verbs and the *iru/aru* distinction has traditionally been considered ungrammatical, as violations of the patterns in (5). Thus, none of the sentences in (6-9) normally receives the acceptable status.

- (6) (cf.(1)) * Doa-ga ake-te iru. [transitive + *iru*]
 (7) (cf.(2)) * Doa-ga ai-te aru. [intransitive + *aru*]
 (8) (cf.(3)) * Tori-ga shin-de aru. [intransitive + *aru*]
 (9) (cf.(4)) * Shatsu-ga arat-te iru. [transitive + *iru*]

This situation, however, is challenged by a Japanese Internet search I conducted. It is revealed that the two sets of pairings in (5) are not as solid as they have

previously been understood, and deviations from (5), as in the examples of the patterns identical with those in (6-9), frequently appear in our CMC data. The sentences in (10-13) represent some of the attested samples that illustrate such mismatch patterns.

- (10) a. Hai-ga shizun-de aru. [intransitive + *aru*]
 ashes-Nom sink
 ‘Ashes are sunk.’
 a’. *shizume-te aru* (=5b) or *shizun-de iru* (=5a)
- b. Takezutsu-ga shizume-te iru (basho) [transitive + *iru*]
 bamboo tube-Nom sink (place)
 ‘(the place where) a bamboo tube has been sunk’
 b’. *shizun-de iru* (=5a) or *shizume-te aru* (=5b)
- (11) a. Kireini kutsu-ga sorot-te aru... [intransitive + *aru*]
 neatly shoes-Nom put together
 ‘The shoes have been put together neatly...’
 a’. *soroe-te aru* (=5b) or *sorot-te iru* (=5a)
- b. Yottu-no aji-ga soroe-te iru. [transitive + *iru*]
 four-Gen flavor-Nom put together
 ‘Four flavors are put together’
 b’. *sorot-te iru* (=5a) or *soroe-te aru* (=5b)
- (12) a. Kami-ga burasagat-te aru [intransitive + *aru*]
 paper-Nom hang
 ‘Paper has been hung’
 a’. *burasage-te aru* (=5b) or *burasagat-te iru* (=5a)
- b. Siruku sukaahu-ga burasage-te iru (tenpo) [transitive + *iru*]
 silk scarf-Nom hang (store)
 ‘(the store in which) silk scarves are hung’
 b’. *burasagat-te iru* (=5a) or *burasage-te aru* (=5b)
- (13) a. Tosoo-ga hagare-te aru (bubun) [intransitive + *aru*]
 paint-Nom come off (part)
 ‘(the part where) the paint has come off’
 a’. *hagashi-te aru* (=5b) or *hagare-te iru* (=5a)
- b. Oyayubi-no tsume-ga hagashi-te iru-kara [transitive + *iru*]
 big toe-Gen nail-Nom peel -because
 ‘(because) the nail of the big toe is peeled’
 b’. *hagare-te iru* (=5a) or *hagashi-te aru* (=5b)

In each of (10-13) the verb of the (a) sentence and that of the (b) sentence form a morphologically related transitive-intransitive pair. Both examples in (a) and (b) represent the patterns that are inconsistent with the conventional patterns of (5). Their conventional counterparts that are straightforwardly accepted in spoken and written Japanese are given in (a') and (b'), which are naturally consistent with the patterns in (5). It should be pointed out that the sentences in (a) and (b) are intended to be interpreted on a par with their conventional counterparts in (a') and (b') respectively: that is, although the forms in (a) and (b) sentences are deviations from the forms in (5), they maintain the resultative interpretation. The innovative pairings between the transitivity of verbs and the *iru/aru* dichotomy that are repeatedly attested in CMC are schematized in (14), and should be contrasted with (5).

- (14) Innovative intransitive patterns in CMC
- a. [theme/patient]-ga ... intransitive verb (gerund) + *aru*
 - b. [theme/patient]-ga ... transitive verb (gerund) + *iru*
- (5) Conventional intransitive patterns
- a. [theme/patient]-ga ... intransitive verb (gerund) + *iru*
 - b. [theme/patient]-ga ... transitive verb (gerund) + *aru*

The degree to which the innovative patterns of intransitive constructions are attested is better understood when we examine the number of existing morphologically related transitive-intransitive verb pairs which participate in the new patterns in (14). In Japanese, morphological transitivity opposition in verbs is not formed either by causativization, where the intransitive verb is the base, or by anticausativization, where the transitive verb is the input. Instead, the language primarily adopts what Haspelmath (1993) calls the equipollent alternation, where a different set of suffixes is added to a shared root. This is schematized in (15).

- (15) [[verb]_{root} + M1]_{transitive}, [[verb]_{root} + M2]_{intransitive}

The suffixes that are added to the verbal root, M1 and M2 in (15), are not restricted to a unique set, but extend to over a dozen pairs. Furthermore, there are no generalizations as to which root takes which transitivity-forming suffix pairs. Jacobsen (1992: 258-268) lists all transitive-intransitive verb pairs according to the suffix pair that is added to the verb root. The range of the transitive- and intransitive-forming suffix pairs is illustrated in (16) along with selected examples. (The final *ru/u* in these forms is the marker of non-past.)

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(16)	suffix pair	intransitive		transitive	
	-e/-Ø-	oreru	‘break’	oru	‘break’
		yakeru	‘burn’	yaku	‘burn’
	-Ø/-e-	aku	‘open’	akeru	‘open’
		itamu	‘hurt’	itameru	‘injure’
	-ar/-e-	agaru	‘rise’	ageru	‘raise’
		hazimaru	‘begin’	hazimeru	‘begin’
	-ar/-Ø-	togaru	‘become sharp’	togu	‘sharpen’
		tunagaru	‘become connected’	tuagu	‘connect’
	-r/-s-	kaeru	‘return’	kaesu	‘return’
		kieru	‘go out’	kesu	‘extinguish’
	-re/-s-	koboreru	‘spill’	kobosu	‘spill’
		kowareru	‘break’	kowasu	‘break’
	-ri/-s-	kariru	‘borrow’	kasu	‘lend’
		tariru	‘suffice’	tasu	‘add, supplement’
	-Ø/-as-	heru	‘decrease’	herasu	‘decrease’
		naru	‘ring’	narasu	‘ring’
	-e/-as-	deru	‘come out’	dasu	‘take out’
		tokeru	‘melt’	tokasu	‘melt’
	-i/-as-	mitiru	‘become full’	mitasu	‘fill’
		nobiru	‘become extended’	nobasu	‘extend’
	-i/-os-	okiru	‘get up’	okosu	‘get up’
		otiru	‘fall’	otosu	‘drop’
	-Ø/-se-	niru	‘resemble’	niseru	‘model after’
		noru	‘get on’	noseru	‘put on’
	-e/-akas-	amaeru	‘act dependent on’	amayakasu	‘spoil’
		obieru	‘become frightened at’	obiyakasu	‘frighten’
	-or/-e-	komoru	‘be fully present’	komeru	‘fill with’
		nukumoru	‘become warm’	nukumeru	‘warm up’
	-are/-e-	sutareru	‘fall into disuse’	suteru	‘throw away’
		wakareru	‘become divided’	wakeru	‘divide’

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Jacobsen's list contains 339 morphologically related transitive-intransitive verb pairs available in the language. What is striking is that of these 339 pairs, 52% of them (177 verb pairs) appear at least in one of the innovative patterns, i.e., (14a) or (14b) in our CMC data. Moreover, 17% of the 339 pairs (60 verb pairs) appear in both innovative patterns of (14a) and (14b). The emergence of the two innovative patterns of the intransitive constructions and their frequent occurrence in CMC may find its explanation in morphological confusion between a set of the two similar-looking verbal forms. As I mentioned earlier, there is very little regularity between verbal roots and transitivity-forming suffix pairs. To make the matters more complicated, an intransitive-forming suffix in one pair can have an identical morphological shape as a transitive-forming suffix in another pair, as (16) shows. So, the morphological confusion in transitivity of these verb pairs is perhaps a logical reason for the emergence of the innovative patterns of (14).

On the other hand, we also find similar examples with verbs that are morphologically independent regardless of the nature of transitivity. Our attested data in CMC include those in (17-24).

With transitive verbs

- (17) Juuyoo-na koto-ga kai-te iru-koto-ga ooi-desu. [transitive + *iru*]
important thing-Nom write-that-Nom many-be
'There are many occasions where important matters are written.'
- (18) Shizyoosha-ga kashi-te ite nai. [transitive + *iru*]
cars for test driving-Nom rent there isn't
'There isn't a car left, with all the cars for test driving having been rented out.'
- (19) Jooren-kara-wa hana-ga okut-te imasita. [transitive + *iru*]
regular-from-Top flowers-Nom send
'Flowers have been sent from regulars.'

With intransitive verbs

- (20) Hitori-no jinbutsu-ga hikookijiko-de shin-de aru. [intransitive + *aru*]
one-Gen person-Nom plane crash-in die
'One person has been dead in a plane crash.'
- (21) Komichi-ga hashit-te aru. [intransitive + *aru*]
small path-Nom run
'A small path is running.'
- (22) Imada yuki-ga hut-te aru... [intransitive + *aru*]
still now snow-Nom fall
'It's still snowing now...'

- (23) itsumo nobot-te aru-de aroo josei [intransitive + *aru*]
 always climb -probably woman
 ‘the woman who probably has been climbing (mountains) all the time’
- (24) hiroi guraundo-de odot-te aru minasan [intransitive + *aru*]
 large field-at dance everybody
 ‘everybody who is dancing in a large field’

The verbs in (17-19) are all transitive and do not have morphologically related intransitive counterparts. These examples take the innovative pattern of (14b), and are interpreted as if they appeared in the conventional pattern of (5b). In (20-24) the verbs are intransitive, and they too are independent in their morphological make-up: that is, they do not have transitive counterparts with which they share verbal roots. These verbs appear in the innovative pattern of (14a). It may be pointed out that while (20) conveys the resultative meaning just as in all the examples that we have examined so far, (22-24) in contrast bear the progressive interpretation, on a par with the sentence in (1’), as we briefly mentioned at the outset.¹ The progressive interpretation is never associated with the conventional intransitive construction of (5b), but it is a possible meaning for (5a) if the subject NP corresponds to the agent. Thus, the innovative patterns of (14) with the resultative interpretation, as is observed in the majority of our CMC data, are primarily obtained in the intransitive constructions, but the phenomenon seems to extend to the same construction with the progressive meaning. Crucially, however, even interpreted with the progressive meaning, the pairing of intransitive verbs with *aru* in (21-24) is not a part of the normative intransitive construction, and clearly diverges from the conventional pairing between the transitivity of verbs and the *iru/aru* selection.

This section has presented the CMC data in which what would generally be conceived as incorrect usage of the two Japanese grammatical constructions are of frequent use on the Internet. The number of these samples is too great to be dismissed as a linguistic anomaly; instead, the innovative patterns that are richly attested in our online data should be regarded as alternatives to the traditional normative patterns. That is, to the extent that it is exhibited by the CMC data, the innovative patterns have gained the status of being normative in their own right.

4. Potential Language Change in Progress

The most likely generalization of the frequent appearance of the innovative patterns of (14) is that the two normative constructions of (5) seem to be extending their form-meaning pairings to include two new related constructions

¹ The verb in (21), *hashiru* “run”, is normally used as an unergative verb with an agentive subject. However, it can appear in the gerundive form followed by *iru*, *hasit-te iru*, along with a non-agentive subject, and specifically describes a state of spatial configuration. See Tsujimura (2001) for details. In (21), although *aru*, instead of *iru*, is used, such spatial configuration is the intended interpretation.

where the rigid restriction on the transitivity of the verb is no longer strictly imposed. That is, the patterns in (5) and those in (14) lose their distinction as a result of lifting the specification on transitivity. They all primarily have the resultative interpretation, but it is possible that they also leave room for an additional meaning, namely, the progressive interpretation when the subject NP is the agent of the verb. Still focusing on the resultative interpretation, we can schematize the newly emerged construction as a simpler form-meaning pairing in (25).

- (25) syntax: NP<theme/patient> ... [VP verb (gerund) + *iru/aru*]
semantics: resultative description of NP

The analysis of the emerging construction of (25), as an instance of language change that is currently on-going, can be considered with respect to the apparent-time construct (Labov 1972). One method for observing linguistic change is by sociolinguistic examination through real-time data. Real-time studies are conducted by surveying speakers either longitudinally or cross-sectionally. The former type of survey follows a small number of individual speakers over a long period of time. The latter is used when fieldwork is conducted in a community at some time, and the same community is revisited at a later period for further fieldwork using the same methods. However, an innovative approach to observing language change in progress is developed by Labov (1972) in his seminal study of Martha's Vineyard. He observed that (p.23) "shifting frequencies of usage in various age levels", which may be reflected in the data from different age groups tested at one and the same point in time, is one of the significant tenets to indicate that language change is in progress. This innovative view has come to be known as the apparent-time construct, and has been widely applied to a number of sociolinguistic investigations.

From the perspective of the apparent-time construct, there seem at least three interpretations for the new variation evidenced in our online data. First, the phenomenon may be specific to a unique communication mode of CMC. As was briefly mentioned in the introduction, the language and linguistic behavior used in CMC has come to constitute a new full-fledged communication genre which is further divided into sub-genres such as diary and filter entries (Herring et al. 2004), and hence should now be counted as a variable in considering language change. Taken as a new type of communication genre, CMC combines a spontaneous nature with a recordable form, and also internal to Japanese, its linguistic style is a cross between the spoken and written forms. These factors underlying CMC may well contribute to the emergence of the innovative forms whose normative restrictions on transitivity are lifted and whose distinction between *iru* and *aru* is obscured. On this view, then, it is likely that the innovative intransitive patterns are specific to, and hence characteristic of, this new mode of communication.

A second interpretation makes the assumption that Japanese web-users tend to be those of the younger generation; consequently, the users' divergence from the strictly normative patterns reflects an age-specific phenomenon. In this interpretation, the users' age is a crucial variable for the change. Such linguistic change in progress may permanently stay with the users' generation or can be a temporary "trend" (i.e., as an age-graded phenomenon) that eventually fades away as the users get older. The two key variables, communication genre and age, may of course interact with each other.

The third interpretation is that the phenomenon reflects a more general language change in progress beyond the boundaries of communication modes and age that is spreading throughout the Japanese speech community. It is the nature of CMC that allows the change to be captured and apparent.

These possible interpretations must be evaluated in detailed studies of CMC users and non-users in future investigations. For example, the prediction that the communication genre of CMC is the main contributing factor for the emerging innovative patterns could be validated if the users accept sentences of the emerging forms in CMC but not outside the computer mediated environments. If, on the other hand, the users accept the innovative forms independent of the nature of communication modes, it is more likely that the linguistic change in question is a general phenomenon. As for age as a contributing variable, if of two sufficiently distant age groups of CMC users, only the younger group accepts the innovative patterns, then the change in the intransitive construction can be considered specific to the younger generations; if, in contrast, two age groups do not show a significant difference, an explanation for the innovative forms is to be found elsewhere, such as in the specific communication mode of CMC; or, it could be a general, longer-lasting change that has not been previously recognized, perhaps due to prescriptive influences.

Whatever the nature of the motivations may be, the two emerging patterns of the intransitive construction, which would have been judged ungrammatical in traditional lines of linguistic research, are well attested in online data. The extent to which they are reasonably conventionalized is also readily observed. The innovative forms may seem somewhat surprising at first given more traditional communication modes as our data sources, but the examination of CMC has been crucial to detecting a potential linguistic change in progress that would otherwise have been overlooked.

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