Acquisition of the English *Have/Be* auxiliaries

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This study investigates how Japanese-speaking learners acquire the English aspectual auxiliaries *Have/Be* when Japanese and English differ in the existence of the Have aspectual auxiliary in the lexicon. By examining the empirical data, this study further explores how the learners make use of Japanese, what roles the categorically obscure and ambiguous input plays, and how they interact with each other in the acquisition of English.

本研究は、日本人母語話者が「英語の相的補助動詞であるHave/Beの習得の際、日本語にないとされる相的補助動詞Haveをどのように習得していくのかを探るものである。その際、母語である日本語にある相的補助動詞の役割や英語そのものがもつHaveのカテゴリの不明瞭性や曖昧性はどのような役割を果たすのか、そして、それらの相互作用はどのようなものなのかが考察される。

Attempting to look into the *black box* of the learner's mind, many researchers have endeavoured to explain how learners learn a second/additional language (L2), proposing various accounts of the role of the learner's existing linguistic knowledge, namely the learner's first/native language (L1). The roles of L1 in L2 acquisition have been discussed under various headings such as L1 Transfer, L1 Facilitation/Interference, L1 Effect, L1 Influence, and L1 conservation. Leaving behind the terminological issues, there is still disagreement among current theoretical models of L2 acquisition, namely to what extent the L1 is used or manipulated in the development of L2. In addition, what the previous models are less explicit about is (a) how the learner makes use of his/her L1 in interlanguage development, (b) why some elements are transferred but some are not, and (c) how the learner's L1 interacts with other factors. The present study attempts to shed light on these less explicit areas by investigating the status of the English *Have/Be* auxiliary in Japanese-speaking learners (JSLs).

Background and research questions

A great number of accounts for the role of L1 in L2 acquisition have been put forward. Traditionally, language transfer scholars have explained various errors (negative transfer), or facilitation (positive transfer), avoidance, and over-use as manifestations of L1 influence or effect (see Ellis, 1994). More recently, from a generative deterministic view, *transfer* has been discussed in terms of various degrees of L1 initial transfer at the initial state, for example, no transfer, partial transfer, weak transfer, and full transfer (see Bong, 2005). Nonetheless, all these aspects of L2 use in fact demonstrate a variety of factors at work in L2 acquisition, and language transfer is merely one of them (Bong, 2005, 2006).

More recently, from a minimalist view (also from a cognitive view), it is suggested that discussions of language transfer should consider the multiple ways in which L1 influence can exert itself, and emphasize the importance of looking for how L1 knowledge interacts with other factors (Bong 2005). The quests about interactive factors would take us to the heart of our understanding of L2 acquisition, and to the centre of the black box of the learner's mind.

In order to identify the roles of L1 and other factors that might interact with it and how the learners' L1 interact with other factors, this paper explores the L2 acquisition of English aspectual auxiliaries *Have* and *Be* by adult JSLs as an exemplarity. This empirical study was undertaken to see how the L2 learner makes use of her/his L1 when there is no directly corresponding vocabulary in their L1 lexicon, and to find out what causes the disparity between the L2 learners' and the native speakers' mental representation. The pursued research questions are:

1. How do L2 learners use their L1 in L2 acquisition?

   (whether JSLs will make use of the property of *iru* 'be' of Japanese in the L2 acquisition of English *Have* auxiliary and of English *Be* auxiliary?)

2. What are the main factors that interact with L1 in L2 acquisition?

   (whether JSLs will be sensitive to the ambiguous and obscure properties of English *Have* auxiliary; and/or influenced by the their internal mechanisms involved with the process of acquisition?)

3. How do other factors interact with L1 in L2 acquisition?

Methods

Subjects

Six groups of subjects (totalling 244 subjects) were selected for the study on the basis of performance in the proficiency test of the Oxford Placement Test (Allan, 1992): Five groups of JSLs acted as an experimental sample and one group of native speakers of English were used as a control for the reliability of the tokens used in the tests. The number of subjects in each group and their scores on the proficiency test are given in Table 1.

Table 1. Details of Japanese experimental subjects and English control subjects

Class	Subject Groups	Number of Subjects	Oxford Placement Test Score	
			Range	Mean
JSL-I	Elementary	49	18-23	21.14
JSL-II	Post-Elementary	64	24-29	26.03
JSL-III	Intermediate	47	30-35	32.02
JSL-IV	Post-Intermediate	32	36-41	39.00
JSL-V	Advanced	26	42-47	44.46
Total of Japanese-speaking learners (JSL)		218	18-47	30.33
ENS	Controls	26	Assuming 48-50 range	

Testing linguistic facts and testing examples

In English, there are two kinds of grammatical aspectual auxiliaries: namely *Have* and *Be*, whereas Japanese, which is known as a '*Have*-less' language, has one grammatical aspectual auxiliary: namely *iru* 'be'. Interestingly, while there is an apparent counterpart of the English *Be* in Japanese, namely *iru*, their functions are not identical to each other. In addition, no apparent counterpart to the English *Have* exists in Japanese, but *iru* in Japanese does most of the jobs for the *Have*, except for the [+perfect] property (see Bong, 2003, 2005; Smith, 1991). Despite the fact that most of the functions of the *Have* are carried out by *iru* in Japanese, the functions of the L2 *Have*/*Be* and the L1 *iru* differ with respect to the [±perfect] property (Bong, 2003). This [±perfect] property contributes to the compatibility of these lexical items in temporal adverbial clauses (TACs),

Table 2. Distributional properties: English and Japanese

Languages / Properties	English (L2)		Japanese
	Have[+perfect]	Be[-Perfect]	Iru [-perfect]
After[+perfect]-headed TACs	O	X	X (?tabeteiru ato)
Before[+perfect]-headed TACs	O	X	X (?tabeteiru mae)
While[-perfect]-headed TACs	X	O	O (tabeteiru aida)

depending on the temporal connectors (e.g., *after*, *before,* and *while* in English, or *ato* 'after', *mae* 'before', and *aida* 'while' in Japanese). Such distributional properties in TACs are illustrated in Table 2.

In English, *after*- or *before*-headed TACs are compatible with the *Have*, but not with the *Be*, whereas *while*-headed TACs are vice versa, as illustrated in Table 2. Thus various English sentences containing acceptable (O) or unacceptable (X) distributions of the *Have* and *Be* are incorporated in the acceptability judgement (AJ) test as a part of the experimental study. Representative examples used in the AJ test are given in Table 3. The AJ test was designed to see whether JSLs know the English distributional properties (the [±perfect] property) of the *Have* and *Be*, whether they know the difference between the functions of *Have* and those of *Be*, and whether they make use of their L1 knowledge (the [-perfect] property) of *iru* 'be' in the acquisition of the *Have* and *Be* in English.

Table 3. Representative examples used in the scaled acceptability judgement test

Test Types	Assumed Acceptability	Representative examples
After -Be	Unacceptable	My aunt will knit the jumper after she is watching TV.
Before-Be	Unacceptable	Cecilia brushed her teeth before she was taking a shower.
While-Be	Acceptable	They will read magazines while they are waiting.
That-Be	Acceptable	Gustav will claim that the Musicians will be practicing more.
After-Have	Acceptable	Alice felt more independent after she had learned to drive.
Before-Have	Acceptable	John will escape before he has served his term.
While-Have	Unacceptable	Kate learned to speak French while she had learned to write.
That-Have	Acceptable	Mandela told me that he had played the cello.

Background for conducting the scaled acceptability judgement test

It has always been recognised that judgement data obtained from acceptability judgement (AJ) tests are performance data, on a par with other data such as spontaneous and elicited production (e.g., Cook, 1990; White, 2003) and reflect learners' competence (e.g., Carroll & Meisel, 1990), despite some sceptical views on the tests. A number of advantages of the AJ test have been discussed in the literature (e.g., Murphy, 1997). With that potential problem in view, the scaled AJ test (see Table 4 for scales) employed in the study was supplemented with subsidiary tests of spotting the unacceptable elements (i.e., spotting the mistakes) by underlining them, and correcting them according to the subject's L2 knowledge.

Procedures and filtering and scoring data

The experimental study was administered in the order of: the questionnaire, the English proficiency test, the translation test, and the AJ test. To make sure that the data obtained reflect the subjects' knowledge of certain acceptable elements that are investigated in the present study, the following filtering procedures for data entry were carried out. In the AJ test, the sentences that were marked "0" were regarded as *missing*. In addition, several other cases were regarded as missing when there is no indication of what elements make the sentences unacceptable or when there are wrong corrections on either the right or wrong parts of sentences. This kind of data cannot provide any specific information about subjects' knowledge of a particular element of grammar that is left unmarked/uncorrected. In order to calculate the subjects' success percentage in the AJ test, scoring procedures for data entry were carried out. On sentences in the test which were presumed, at the outset of the study, to be acceptable and unacceptable, subjects' responses were scored as shown in Table 4.

Table 4. Scoring subjects' responses

Scale	Subjects' responses	Acceptable sentences	Unacceptable sentences
-2	Not acceptable	0	3
-1	Probably not acceptable	1	2
0	Not sure	Missing	Missing
+1	Probably acceptable	2	1
+2	Acceptable	3	0

(N.B.: Students were asked to mark 0 (not sure) only if they don't understand the sentences because of difficult words or phrases. In addition, students were asked to indicate those words or phrase they don't know by underlying them).

Results

Overall mean accuracy scores in judging unacceptable or acceptable sentences involving the aspectual auxiliaries *Be/Have* in TACs are displayed in Table 5.

There is a clear trend suggesting that as proficiency increases the JSLs develop the [-perfect] property of the *Be* towards the English native standard. The statistical analysis supports the view of a target-like achievement by the Japanese subjects. This finding suggests that JSLs acquire the [-perfect] property of the *Be* as far as the distributional constraints of the *Be* in TACs are concerned and develop it to a target-like level of competence in judging acceptable and unacceptable distributions of *Be*.

On the other hand, there is a clear difference between the acceptable *After/Before-Have* and unacceptable *While-Have* or acceptable *That-Have* types. The data in Table 5 seem to indicate that JSLs have not acquired the [+perfect] property of the *Have* as far as the acceptable *After/Before-Have* types are concerned. That is to say, there is neither a significant improvement among the learners' groups nor a development towards a native-like level of competence as far as the acceptable *After/Before-Have* types are concerned.

Discussion

Why did the learners reject the Have in TACs?

Concerning the unacceptable *While-Have* type, there is a clear trend suggesting that as proficiency increases, the JSLs recognise unacceptable distribution of *Have* with *while*-headed TACs gradually, and develop the incompatibility of *Have* in *while*-headed TACs to a target-like level of competence. However, it is not clear whether the learners regarded those sentences involving unacceptable distributions of *Have* as "unacceptable" because of the [+perfect] property of *Have* or because of other reasons. Nonetheless, it is fair to say that the learners could not have used the [-perfect] property that the L1 aspectual auxiliary *iru* contains, because JSLs reject the sentences containing *Have* in *while*-headed TACs in the way that excerpts from corrections made by JSLs.

Excerpt 1:

(a) Kate learned to speak French *while* she ~~had learned~~ to write.

→ learned

(b) Mary will play the piano *while* John ~~has sung.~~

→ sings

Table 5. L2 acquisition of the [±perfect] property of the Be/Have by Japanese learners

Types Groups- No. Subjects Proficiency		(X) After/ Before-Be	(O) While-Be	(O) That-Be	(O) After/Before- Have	(X) While-Have	(O) That-Have
Elementary	49	1.0527 (35)*	2.0729 (69)*	1.8889 (63)*	1.7173 (57)*	1.3191 (44)*	2.1905 (73)*
Post-elementary	64	1.5587 (52)*	2.1066 (70)*	1.1964 (65)*	1.9172 (64)*	1.4127 (47)*	2.2105 (74)*
Intermediate	47	1.8954 (63)*	2.2935 (76)*	2.0682 (69)*	1.7362 (58)*	1.9545 (65)*	2.5870 (86)*
Post -intermediate	32	2.2578 (75)*	2.3594 (79)	2.1875 (73)	1.7625 (59)*	2.1406 (71)	2.6333 (87)
Advanced	26	2.6122 (87)	2.5000 (83)	2.4615 (82)	1.4269 (48)*	2.5000 (83)	2.6400 (88)
Subtotal of JSLs	218						
English Controls	26	2.9231 (97)	2.9038 (97)	2.7692 (92)	2.6912 (93)	2.7692 (92)	2.8077 (94)
F-value ($p<0.001$)	244	F(5, 235) =35.245	F(5, 233) =7.929	F(5, 223) =4.102	F(5, 237) =14.083	F(5, 232) =21.245	F(5, 220)= 3.948

Note that figures in brackets give success percentages (%), and * indicates that the mean difference is significant at the .05 level, compared to the English control group. Note further that other statistical test results (e.g., within-subjects effects/ type-effect) are available but not reported here due to the limited space.

On the other hand, concerning the acceptable *After-/Before-Have* type, there is no such indication of improvement and JSLs do not seem to have acquired the [+perfect] property of *Have*. The statistical analysis shown in Table 5 indicates that there is no significant improvement among JSLs, suggesting non-achievement of a target-like level of competence in this type.

One might argue that JSLs made use of the [-perfect] property of the L1 *iru*. However, JSLs could not have used the [-perfect] property of the L1 *iru* for the English *Have*. If they had used the functions of the L1 *iru*, they would have accepted the sentences in which *Have* appears in *while*-headed TACs or in *before*-headed TACs. However, this was not the case. Instead, with increasing proficiency, they rejected the sentences containing *Have* in *while*-headed

TACs, and *before*-headed clauses. In short, manipulation of L1 cannot explain the data reported here. Consider the following excerpt from the correction data in which assumed acceptable sentences were marked *unacceptable*, and corrected by deleting *Have* in TACs.

Excerpt 2:

(a) The designer will meet her client after she ~~has bought~~ a present.

→ buys

(b) Lisa took a course before she ~~had joined~~ the firm.

→ joined

The correction data in which Japanese subjects made corrections as shown above (by deleting *Have* in *after-/before*-headed TACs in the same way as in *while*-headed TACs seen above) suggest that the learners are not sensitive to the [+ perfect] property of *Have*, but indicate that JSLs have rejected the acceptable sentences because of *tense-matching* between the matrix and the TAC tenses regarding *Have* as a Tense element with an inherent [+past] property. This result is similar to the results from the experimental study on L2 acquisition of tense-matching in English, reported in Bong (2005). In other words, they seem to have misdeveloped *Have* in a particular way.

How did they misdevelop Have?

In order to find out whether the learners' groups are sensitive to the types of tenses in TACs cross-classed by the temporal connectors *after* and *before*, I broke down the scores into four different types. The results are displayed in Table 6.

Except for the acceptable *Past-Perfect* form in *after*-headed TACs, there is a clear trend suggesting that the Japanese subjects misdevelop the functions of the English

Table 6. Acquisition of the aspectual auxiliary Have in four types of TACs

Types / Proficiency Groups	No.	Acceptable Present-Perfect Tense		Acceptable Past-Perfect Tense	
		After-Have	Before-Have	After-Have	Before-Have
Elementary	49	1.5000(50)*	1.3000(43)*	1.9444(65)*	1.9091(64)*
Post-elementary	64	1.8571(62)*	1.5745(52)*	1.9636(65)*	1.9464(65)*
Intermediate	47	1.4681(49)*	1.0698(36)*	2.1702(72)*	1.7234(57)*
Post-intermediate	32	1.3548(45)*	1.3226(44)*	2.3125(77)*	1.5313(51)*
Advanced	26	0.7692(26)*	0.8462(28)*	2.2308(74)*	1.0400(35)*
Subtotal of the learners	218				
English Controls	26	2.7308(91)	2.8462(95)	2.8846(96)	2.6154(87)
F-values ($p<0.001$)		F(5, 218)=16.125	F(5, 226)=5.918	F(5, 235)=15.585	F(5, 235)=15.585

aspectual auxiliary *Have* in a *specific and constant* way: the higher the proficiency the lower the acceptance (accuracy) in judging such acceptable sentences containing the *Present-Perfect* or *Past-Perfect* forms in *before-/after*-headed TACs. According to the correction data, the Japanese subjects who marked such sentences as *unacceptable* or *probably unacceptable* changed the *Present-Perfect* to a simple present tense and the *Past-Perfect* to a simple past tense in *after-/before*-headed TACs. It is very likely that the Japanese subjects judge acceptable sentences as unacceptable because they regard *Have* as a tense element with an inherent [+past] property, and that they are not sensitive to the relationship between the [+perfect] property of the English aspectual auxiliary *Have* and the temporal connectors.

This inherent [+past] of *Have* does not seem to correspond to the relative tenses, such as anterior to the main event, since the more advanced Japanese subjects reject the acceptable distributions of the aspectual auxiliary *Have* both in *after*- and *before*-headed TACs. If they treat *Have* as a tense element with an inherent [+past] property, and the past morpheme as a tense element with a [+past] property, then for the Japanese subjects, *had* in the *past* form becomes a tense element denoting a *past of past* reading, resulting in as if it is carrying one of the functions of the original English *Past-perfect* form. In effect, for the Japanese subjects, the past morpheme of *Have* is the relative tense realisation and *Have* itself carries an inherent absolute [+past] tense, unlike English.

This analysis of the tense system misdeveloped by JSLs can account for the observation that they reject the *Present-Perfect* form in the *after*-, *before*-, and *while*-headed TACs when the main clause contains the present tense form and that they reject the *Past-Perfect* form in *before*- and *while*-headed TACs but accept the *Past-Perfect* form in *after*-headed TACs when the main clause tense is Past. However, the question arises what is responsible for misdevelopment of this kind in L2 acquisition: namely misdeveloping *Have* into a Tense element with an inherent [+past] property, minimising the role of the [+perfect] property of *Have*. In other words, *Have* in its minimised role does not carry semantic import of the [+perfect] property in the *Have* misdeveloped by JSLs.

Analysis of the specific misdevelopment of the Have

The question is whether misdevelopment of this kind is one of the unique characteristics of L2 acquisition or can be found in other empirical areas. Interestingly, misdevelopment of this kind in L2 acquisition seems to be very similar to a diachronic phenomenon known as grammaticalisation. Note that diachronic language changes occur through L1 acquisitions by various generations evidenced by changes from Old English grammar to Standard English. According to Roberts and Roussou (2003), grammaticalisation involves reanalysis of functional categories in such a way that one functional category develops into another. One of the generalisations of the theory of grammaticalisation is that the diachronic change of a given morpheme involves *semantic bleaching* (loss of semantic import). For example, the English modal auxiliaries such as *shall*, *can*, and *will* were once fully verbal elements (Verb), which underwent a category change and became modal auxiliaries (Tense or Modal), resulting in bleaching of some of their semantic

import as a main verb. Those full verbal elements in Old English have changed to modal auxiliaries.

The misdeveloped *Have* in interlanguage systems developed by JSLs shows that (a) *Have* carries an inherent [+past] tense property as a result of misanalysis of the relative tense property – anterior to the reference time; (b) it can be inflected for secondary tenses by a past morpheme, giving rise to a past of past meaning; and (c) its function is diminished in that the [+perfect] property is lost as a result of semantic bleaching.

Such a process (a particular misdevelopment) in L2 acquisition clearly conforms to the process of grammaticalisation in language change in that the changes of categories and semantic bleaching are accompanied. Consequently, lexical split may have occurred in the interlanguage system developed by JSLs. Thus, JSLs might have at least three kinds of *Have* in their lexicon: One belongs to Tense with the [+perfect] property, another to Verb for possession, and the other to light Verb for causative. However, it is not clear from the experiment conducted for the present study whether there are lexical splits between Aspect *Have* and Tense *Have* in JSLs' representation of *Have*. I will leave this issue to future studies. Importantly, we can argue that both the process of misdevelopment of this kind in L2 acquisition and the process of grammaticalisation in language change are governed by the same internal mechanisms that presumably involved with the process of L1 acquisition.

The question is, then, what causes misdevelopment of this kind in L2 acquisition of English aspectual auxiliary *Have* by JSLs. One prominent cause among others must be the contact between L1 and L2 lexicons. The L1 lexicon embodies some misleading cues for parsing the L2 input, which in turn may contribute to misanalysis of *Have*, not as an Aspect element, but as a Tense element. In addition, the fact that the Japanese aspectual auxiliary *iru* is not identified with the [+perfect] property could give rise to some misleading cues, which in turn result in the loss of the [+perfect] property of *Have*. The other triggers for such misanalysis in L2 acquisition by JSLs are in fact in the L2 input per se. Namely, there is a great deal of ambiguous and obscure evidence which may have led to misanalysing *Have* as a member of Tense. *Have*, in fact, behaves as if it were a Tense element in English (L2 input). For example, the aspectual auxiliary *Have* is in complementary distribution with *do*-support (as in *(X)**Do** you **have** been to Cambridge?/ (O)**Have** you been to Cambridge?*), can inflect for finiteness (tense) (as in *(O) Masako **has/had** changed her name.*), can appear before a sentence-subject (as in *What **have you** done?/**Have you** finished your homework*?), or proceed negations *not* (as in *(O)Kelly **has not** returned the book./ (X)Kelly **not has** returned the book.*).

It is plausible to claim this ambiguity and obscurity of the categorical status of *Have* may have caused JSLs to misanalyse *Have* as a member of Tense while the contact between the L1 and L2 lexicon causes the semantic bleaching from *Have* in English. Therefore, we can draw parallels between the grammaticalisation of language change (a diachronic phenomenon) and L2 acquisition of new functional categories, and between the language contact in language change and the lexicon-contact in L2 acquisition.

In conclusion, both the process of grammaticalisation and the process of misdevelopment can be accounted for as results of a complex function between the obscure and ambiguous input quality, the contact between two languages, and the internal mechanisms that are at work in both L1 and L2 acquisition. Therefore, misanalysis of *Have* as Tense cannot be viewed as merely L1 influence. Instead, a constant and specific misdevelopment of the *have* by JLSs has been explained as effects of (a) the influence of learners' internal mechanisms involved with the process of acquisition, (b) effects of the L2 obscure and ambiguous input quality, and (c) effects of the contact between the L1 and L2 lexicon in the process of language acquisition. The roles of the L1 lexicon in parsing the L2 input in L2 acquisition may be regarded as causal factors that are different from the factors operative in L1 acquisition, thus specific to L2 acquisition. However, note that the L1 experience is a necessary condition, but not a sufficient condition for misanalysis of the input in the sense that it provides some facilitating or misleading cues.

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