An Analysis of Grammatical Judgement Test: dative constructions, their passive forms, unaccusative and unergative constructions

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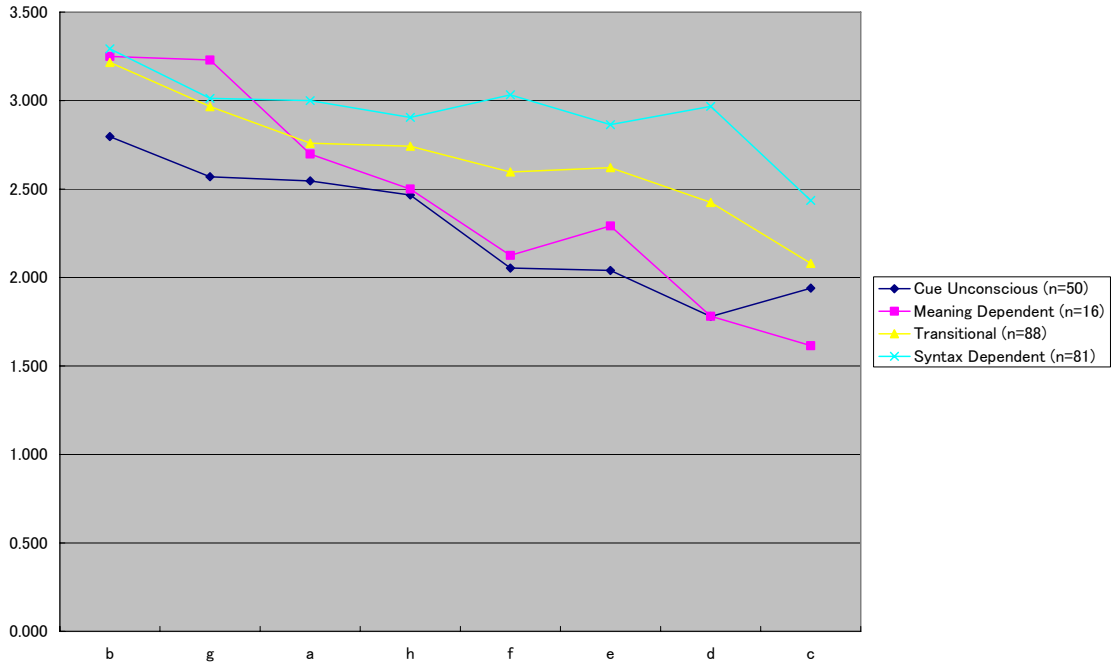
1.0 Introduction

In this paper we argue that Japanese learners' grammatical judgments concerning dative verbs, their passives, unaccusative and unergative constructions can be explained by Lexical Mapping Theory (LMT) within the framework of Lexical Functional Syntax (LFS). LMT bridges the connection derived from argument structures to grammatical functions, suggesting that learners' semantic understanding in the form of argument structures influence learners' grammatical judgments. We dealt with four kinds of dative sentences: (1) prepositional to-datives and for-datives; (2) their di-transitive counterparts; (3) passive sentences of prepositional datives; (4) passive sentences of the di-transitive ones. The test also included six unaccusatives (appear, arrive, die, exist, fall, happen) and four unergatives (cry, dance, laugh and work). These intransitive verbs are also presented to the subjects as *NP + be + past participle and *NP + V + NP, since it is known that learners tend to wrongly interpret these intransitive verbs as causatives and therefore they can be passivized: see Oshita (200) and Oshita (2001). This study investigates the relationship between unaccusative/unergative distinction and dative alternation in second language development by adult native speakers of Japanese. Unaccusative/unergative verbs and dative verbs have so far received attention as distinct objects of inquiry in second language acquisition research. However, in acquiring these verbs, second language learners have to face a similar task of mapping semantic features of the verbs onto morphological and syntactic structures. In order to uncover a common underlying process in acquiring unaccusative/unergative distinction and dative alternation, two grammatical judgment tests, each focusing on the two types of verb respectively, were administered to 239 university students in Japan. We will mainly focus on, among other things, the learners' judgments of both grammatical and ungrammatical passive sentences which appear in the two tests.

2.0 Our previous results

In this section, we summarize our previous experiments. In Nakano et al. (2003), 356 subjects participated in our experiment. First, we analyzed overall judgment patterns concerning dative shifts and their passives. In Yamakawa et al.(2003), we analyzed unergatives, and unaccusatives. Although learners' grammatical judgments on dative constructions differed form the previous studies,

their judgements concerning unergatives and unaccusative constructions remained the same in the two experiments. The following graph summarizes the result.



2.1 Grammatical Judgments on dative alternations and their passives (Analysis 1)

There were six kinds of sentences: (A) double object datives;(B) ill-formed double object datives; (C) prepositional to-datives and for-datives; (D) transitive sentences with to or for prepositions; (E) passive sentences with human subjects; (F) ill-formed passive sentences with human subjects. There are 48 items in the Grammaticality Judgment Task. We tested whether the effects of unmarkedness, animacy and iconicity can influence learners' grammatical judgments. We adopted the following scoring methods. The participants are instructed to rate the grammaticality of each sentence on the 5-point scale: (-2) totally unacceptable – (2) totally acceptable. The raw scores are converted according to the following criteria:

1 When a well-formed sentences as rated as 2 or an ill-formed sentence as rated as -2, we give 4 points.

2 When a well-formed sentences as rated as 1 or an ill-formed sentence as rated as -1, we give 3 points.

3 When a well-formed sentences as rated as 0 or an ill-formed sentence as rated as 0, we give 2 points.

4 When a well-formed sentences as rated as -1 or an ill-formed sentence as rated as 1, we give 2 points.

Section1.2.1 shows that the effect of unmarkedness was observed in the judgment data.

In particular, unmarked forms are accepted more readily than the marked forms.

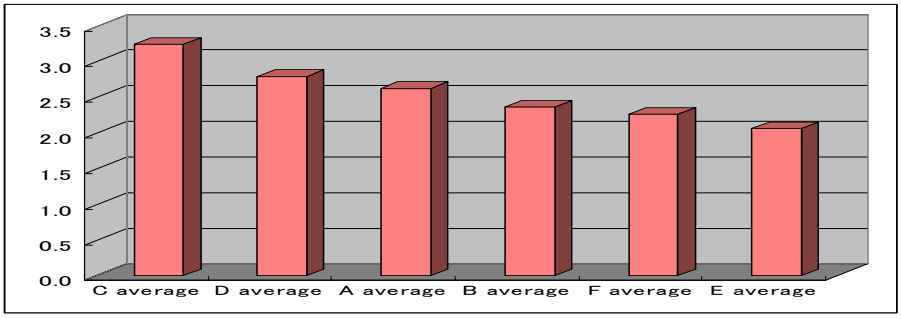


Fig. 1 Mean Correct Judgments

2.1.2 Animacy effects

Each of the four kinds of sentences (A – D), half of them contained human subjects and the other half had the low animate subjects such as police and company. We tested whether the animate subjects can influence their grammatical judgments. The data confirmed our prediction; that is, sentences with human subjects are more correctly judged by the learners.

Source	SS	DF	MS	F	P	F(0.95)
Total	23391.29	11391				
Between	95.12649	1	95.12649	49.01538	2.68E-12	3.842276
Within	1151.71	3	383.9032	197.812	4.6E-125	2.605689
Interaction	50.982	3	16.994	8.75642	8.49E-06	2.605689
Me	22093.47	11384	1.940748			

Fisher's PLSD Level of significance: 5%

Human,Low-animacy	0.182759831	0.05116922	2.68252E-12	S

2.1.3 Iconicity effects

Iconicity Effects illustrate how thematic roles such as agent, theme or goal correspond to the word order of a sentence so that the sentence help a reader to have a vivid image particularly of the movement of its theme from the agent to the recipient or goal among spatial verbs. For this reason, we compared C-to, C-for, D-to, D-for, A-to and A-for in terms of Post-hoc test of multiple paired comparison. Out of 15 paired items, except for A-to & C-to, A-to & C-for and C-to & C-for, all showed statistical significance differences. This result suggests that acceptance data is influenced by the iconicity effects.

3.0 Integrative analysis of dative alternations, their passives, and unergative / unaccusative verbs

In this section, we examine the relationship between learner strategies and grammatical judgment tests. We have defined four strategy groups in terms of MEG scores:

Cue unconscious participants: below 49 points

Meaning dependent participants: between 50 -59 points

Transitional participants: between 60 – 79 points

Syntax dependent participants: more than 80 points

We can characterize these as learner judgment strategies, since cue unconscious participants are those whose grammatical judgments are 'uncertain' and more or less at random; meaning dependents are those whose grammatical judgments rely on argument structure in LFG; syntax dependents are those who can map from argument structures to grammatical functions; that is, they can possess Lexical mapping abilities. Transitional participants are between meaning dependents and syntax dependents.

According to LFS, knowledge of argument structure (a-structure), constituent structure (C-structure) generates well-formed functional structure (f-structure); that is, there are two routes to arrive at the functional structure.

C-structure → f-structure [syntax oriented]

↑

(lexical mapping)

↓

a-structure → f-structure [meaning dependents]

Fig. 2 Lexical Functional Syntax and Learner Judgment Strategies

LFS assumes that mental computation takes place simultaneously to reach at the uniquely determined values in f-structure. The simultaneous computation implies that even syntax oriented subjects must apply the computation of a--f path. To give a simplified account of LFS, the above figure does not include reverse mapping but in LFS theory we adopt bi-jection. The simultaneous computation claims that we compute major two routes simultaneously, rejecting the ill-formed values during the computational process. So, assuming the LFS assumption of brain mechanism being the simultaneous computation, even syntax-oriented participants must be passing through the meaning dependent route. For this reason, we can accept and agree with the post hoc test results; i.e., meaning dependents and syntax-oriented group do not show statistically significant differences. Also, we should recognize that learner's acceptance of ill-formed sentences is the result of mentally generated wrong values.

One of the evidence that judgments by meaning dependents tend to rely on meanings derived from argument structures rather than syntactic movement come from four sources of passive

constructions: pass (to), *pass(to), pass (for) and *pass (for): for further discussion, see Nakano et al. (2004).

	Mean scores	Mean actual rating	
pass (to)	3.1	+1.1	(fairly acceptable)
*pass(to)	1.3	+1.3	(fairly acceptable)
pass (for)	2.1	0.1	(uncertain)
*pass (for)	2.2	0.2	(uncertain)

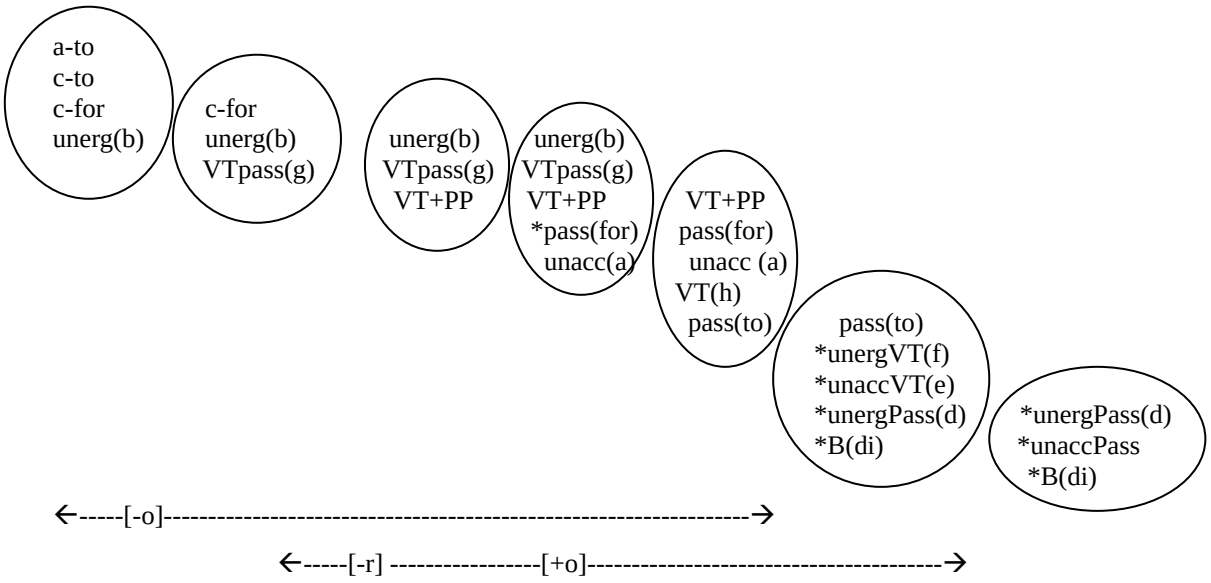
Table 1 Meaning Dependents and Passives

The above table shows that meaning dependents do not differentiates pass(to) from *pass(to), nor pass(for) from *pass (for), since argument structures for pass(to) and *pass(to) are identical and argument structures for pass(for) and *pass (for) are also identical. Meaning dependents who rely on argument structure would respond in the same way for pass(to) and *pass(to) as well as pass(for) and *pass (for). On the other hand, syntax-oriented subjects reacted differently from meaning dependents.

	Mean scores	Mean actual rating	
pass (to)	2.7	0.7	(closer to fairly acceptable)
*pass(to)	1.8	1.8	(closer to completely acceptable)
pass (for)	1.0	-1.0	(fairly unacceptable)
*pass (for)	3.3	-1.3	(fairly unacceptable)

Table 2 Syntax-oriented Participants and Passives

They responded fairly well, except for pass (for) and *pass(to). As stated in Section 3.4, misjudgments made by syntax-oriented subjects relates to their syntactic knowledge of Japanese adversative passives with human subjects, which could conjure up some semantic conflicts in those learner's mind. Fig. 2 and Fig 3 show different results concerning Dative alternations and passives. A-to is judged much more correctly than A-for is. This may be due to Input Effects, since in Japanese high school textbooks A-to is always taught as a prime double object verb, while A-for is rarely taught: see Ueda et al. (2004). Whatever the reason is, the superiority of unmarked forms in learner language development is concealed in the present data.



In the lexical mapping theory (LMT) in LFS [-o] has a theoretical privilege over [-r] to be universally assigned as subjects; i.e., [-o] items are acquired earlier with ease than [-r] items, which accounts for the earlier acquisition of unergatives than that of unaccusatives. [+o] inhibits its occurrences in subject positions, which accounts for the ungrammaticality of *pass(to) and *pass(for). Pass (for) (well-formed passive of double object for-dative) relates to VT(h), VT+PP, VTpass(g), unaccusatives, pass(to), *unergVT, *unergPass, and *unaccVT. The acquisition of pass(for) presupposes the acquisition of the VT(h), VT+PP, VTpass(g), unaccusatives(a), and pass(to). A learner's incomplete knowledge about these domains makes him accept *unergVT, *unergPass, and *unaccVT.

Apart from A-to (double object to-datives),the above grammaticality judgments makes sense in that VT or VT+PP appear to be more learnable than unergatives and that unergatives is more learnable than unaccusatives. The former pattern was referred to by Chomsky (1965) who claimed that VI is derived from VT. Since larger amount of acceptance of A-to is undeniable, SLA may be influenced particially by Input and by general learning principles such as the superiority of unmarked forms, iconicity, animacy and the canonical occurrences of [-o] in its subject positions, compared to [-r].

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