Japanese and Chinese Learners’ Acquisition of the Narrow-Range Rules for the Dative Alternation in English

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I investigated the acquisition of narrow-range rules governing the dative alternation (Pinker, 1989) by adult L2 learners of English: 32 English speakers, 32 Japanese speakers and 32 Chinese speakers participated. I investigated 4 of Pinker’s narrow-range verb classes—the Throw class, the Push class, the Tell class, and the Whisper class: Participants rated the acceptability of prepositional and double object datives containing both made-up and real verbs in these subclasses. Both Japanese and Chinese speakers distinguished double object datives containing Tell-class verbs from those with Whisper-class verbs, but failed to distinguish double object datives containing Throw-class verbs from those with Push-class verbs. I suggest that Japanese and Chinese learners’ acquisition of the dative alternation in English is governed by the properties of an equivalent structure in their L1 relative to the properties of the target structure.

This is an extensively revised version of Inagaki (1994, 1996). I would like to thank Robert Bley-Vroman, Kate Wolfe-Quintero, Richard Schmidt, William O’Grady, Kevin Gregg, Naoko Yoshinaga, and Shu-chun Huang for their helpful comments at various stages of this research. Special thanks go to Lydia White for her suggestions for revision. However, any remaining errors are mine.

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In this article, I consider issues relating to the second language (L2) acquisition of English argument structure, particularly, the dative alternation. Second language argument structure is attracting increasing attention (Juffs, 1996a, 1996b; Sorace, 1993, 1995; White et al., in press). The English dative alternation was probably the first argument structure issue to receive attention in the L2 literature. Early work on L2 acquisition of the English dative alternation centered around the notion of markedness—whether defined in terms of the core/periphery distinction (Mazurkewich, 1984), learnability (White, 1987), “learning complexity” (Hawkins, 1987), or typology (Wolfe-Quintero, 1992)—as well as how it could explain acquisition sequence or transfer from the L1 to the L2. These studies, although concerned with the dative alternation, did not look at the fine-grained verb classes on which the present paper focuses.

It is well-known that the dative alternation in English poses a learnability problem (e.g., Baker, 1979). The following sentences illustrate this:

(1) John threw a ball to Mary.
(2) John threw Mary a ball.
(3) John pushed a ball to Mary.
(4) *John pushed Mary a ball.
(5) John told a secret to Mary.
(6) John told Mary a secret.
(7) John whispered a secret to Mary.
(8) *John whispered Mary a secret.

Sentences (1), (3), (5), and (7) are called prepositional datives (PDs), whereas sentences such as (2), (4), (6), and (8) are double object datives (DODs). The term “dative alternation” refers to the alternation between the PD and the DOD. The term “dative lexical rule” refers to a rule which, given the PD, yields the DOD. Pinker and his colleagues (Gropen, Pinker, Hollander, Goldberg, & Wilson, 1989; Pinker, 1989), convincingly showed that children, although generally conservative, apply the dative lexical rule productively and make overgeneralization errors,
such as “I gon’ put me all dese rubber bands on” and “Jay said me no” (Pinker, 1989, p. 21). This suggests a “learnability paradox” in the acquisition of the dative alternation in English; children apparently would require negative evidence in order to unlearn the overgeneralizations.

**Pinker’s Solution**

Pinker’s solution to the learning paradox rests on the assumption that the dative alternation is an operation on underlying semantic structures. According to Pinker (1989), the dative alternation is an alternation between the two “thematic cores”: “X causes Y to go to Z” (yielding the PD \[X \text{V Y} \to Z\] in syntax) and “X causes Z to have Y” (yielding the DOD \[X \text{V Z Y}\] in syntax).

Semantic structures are projected to argument structures by “linking rules,” which map the agent (“X” in the thematic cores of both the PD and DOD) onto the subject, the theme (“Y” in the thematic core of the PD) and the recipient or possessor (“Z” in the thematic core of the DOD) onto the direct object, the possessed entity (“Y” in the thematic core of DOD) onto the second object, the goal (“Z” in the thematic core of the PD) onto the oblique argument, etc. Pinker (1989) argued that linking rules are properties of Universal Grammar (UG), in the sense that every language in the world uses them, and children need not learn them because they are innate.

Then what do children learn? Pinker (1989) proposed that they learn the “broad-range rule” (BRR), which changes “X causes Y to go to Z” to “X causes Z to have Y” when a given verb is cognitively compatible with causation of possession change. However, compatibility with the BRR is only a necessary, not a sufficient, condition for a verb to alternate, because the BRR still cannot rule out “negative exceptions” like (4) and (8). One can certainly imagine an event in which pushing a ball to somebody results in that person’s possessing the ball, or one in which whispering a secret to somebody results in that person’s “possessing” or knowing the secret. Yet sentences like (4) and (8) are not acceptable.
To solve this problem, Pinker proposed “narrow-range rules” (NRRs), whose application poses a sufficient condition for a verb to alternate. According to Pinker, there are 10 or so subclasses of verbs (“narrow-range verb classes”), some of them dativizable (able to alternate) and others nondativizable (unable to alternate); a sufficient condition for a verb to alternate is membership in one of the dativizable subclasses of verbs.\(^1\)

How do NRRs solve the particular cases of Sentences (1)–(8)? Example (2) is possible because \textit{throw} belongs to the dativizable narrow-range verb class “verbs of instantaneous causation of ballistic motion,” whereas (4) is not possible because \textit{push} belongs to the nondativizable narrow-range verb class “verbs of continuous causation of accompanied motion in some manner.” The difference between Throw-class verbs and Push-class verbs lies in temporal/aspectual properties: Throw-class verbs signify an instantaneous causing event which precedes the motion of the object, whereas Push-class verbs signify a continuous causing event which temporarily accompanies the motion of the object (see Pinker, 1989, p. 218 for details).

As for Sentences (5)–(8), (6) is possible because \textit{tell} belongs to the dativizable narrow-range verb class “verbs of type of communicated message,” whereas (8) is not possible because \textit{whisper} belongs to the nondativizable narrow-range verb class “verbs of manner of speaking.” The difference between Tell-class verbs and Whisper-class verbs lies in the lack/presence of a manner of speaking: Tell-class verbs do not specify any manner of speaking, whereas Whisper-class verbs have certain manners of speaking (e.g., “in a whispering manner” in the case of \textit{whisper}; see Pinker, 1989, p. 215 for details).\(^2\)

\textit{Bley-Vroman and Yoshinaga’s Study}

Yoshinaga (1991) and Bley-Vroman and Yoshinaga (1992)\(^3\) looked at the L2 acquisition of the NRRs for the English dative alternation based on Pinker’s theory. They tested Bley-Vroman’s (1989, 1990) Fundamental Difference Hypothesis (FDH) that
adult L2 learners lose their ability to access UG and that those who start to learn an L2 as adults have available only the properties of UG that are instantiated in their L1. Specifically, based on the FDH, B & Y (Bley-Vroman & Yoshinga, 1992; Yoshinga, 1991) predicted that adult L2 learners will successfully form narrow-range verb classes where relevant distinctions are available in their L1, but will fail to do so where relevant distinctions are not available in their L1.

To test this prediction, B & Y tested 85 native speakers (NSs) of English and 85 Japanese adult learners of English as a second language. They used a questionnaire containing 12 short paragraphs with pictures, each of which was designed to provide the meaning of a verb belonging to one of Pinker’s narrow-range classes. The 12 verbs consisted of an equal number of real and made-up verbs, half of which belonged to dativizable narrow-range verb classes (Tell, Throw and Send) and half to nondativalizable ones (Whisper and Push).

Each paragraph was followed by 2 simple sentences, whose acceptability the participants rated on a 7-point Likert scale. The sentences consisted of a PD and a DOD, both containing the verb just introduced by the preceding paragraph and picture. The idea was that if the learners knew the relevant narrow-range verb classes, they would, given a PD, apply the NRR and accept the corresponding DOD if the verb belonged to a dativizable subclass but not if it belonged to a nondativizable subclass.

B & Y found that with real verbs both native and Japanese speakers rated the DODs containing dativizable verbs significantly higher than those containing nondativizable verbs. With made-up verbs, however, the Japanese speakers’ ability to distinguish dativizable verbs from nondativizable verbs almost disappeared; the NSs could still distinguish between the dativizable and nondativizable verbs at a statistically significant level, although the distinction was less clear than with real verbs.

B & Y claimed that the Japanese speakers, when presented with PDs containing made-up verbs, could not distinguish the
grammaticality of the corresponding DODs depending on a particular narrow-range verb class because narrow-range verb classes were grammatically irrelevant in Japanese. That is, according to B & Y’s analysis, Japanese has only one dative construction, corresponding to the DOD in English; therefore, there are no narrow-range dativizable verb classes in Japanese.

The Present Study

The present study expands on B & Y’s study, but differs from it in three important ways:

1. This study examines the effects of specific narrow-range verb classes, whereas B & Y collapsed narrow-range verb classes into dativizable and nondativizable classes.

2. This study rests on an analysis of the dative construction in Japanese which differs from that presented in B & Y’s study.

3. This study included Chinese adult learners of English as well as Japanese adult learners of English.

As for the first point, this study focuses on four of Pinker’s (1989) narrow-range verb classes: “verbs of instantaneous causation of ballistic motion” (the Throw class), “verbs of continuous causation of accompanied motion in some manner” (the Push class), “verbs of type of communicated message” (the Tell class), and “verbs of manner of speaking” (the Whisper class). Thus, it examines sensitivity to specific narrow-range constraints. The importance of this will become clear in light of the analyses of the dative constructions in Japanese and Chinese provided below.

Regarding the second point, although B & Y were right in claiming that Japanese has only one dative construction, the DOD, it does not necessarily follow that the narrow-range constraints are irrelevant in Japanese. On the contrary, narrow-range constraints are relevant for the occurrence of the Japanese dative construction, but Japanese differs from English in terms of how the narrow-range verb classes are delineated in relation to their ability to occur in the DOD construction.
As B & Y argued, Japanese has only one dative construction, \textit{NP-ni NP-o V}, exemplified in (9):

(9) \begin{align*}
\text{John-ga Mary-ni hon-o atae-ta.}
\end{align*}
\begin{align*}
\text{John-Nom Mary-to/Dat book-Acc give-Pst}^4
\end{align*}
\begin{align*}
\text{“John gave a book to Mary.” or “John gave Mary a book.”}
\end{align*}

The issue here is whether the particle \textit{ni} attached to the second NP is a postposition or a dative Case-marker. If \textit{ni} is a postposition, the construction is similar to the PD in English; if \textit{ni} is a dative Case-marker, the construction is similar to the DOD in English. B & Y argued that it is DOD (Bley-Vroman & Yoshinaga, 1992, pp. 170–174).

However, the fact that Japanese has only one dative construction does not imply the irrelevance of the narrow-range constraints in Japanese; Pinker’s theory allows for the possibility that particular constraints apply directly to a single argument structure (Pinker, 1989, pp. 65–67).

I now focus on the four narrow-range verb classes investigated in the present study: Push, Throw, Tell, and Whisper.

Previously, I argued (Inagaki, 1993) that in Japanese, the subclass “verbs of continuous causation of accompanied motion” is the only narrow-range verb class that does not allow the \textit{NP-ni NP-o V} construction. This is shown in (10):

(10) \begin{align*}
\text{*John-ga Mary-ni hako-o osi-ta/hakon-da/hii-ta/age-ta.}
\end{align*}
\begin{align*}
\text{John-Nom Mary-Dat box-Acc push/carry/pull/lift-Pst}
\end{align*}
\begin{align*}
\text{“John pushed/carried/pulled/lifted a box to Mary.”}
\end{align*}

On the other hand, Throw-class verbs are perfectly natural in the \textit{NP-ni NP-o V} construction in Japanese, as shown in (11):

(11) \begin{align*}
\text{John-ga Mary-ni booru-o nage-ta/ket-ta.}
\end{align*}
\begin{align*}
\text{John-Nom Mary-Dat ball-Acc throw/kick-Pst}
\end{align*}
\begin{align*}
\text{“John threw/kicked Mary a ball.”}
\end{align*}

The contrast between (10) and (11) suggests that just as in English, the Throw class and the Push class in Japanese are
delineated in relation to the ability to occur in the DOD construction. This is a counter-example to B & Y’s claim, and evidence for the direct application of the narrow-range constraints to the DOD construction in Japanese.

I also (Inagaki, 1993) found that both Tell-class verbs and Whisper-class verbs can occur in the NP-ni NP-o V construction, as shown in (12) and (13), respectively:

   John-Nom Mary-Dat something-Acc tell/teach/write-Pst  
   “John told/taught/wrote Mary something.”

(13) John-ga Mary-ni nanika-o sasayai-ta/saken-da.  
   John-Nom Mary-Dat something-Acc whisper/shout-Pst  
   “John whispered/shouted something to Mary.”

This suggests that unlike in English, the Tell class and the Whisper class are not delineated in Japanese in relation to the ability to occur in the DOD construction.

With respect to the third point, I included Chinese speakers in the present study because the dative construction in Chinese, as analyzed by Huang (1994), allows interesting predictions about the acquisition of the NRRs by Chinese adult learners of English as compared to their Japanese counterparts.

Huang (1994), expanding on previous studies on the dative construction in Chinese by Li and Thompson (1981) and Wolfe-Quintero (1992), examined verbs in Chinese within the framework of Pinker’s (1989) narrow-range verb classes. As she pointed out, Chinese has a dative alternation similar to that in English, as shown in (14) and (15):

(14) John sòng yì-duǒ hūa gěi Mary.  
    John give a flower to Mary  
    “John gave a flower to Mary.”

(15) John sòng Mary yì-duǒ hūa.  
    John give Mary a flower  
    “John gave Mary a flower.”
However, Huang found some differences between Chinese and English in terms of how the narrow-range verb classes were delineated in relation to dativizability. In Chinese, neither the Throw class nor the Push class allows the DOD construction, although they both allow the PD construction. Sentences (16)–(19) illustrate this:

(16) John diū / tī yī-ge qiú gěi Mary.
       John throw/kick a ball to Mary
       “John threw/kicked a ball to Mary.”

(17) *John diū / tī Mary yī-ge qiú.
       John throw/kick Mary a ball
       “John threw/kicked Mary a ball.”

(18) John tuī / yùn yī-ge xīangzi gěi Mary.
       John push/carry a box to Mary
       “John pushed/carried a box to Mary.”

(19) *John tuī / yùn Mary yī-ge xīangzi.
       John push/carry Mary a box
       “John pushed/carried Mary a box.”

This suggests that, unlike English, Chinese does not delineate the Throw class and the Push class in relation to dativizability.

Further, Huang (1994) found that in Chinese, the Tell class allows the DOD construction, but not the PD construction, as shown in (20) and (21):

(20) *John gàosù yī-ge gùshì gěi Mary.
       John tell a story to Mary
       “John told a story to Mary.”
*John jiāo shùxué gěi Mary.6
       John teach mathematics to Mary
       “John taught mathematics to Mary.”

(21) John gàosù Mary yī-ge gùshì.
       John tell Mary a story
       “John told Mary a story.”
This is further evidence that the narrow-range constraints can apply directly to the DODs even when the corresponding PDs are ungrammatical.

On the other hand, Whisper-class verbs can only occur in the PD construction in Chinese, as shown in (22) and (23):

(22) John xiǎo-shēng-shūō/hǎn yī-ge mìmì gěi Mary tíng
John soft-voice-say/shout a secret to Mary hear
“John whispered/shouted a secret to Mary.”

(23) *John xiǎo-shēng-shūō/hǎn Mary (tíng) yī-ge mìmì
John soft-voice-say/shout Mary (hear) a secret
“John whispered/shouted Mary a secret.”

The contrast between (21) and (23) suggests that, just as in English, the Tell class and the Whisper class are delineated in Chinese in relation to their ability to occur in the DOD construction.

To summarize, Table 1 shows whether or not each of the four narrow-range verb classes—Throw, Push, Tell, and Whisper—allows the DOD construction in English, Japanese and Chinese.

Table 1

Verb Classes and Their Occurrence in the DOD Construction in English, Japanese and Chinese

<table>
<thead>
<tr>
<th></th>
<th>Throw class</th>
<th>Push class</th>
<th>Tell class</th>
<th>Whisper class</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Japanese</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Chinese</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: Yes: DOD allowed; No: DOD not allowed
Research Questions and Hypotheses

The present study investigates the acquisition of NRRs for the dative alternation by Japanese speaking and Chinese speaking adult learners of English. Specifically, I formulated the following 4 hypotheses:

1. English NSs will distinguish the DODs containing Throw-class verbs from those containing Push-class verbs, and the DODs containing Tell-class verbs from those containing Whisper-class verbs.

2. Japanese adult learners of English will distinguish the DODs containing Throw-class verbs from those containing Push-class verbs, but not the DODs containing Tell-class verbs from those containing Whisper-class verbs.

3. Chinese adult learners of English will distinguish the DODs containing Tell-class verbs from those containing Whisper-class verbs, but not the DODs containing Throw-class verbs from those containing Push-class verbs.

4. Where speakers can distinguish DODs appropriately, both NSs and Japanese and Chinese adult learners of English will perform better when real verbs are used.

Hypothesis 1 follows from Pinker’s (1989) theory. Hypotheses 2 and 3 are based on the FDH, assuming the analysis of verb classes and their occurrence in the DOD construction in English, Japanese and Chinese summarized in Table 1. Hypothesis 4 comes from B & Y’s finding that both English NSs and Japanese adult learners of English distinguished between dativizable and nondativizable verbs more clearly when real verbs were used.
Method

Participants

This study compared 3 language groups, whose biodata are summarized in Table 2. The participants were either undergraduates, graduates, or visiting scholars at the University of Hawaii. The Japanese speakers consisted of 7 undergraduates and 25 graduates; the Chinese participants, all Mandarin speakers, consisted of 3 undergraduates, 27 graduates, and 2 visiting scholars; the English speakers consisted of 11 undergraduates and 21 graduates.

There were two requirements for the nonnative (NNS) participants: (a) high proficiency in English, and (b) arrival in the U.S. (or any other English-speaking country) as adults. High proficiency was required for comparability to B & Y’s study, whose Japanese participants were highly advanced (TOEFL: \( M = 579.4 \),

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Japanese ((n=32))</th>
<th>Chinese ((n=32))</th>
<th>English ((n=32))</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>22–43</td>
<td>18–42</td>
<td>18–45</td>
</tr>
<tr>
<td>( M )</td>
<td>29.61</td>
<td>28.33</td>
<td>28.00</td>
</tr>
<tr>
<td>( SD )</td>
<td>5.18</td>
<td>5.41</td>
<td>8.00</td>
</tr>
<tr>
<td><strong>TOEFL score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>508–650</td>
<td>500–650</td>
<td>—</td>
</tr>
<tr>
<td>( M )</td>
<td>574.89</td>
<td>566.83</td>
<td>—</td>
</tr>
<tr>
<td>( SD )</td>
<td>33.48</td>
<td>37.82</td>
<td>—</td>
</tr>
<tr>
<td><strong>Age on arrival in the U.S.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>17–40</td>
<td>14–42</td>
<td>—</td>
</tr>
<tr>
<td>( M )</td>
<td>25.56</td>
<td>26.19</td>
<td>—</td>
</tr>
<tr>
<td>( SD )</td>
<td>5.50</td>
<td>5.69</td>
<td>—</td>
</tr>
</tbody>
</table>
$SD = 40.9$). Arrival as adults was required because of the study’s relevance to the FDH.

**Materials**

*Verb classes.* I chose 4 narrow-range verb classes for this study: Throw, Push, Tell, and Whisper. I created 2 made-up verbs for each verb class (Part 1), and chose 2 real verbs from each (Part 2). Thus, there were 8 verbs in each part. Table 3 shows how the made-up verbs in Part 1 and the real verbs in Part 2 corresponded to each narrow-range verb class.

I used a written questionnaire, consisting of 2 parts. Part 1 was a modification of B & Y’s questionnaire. Following instructions and one example question, it presented 8 paragraphs with pictures (see Appendix A for an example). Each paragraph contained one made-up verb. The context of the paragraph and the picture provided the meaning of the made-up verb so that it would, in grammatically relevant terms, be identical to the semantic representation of a verb in a particular narrow-range subclass. Each paragraph contained a test verb in the PD

<table>
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<th>Table 3</th>
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</table>

**Made-Up and Real Verbs Corresponding to Each Verb Class**

<table>
<thead>
<tr>
<th>Verb class</th>
<th>Part 1</th>
<th>Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throw</td>
<td>jape</td>
<td>kick</td>
</tr>
<tr>
<td></td>
<td>norp</td>
<td>throw</td>
</tr>
<tr>
<td>Tell</td>
<td>moop</td>
<td>teach</td>
</tr>
<tr>
<td></td>
<td>gomp</td>
<td>tell</td>
</tr>
<tr>
<td>Push</td>
<td>tonk</td>
<td>push</td>
</tr>
<tr>
<td></td>
<td>pell</td>
<td>carry</td>
</tr>
<tr>
<td>Whisper</td>
<td>feen</td>
<td>whisper</td>
</tr>
<tr>
<td></td>
<td>doak</td>
<td>shout</td>
</tr>
</tbody>
</table>

*Note:* Made-up verbs were counterbalanced across paragraphs and participants.
construction. Two sentences followed each paragraph, using the made-up verb, one in the PD construction and the other in the DOD construction. Before each sentence was a 7-point Likert scale with the numbers −3 (completely impossible in English) through 0 (unable to decide) to 3 (completely possible in English). The instructions asked the participants to read the paragraph and look at the picture to understand the meaning of the new word and then to decide on the acceptability of each of the following 2 sentences by circling one of the numbers.

If the person knew a particular narrow-range verb class and whether or not it allowed the DOD construction, when presented with a novel verb in that narrow-range verb class occurring in the PD construction, the person should correctly accept or reject the corresponding DOD, depending on the narrow-range verb class. In other words, the successful learner would allow the application of the NRR only when the made-up verb belonged to one of the dativizable narrow-range subclasses.

I asked the participants to rate the sentences from intuition, rather than conscious knowledge. They were also told not to try to substitute a real word for the new one but to try to learn the new word’s meaning. This was an attempt to avoid the “code” problem (Bley-Vroman & Yoshinaga, 1992): Using made-up verbs to examine the productivity of the NRRs controls for a possible frequency effect; however, if participants simply substitute a real word for the new one and see the made-up verb as code for a real verb, this defeats the purpose of using made-up verbs.

I randomly ordered the 8 paragraphs. To control for a possible effect of morphophonology (see Note 2), I used monosyllabic verbs, further counterbalancing them across paragraphs and participants, obtaining a total of 8 versions of the questionnaire. Four participants in each language group filled out each version of the questionnaire.

Whereas B & Y presented real and made-up verbs randomly across the paragraphs, I presented only made-up verbs in Part 1, saving all real verbs for Part 2. If real and made-up verbs were
presented together, participants might be led to see the made-up verbs as codes for the real verbs.

Between Part 1 and Part 2, there were 2 questions on one page, with space for a written answer. The questions were:

1. Were there any strategies that you used for the rating of the sentences? If there were, what kinds? Please give examples if possible.

2. Did you find any principles which determined the acceptability of the sentences? If you did, what kinds?

The purpose of the first question was to check whether the “code” problem had occurred. The second was to see to what extent the participants were aware of the NRRs.

Part 2, following instructions and 2 example questions, randomly presented 8 pairs of sentences without pictures and paragraphs. One real verb in English was used for each pair. Each pair consisted of one sentence in the PD construction and one in the DOD construction. As in Part 1, there was a 7-point Likert scale before each sentence. The instructions, as in Part 1, asked the participants to decide on the acceptability of each sentence by circling one of the 7 numbers and to concentrate on how they felt about the sentences.

Administration. I distributed the questionnaire to the participants during the summer session and the fall semester of 1994 at the University of Hawaii. There was no time limit for completing it. This made sure that the participants could figure out the meaning of the made-up verbs. Roughly speaking, it took the English speakers about 20 minutes, and the Japanese and Chinese speakers about 30 minutes, to finish the questionnaire.

Analyses

I conducted a 4-way repeated measures ANOVA. The design included one between-subject factor (language), which had 3 levels (native (NS)/Japanese (JPN)/Chinese (CHN)) and 3 within-subject factors (construction, authenticity, and verb class).
Construction had 2 levels (PD/DOD), and so did authenticity (made-up verbs (MU)/real verbs (REAL)). Verb class had 4 levels (Throw class/Push class/Tell class/Whisper class).

As pointed out before, one of the problems with B & Y’s study was that they collapsed verb classes into dativizable and nondativizable classes. As a solution to this problem, I included verb class as a factor and examined the effect of specific narrow-range verb classes. I used planned comparisons to determine which pairs of means were significantly different. I used the SuperANOVA (1989) software for the analysis, setting the alpha level at 0.05.

Results

Table 4 presents the means and standard deviations of the ratings of the PDs and the DODs by the NSs, Japanese, and Chinese speakers for the different conditions.

Table 4 indicates that overall, the PDs were consistently rated high compared to the DODs, as indicated by the significant main effect of construction—$F(1, 93) = 526.56, p = 0.0001$—with the exception of Chinese speakers’ low mean rating of the PDs containing real Tell verbs (1.84) compared to their high mean rating of the corresponding DODs (2.64). (I will return to this exception later.) The high ratings of the PDs containing made-up verbs are perhaps due to the fact that the PD sentences were given in the paragraphs. In fact, in answering the first question between Part 1 and Part 2, 3 native speakers, 3 Japanese speakers, and one Chinese speaker reported that they accepted the PD sentence because the construction was used in the paragraph.

There was a significant 2-way interaction between construction and verb class, $F(3, 279) = 99.37, p = 0.0001$, reflecting the fact that within the DODs the ratings varied depending on the verb class, as Pinker’s (1989) theory predicts. There was also a significant 3-way interaction between construction, verb class, and language, $F(6, 279) = 7.25, p = 0.0001$, indicating that the effect of verb class on the ratings of the DODs varied depending on the language group, as expected under Hypotheses 1 through 3.
Table 4

*Means and Standard Deviations of Ratings of PDs and DODs by NSs, Japanese and Chinese Speakers*

<table>
<thead>
<tr>
<th></th>
<th>MU</th>
<th>REAL</th>
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<tbody>
<tr>
<td><strong>PD</strong></td>
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<td></td>
</tr>
<tr>
<td>NS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throw class</td>
<td>2.67 (0.73)</td>
<td>2.86 (0.41)</td>
<td>2.77 (0.59)</td>
</tr>
<tr>
<td>Push class</td>
<td>2.72 (0.57)</td>
<td>2.91 (0.30)</td>
<td>2.81 (0.46)</td>
</tr>
<tr>
<td>Tell class</td>
<td>2.75 (0.55)</td>
<td>2.88 (0.31)</td>
<td>2.81 (0.45)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>2.55 (0.81)</td>
<td>2.83 (0.47)</td>
<td>2.69 (0.67)</td>
</tr>
<tr>
<td>mean</td>
<td>2.67 (0.67)</td>
<td>2.87 (0.37)</td>
<td>2.77 (0.55)</td>
</tr>
<tr>
<td>JPN</td>
<td></td>
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</tr>
<tr>
<td>Throw class</td>
<td>2.48 (0.79)</td>
<td>2.72 (0.52)</td>
<td>2.60 (0.67)</td>
</tr>
<tr>
<td>Push class</td>
<td>2.38 (0.98)</td>
<td>2.69 (0.67)</td>
<td>2.53 (0.85)</td>
</tr>
<tr>
<td>Tell class</td>
<td>2.44 (1.01)</td>
<td>2.69 (0.59)</td>
<td>2.56 (0.83)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>2.02 (1.14)</td>
<td>2.56 (0.69)</td>
<td>2.29 (0.98)</td>
</tr>
<tr>
<td>mean</td>
<td>2.33 (0.99)</td>
<td>2.66 (0.62)</td>
<td>2.50 (0.84)</td>
</tr>
<tr>
<td>CHN</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Throw class</td>
<td>2.67 (0.63)</td>
<td>2.94 (0.17)</td>
<td>2.81 (0.48)</td>
</tr>
<tr>
<td>Push class</td>
<td>2.67 (0.74)</td>
<td>2.91 (0.27)</td>
<td>2.79 (0.56)</td>
</tr>
<tr>
<td>Tell class</td>
<td>2.48 (0.84)</td>
<td>1.84 (1.62)</td>
<td>2.16 (1.32)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>2.27 (1.12)</td>
<td>2.50 (0.82)</td>
<td>2.38 (0.98)</td>
</tr>
<tr>
<td>mean</td>
<td>2.52 (0.86)</td>
<td>2.55 (1.01)</td>
<td>2.54 (0.94)</td>
</tr>
<tr>
<td><strong>DOD</strong></td>
<td></td>
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</tr>
<tr>
<td>NS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throw class</td>
<td>1.77 (1.19)</td>
<td>1.41 (1.38)</td>
<td>1.59 (1.29)</td>
</tr>
<tr>
<td>Push class</td>
<td>0.91 (1.80)</td>
<td>−0.72 (2.16)</td>
<td>0.09 (2.14)</td>
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<tr>
<td>Tell class</td>
<td>2.03 (1.16)</td>
<td>2.78 (0.38)</td>
<td>2.41 (0.93)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>0.19 (1.86)</td>
<td>−0.53 (1.87)</td>
<td>−0.17 (1.88)</td>
</tr>
<tr>
<td>mean</td>
<td>1.22 (1.69)</td>
<td>0.73 (2.14)</td>
<td>0.98 (1.94)</td>
</tr>
<tr>
<td>JPN</td>
<td></td>
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</tr>
<tr>
<td>Throw class</td>
<td>−0.11 (1.71)</td>
<td>−1.77 (1.18)</td>
<td>−0.94 (1.68)</td>
</tr>
<tr>
<td>Push class</td>
<td>−0.19 (1.49)</td>
<td>−2.09 (1.11)</td>
<td>−1.14 (1.62)</td>
</tr>
<tr>
<td>Tell class</td>
<td>0.91 (1.60)</td>
<td>2.19 (1.34)</td>
<td>1.55 (1.60)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>−0.55 (1.74)</td>
<td>−0.73 (1.86)</td>
<td>−0.64 (1.79)</td>
</tr>
<tr>
<td>mean</td>
<td>0.02 (1.71)</td>
<td>−0.60 (2.19)</td>
<td>−0.29 (1.98)</td>
</tr>
<tr>
<td>CHN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throw class</td>
<td>0.55 (2.00)</td>
<td>−0.81 (1.85)</td>
<td>−0.13 (2.03)</td>
</tr>
<tr>
<td>Push class</td>
<td>0.22 (1.73)</td>
<td>−1.28 (1.60)</td>
<td>−0.53 (1.82)</td>
</tr>
<tr>
<td>Tell class</td>
<td>1.38 (1.37)</td>
<td>2.64 (0.81)</td>
<td>2.01 (1.28)</td>
</tr>
<tr>
<td>Whisper class</td>
<td>0.45 (1.84)</td>
<td>−0.11 (2.01)</td>
<td>−0.28 (1.92)</td>
</tr>
<tr>
<td>mean</td>
<td>0.42 (1.85)</td>
<td>0.11 (2.22)</td>
<td>0.27 (2.05)</td>
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</table>

*Note: M (SD)*
In addition, there was a significant 3-way interaction between construction, verb class, and authenticity ($F(3, 279) = 43.87, p = 0.0001$). This is consistent with Hypothesis 4, which expected a stronger effect of verb class on the ratings of the DODs when the verbs are real. However, there was also a 4-way interaction between construction, verb class, authenticity, and language, not expected under Hypothesis 4.

Thus, the result of the ANOVA, in general, seems consistent with the hypotheses; however, closer analysis of the ratings of the DODs is required to test the hypotheses more directly. For this purpose, Figures 1 through 3 visually represent the mean ratings of the DODs under different conditions for each language group.

Figure 1 indicates that the English NSs distinguished the DODs containing Throw-class verbs from those containing Push-class verbs, and the DODs containing Tell-class verbs from those containing Whisper-class verbs, both when the verbs were real.

![Figure 1](image). Mean ratings of the DODs—native speakers
and when they were made-up. This supports Hypothesis 1. Figure 2 indicates that the Japanese learners distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs, but not the DODs containing Throw-class verbs from those containing Push-class verbs, both when the verbs were real and when they were made-up. This runs counter to Hypothesis 2, which predicted that Japanese speakers would distinguish the DODs containing Throw-class verbs from those with Push-class verbs, but not the DODs containing Tell-class verbs from those with Whisper-class verbs. Figure 3 indicates that the Chinese learners, just like their Japanese counterparts, distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs, but not the DODs containing Throw-class verbs from those containing Push-class verbs, both when the verbs were real and when they were made-up, supporting Hypothesis 3.
Planned comparisons of the ratings of the DODs containing Throw-class verbs to those containing Push-class verbs, and of the ratings of the DODs containing Tell-class verbs to those containing Whisper-class verbs, for real and made-up verbs in the NSs, Japanese, and Chinese speakers, indeed confirm these results. The results appear in Table 5.9.

However, Figure 1 also indicates that the English NSs distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs more strongly than the DODs containing Throw-class verbs from those containing Push-class verbs, both when the verbs were real and when they were made-up. This, as well as the results for the Japanese and Chinese speakers, reveals a general asymmetry between the Throw class and Push classes, on the one hand, and the Tell class and Whisper classes, on the other; that is, all 3 language groups differentiated between the
Inagaki

DODs containing Tell-class verbs and those containing Whisper-class verbs more clearly than between the DODs containing Throw-class verbs and those containing Push-class verbs, for both real and made-up verbs.

In addition, Figures 1 to 3 indicate that all 3 language groups better distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs when the verbs were real; but, that only the English NSs better distinguished the DODs containing Throw-class verbs from those containing Push-class verbs when the verbs were real. The former supports Hypothesis 4, but the latter does not. In fact, the latter seems to have caused the above-mentioned unexpected 4-way interaction between construction, verb class, authenticity, and language.

Twenty-seven NSs, 30 Japanese and 26 Chinese speakers responded to the 2 questions between Part 1 and Part 2. In answering the first question, 8 (30%) of the NSs, 6 (20%) of the

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<tr>
<td></td>
<td>F</td>
<td>P</td>
<td>F</td>
<td>P</td>
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<tr>
<td><strong>Throw vs. Push class</strong></td>
<td></td>
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</tr>
<tr>
<td>NS</td>
<td>63.94*</td>
<td>0.001</td>
<td>10.46*</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>JPN</td>
<td>1.25</td>
<td>n.s.</td>
<td>0.07</td>
<td>n.s.</td>
<td></td>
</tr>
<tr>
<td>CHN</td>
<td>1.77</td>
<td>n.s.</td>
<td>0.87</td>
<td>n.s.</td>
<td></td>
</tr>
<tr>
<td><strong>Tell vs. Whisper class</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>155.38*</td>
<td>0.0001</td>
<td>48.14*</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>JPN</td>
<td>99.18*</td>
<td>0.0001</td>
<td>24.53*</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>CHN</td>
<td>60.75*</td>
<td>0.0001</td>
<td>26.85*</td>
<td>0.0001</td>
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</tr>
</tbody>
</table>

*Statistically significant at 0.05; all df = 1, 31
Japanese speakers and 4 (15%) of the Chinese speakers reported that they substituted an English word for the made-up word. This suggests that some participants used a substitution strategy, despite the instruction not to do so; thus, the code problem was not entirely resolved. Furthermore, 3 (12%) of the Chinese speakers reported that they substituted a Chinese word for the made-up word, whereas no Japanese speakers reported that they substituted a Japanese word for the made-up word.

In answering the second question, 10 (37%) of the NSs, 11 (37%) of the Japanese speakers and 11 (42%) of the Chinese speakers reported that they did not find any principles. Two principles were most frequently reported by the 3 language groups: (a) there were fewer contexts for the DOD to be acceptable than for the PD; (b) there seemed to be a distinction between movement of a physical object and communication of a message. Only one participant, a NS, described a narrow-range constraint fairly accurately; she implied that in English, verbs involving a manner of speaking could not occur in the DOD construction. All of these suggest, not surprisingly, that the participants’ awareness level of the NRRs was low.

Discussion

There are three possible interpretations of the results, the first based on the FDH, the second on “selective access to UG,” and the third on the frequency of the DODs in the input.

Fundamental Difference Hypothesis

The FDH correctly predicted that the Chinese learners would distinguish the DODs containing Tell-class verbs from those containing Whisper-class verbs—due to the existence of such a distinction in Chinese—but not the DODs containing Throw-class verbs from those containing Push-class verbs, because Chinese lacks this distinction. Chinese speakers’ reliance on their L1 is corroborated by their low rating of the PDs containing real Tell-class
verbs and high rating of the corresponding DODs, which reflects the fact that in Chinese Tell-class verbs can occur only in the DOD construction. That some Chinese speakers reported using an L1-based substitution strategy in rating sentences containing made-up verbs also seems to indicate their reliance on the L1.

However, contrary to the prediction by the FDH, the Japanese learners distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs despite the lack of such a distinction in Japanese, but not the DODs containing Throw-class verbs from those containing Push-class verbs, despite the existence of such a distinction in Japanese. These results suggest that the FDH cannot account for the data.

Selective Access to UG

The second possible interpretation may be called “selective access to UG,” as I have suggested elsewhere (Inagaki, 1994). It states that some properties of UG can be accessed by adult L2 learners but others cannot; or, alternatively, some properties of UG are more or less easy for adult L2 learners to access than others. Applied to the present case, it states that adult L2 learners can access the distinction between the Tell class and the Whisper class verbs, but not the distinction between the Throw class and the Push class ones—or that the former is easier for adult L2 learners to access than the latter. I speculated that the difference between the Throw class and the Push class (i.e., “instantaneous causation of ballistic motion” vs. “continuous causation of accompanied motion”) might be subtler and thus harder to access than the difference between the Tell class and the Whisper class (i.e., “type of communicated message” vs. “manner of speaking”).

This notion seems to explain why both Japanese and Chinese speakers distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs, but not the DODs containing Throw-class verbs from those containing Push-class verbs. It might also explain why even NSs distinguished the DODs containing Tell-class verbs from those containing Whisper-class
verbs more strongly than they did the DODs containing Throw-class verbs from those containing Push-class verbs.

However, there are reasons this interpretation alone is insufficient. First, it provides no explanation as to what determines the accessibility or the degree of accessibility of UG to adult L2 learners, rendering this explanation ad hoc. Making available the possibility that access to UG is “selective” without any theoretical rationale would rob a UG account of L2 acquisition of most of its explanatory power.

Frequency

A third possible interpretation is that adult L2 learners judge the acceptability of DODs according to how often they have actually heard particular verbs occurring in the DOD construction exemplified in the input. That the DODs containing Tell-class verbs were more frequent in the input than the DODs containing Throw-class verbs could explain why the Japanese and Chinese learners distinguished the DODs containing real Tell-class verbs from those containing real Whisper-class verbs and why neither distinguished the DODs containing real Throw-class verbs from those containing real Push-class verbs. In addition, the fact that the English NSs showed a stronger distinction between DODs containing real Tell/Whisper-class verbs than between DODs containing real Throw/Push-class verbs is consistent with the assumption that the DODs containing Tell-class verbs were more frequent in the input than the DODs containing Throw-class verbs.\(^\text{10}\)

However, it is not clear how the frequency interpretation can explain why the Japanese and Chinese learners distinguished the DODs containing made-up Tell-class verbs from those containing made-up Whisper-class verbs when I had used made-up verbs precisely to control for this “frequency effect.”

One plausible argument appeals to the fact that some of the Japanese and Chinese learners reported substituting English verbs for the made-up verbs in rating test sentences containing made-up verbs. This might in turn account for the fact that both
sets of learners distinguished the DODs containing Tell-class verbs from those containing Whisper-class verbs even when the verbs were made-up, though less clearly than when the verbs were real. It might also explain why Japanese and Chinese speakers did not distinguish the DODs containing made-up Throw-class verbs from those containing made-up Push-class verbs; obviously, substitution would not help when they could not even distinguish the DODs containing real Throw-class verbs from those containing real Push-class verbs. Likewise, the fact that the NSs distinguished the DODs containing made-up Tell-class verbs from those containing made-up Whisper-class verbs more strongly than the DODs containing made-up Throw-class verbs from those containing made-up Push-class verbs might also be due to “washover” (Bley-Vroman & Yoshinaga, 1992, p. 193) from ratings of the DODs with real verbs to ratings of the DODs with made-up ones, because some NSs also reported using a substitution strategy.

In sum, the results for the Japanese learners are inconsistent with the FDH and can most plausibly be explained by the frequency interpretation, whereas the results for the Chinese learners can be handled by either the frequency interpretation or the FDH. However, Chinese speakers’ reliance on their L1—evidenced by their low rating of the PDs containing real Tell-class verbs and high rating of the corresponding DODs as well as by their reported L1-based substitution strategy in rating sentences containing made-up verbs—suggests the FDH as a more plausible interpretation.

Why two separate interpretations for the results from Japanese and Chinese learners when a single interpretation would be more elegant? Due to the existence of a dative alternation in Chinese similar to that in English, Chinese learners of English could often identify the DOD in Chinese as equivalent to the DOD in English and thus incorporate its properties into their interlanguage grammar; on the other hand, due to the lack of a dative alternation in Japanese, Japanese learners of English may often fail to do so. This in turn would result in their relying on the frequency of particular verbs occurring in the DOD construction in English.
in constructing their interlanguage grammar. Further, one could argue that, in addition to the facts about dative alternation itself, the fact that Chinese and English share the basic SVO word order may serve to facilitate transfer from Chinese to English, whereas the fact that Japanese, unlike English, is an SOV language may serve to prevent transfer from Japanese to English.  

Summary and Implications

The main findings can be summarized as follows:

1. Japanese learners of English distinguished the DODs containing Tell-class verbs from those with Whisper-class verbs, despite the fact that these 2 verb classes are not distinct with respect to their ability to occur in the DOD construction in Japanese; they failed to distinguish the DODs containing Throw-class verbs from those with Push-class verbs, despite the fact that these 2 verb classes are distinct with respect to their ability to occur in the DOD in Japanese.

2. Chinese learners of English distinguished the DODs containing Tell-class verbs from those with Whisper-class verbs, as predicted by the fact that these 2 verb classes are distinct with respect to dativizability in Chinese; they failed to distinguish the DODs containing Throw-class verbs from those with Push-class verbs, as predicted by the fact that these 2 verb classes are not distinct with respect to dativizability in Chinese.

I argued (a) that the unexpected result for the Japanese speakers stems from their reliance on the frequency of a particular verb occurring in the DOD construction, triggered by the lack of a dative alternation in Japanese; and (b) that the Chinese speakers’ results would depend on transfer from the L1 (as predicted in the FDH) triggered by the existence of a dative alternation in Chinese.

In general, the results suggest that the acquisition of the dative alternation in English by adult L2 learners is governed by
the properties of an equivalent structure in the L1 relative to the properties of the target structure. This study provides another case where simple (construction-specific) comparison of L1 and L2 may not be sufficient to predict what will be transferred from L1 and L2; more adequate comparison may involve similarities and differences between L1 and L2 in terms of the grammatical subsystem surrounding the target structure and even the typology (Sorace, 1993). Further, what is available in the input to the learner should not be ignored.

Finally, I should point out some limitations of the study. First, because it focused on advanced L2 learners, it cannot tell us how frequency and the L1 factor will interact at different proficiency levels. It will be interesting, for example, to test Japanese learners of English at lower proficiency levels; with less exposure to English, they might more likely exhibit the kinds of L1 effects predicted here. Second, the methodology employed here was not entirely successful in distinguishing speakers' knowledge of the NRRs for the dative alternation from their frequency-based knowledge of dativizability of particular verbs. To further understand the L2 acquisition of argument structures such as the dative alternation requires further research, especially on the refinement of methodology.

Revised version accepted 25 June 1997

Notes

1See Pinker (1989) and Gropen et al. (1989) for details of verb classes.
2In addition to the broad-range and narrow-range constraints on the occurrence of the DOD, there is a “morphophonological” constraint (Pinker, 1989). It restricts the application of the dative lexical rule to verbs with one metrical foot (i.e., one syllable, or more than one syllable with stress on the first syllable or with an initial unstressed schwa; Grimshaw & Prince, 1986, cited in Pinker, 1989, p. 46); therefore, verbs with more than one metrical foot cannot occur in the DOD construction even if they are similar in meaning to dativizable verbs with one metrical foot. Verbs with one metrical foot are often native English verbs, whereas verbs with more than one metrical foot are often Latinate verbs formed by a combination of prefixes and stems (Green, 1974; Mazurkewich & White, 1984; Oehrle, 1976). Thus, the mor-
phonological constraint can, for example, explain the contrasts *Mary gave/*donated them a book and *Mary told/*explained John a story.

3Bley-Vroman and Yoshinaga’s experiments were reported initially in Yoshinaga (1991). The results were summarized in Bley-Vroman and Yoshinaga (1992), who also discussed their general theoretical implications. In the rest of this paper, I use “B & Y” as a cover term for Yoshinaga (1991) and Bley-Vroman and Yoshinaga (1992).

Nom = nominative case, Dat = dative case, Acc = accusative case, Pst = past tense.

4In order to save (10), *Mary-ni has to be changed to *Mary-no tokoro-ni meaning “Mary’s place,” as in (i):

(i) John-ga Mary-no tokoro-ni booru-o osi-ta.
   John-Nom Mary-Gen place-to ball-Acc push-Pst
   “John pushed a ball to Mary’s place.”

However, (i) is not a DOD because *ni in *Mary-no tokoro-ni is a postposition, rather than a dative case-marker. This is supported by the fact that *Mary-no tokoro-ni cannot move to the subject position to form a passive sentence, as shown in (ii):

(ii) *Mary-no tokoro-ga John-niyotte ball-o os-are-ta.
   Mary-Gen place-Nom John-by ball-Acc push-Pass-Pst
   “Mary’s place was pushed a ball by John.”

Thus, (ii) indicates that *ni in (i) is not case realization of the dative case assigned by the verb, but a postposition.

5Li and Thompson (1981, p. 375) listed *jiāo (“teach”) among the verbs which can occur both in the PD and DOD constructions. However, Huang (1994) asked ten or so Mandarin speakers about this and found that they all agreed that *jiāo allowed only the DOD construction.

A reviewer pointed out that Hypothesis 4 is not theoretically grounded and, in particular, that it is not clear that the Chinese speakers should be expected to behave like the Japanese. Nevertheless, I take it as a working hypothesis that made-up verbs will be more problematic in general.

A reviewer expressed concern about the large SDs of the TOEFL scores, pointing out the possibility that the NNSs might not have been homogeneous with respect to English proficiency. However, the SDs of the TOEFL scores probably overestimate the variation among the NNSs, since these TOEFL scores were often several years old, with TOEFL taken before arrival in the U.S. and thus before their natural exposure to English began. Given their considerable exposure to English subsequent to taking the TOEFL, it is not unreasonable to consider these NNSs advanced learners of English.

Juffs (1996a, pp. 162–163) pointed out that B & Y’s claim that their Japanese speakers did not know NRRs is not conclusive. Another interpretation is possible; that is, that their Japanese speakers may have merely been conservative in rating DODs containing dativizable made-up verbs. However, the fact that in the present study, which used basically the same methodol-
ogy as B & Y, Japanese speakers distinguished DODs containing the Tell-class made-up verbs from DODs with the Whisper-class made-up verbs casts doubt on Juffs' claim. In my opinion, Japanese speakers' apparent insensitivity to the narrow-range verb classes in B & Y's study was more plausibly due to the fact that B & Y did not look at specific narrow-range verb classes.

As the reviewers have pointed out, this needs to be shown by using a corpus of some sort. However, (as far as I am aware) no available corpus provides the frequency of a particular verb occurring in the DOD construction. The often-used corpus (Kucera & Francis, 1967), for example, only provides the frequency counts of particular verbs, which are not very informative in view of the verbs in question allowing multiple subcategorization frames (John threw a ball to Mary/Mary a ball/a ball, John told a secret to Mary/Mary a secret/Mary to keep a secret, etc.). Nonetheless, data from the Kucera-Francis corpus, shown in Appendix B, indicate that Tell-class verbs are in fact more frequent than Throw-class verbs, although it remains an open question whether the former are more frequent than the latter in the DOD construction.

Kellerman (1983) expressed a similar idea, citing a number of early transfer literature sources, that learners' “perception of language distance” between L1 and L2, or “psychotypology,” serves to facilitate/constrain transfer; that is, that when learners perceive the distance between L1 and L2 as close, transfer will be facilitated, and when learners perceive the distance between L1 and L2 as remote, transfer will be constrained. In addition, Sorace (1993, p. 44) argued that depending on the nature of the L1 with respect to the target structure and on how the L1 is typologically consistent with the L2, a certain L1 may provide a more or less favorable initial representation for the acquisition of that structure (see also Adjémian, 1983; White, 1991).

In a recent study, Sawyer (1996), using an elicited production task, found that Japanese learners of English were sensitive (although to a lesser extent than English speakers) to the distinction between the Throw class and the Push class; his Japanese participants were more willing to produce the DODs containing Throw-class novel verbs (22%) than the DODs containing Push-class novel verbs (12%). Interestingly, Sawyer’s Japanese participants (who were learning English in Japan) were less advanced than the Japanese participants in the present study, with the TOEFL scores of 380–550 (\(M=472, \text{SD}=45\)). Although direct comparison is impossible due to the task difference between the present study (an acceptability judgement task) and Sawyer’s study (a production task), Sawyer’s finding is consistent with the possibility that beginning Japanese learners' knowledge of the dativizability of particular narrow-range verb classes in English will be dependent on the status of their L1 counterparts, due to limited exposure to English.
References


Appendix A

Example Test Paragraph—Whisper-Class Verb

Bill wanted to cancel his meeting with Professor Smith the next day because he hadn’t done his homework yet. But, of course, he didn’t want to tell the truth. So, Bill called Professor Smith and spoke in a special voice, which he calls doaking, to pretend that he had a bad cold. It seems that Bill doaked words to Professor Smith successfully because the meeting was canceled.

Bill doaked the words to Prof. Smith.
Bill doaked Prof. Smith the words.
Appendix B

*Frequency Counts of Tell-Class and Throw-Class Verbs from Kučera and Francis (1967).*

<table>
<thead>
<tr>
<th>Tell class</th>
<th>Frequency</th>
<th>Throw class</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>tell</td>
<td>413</td>
<td>shoot(^b)</td>
<td>112</td>
</tr>
<tr>
<td>ask</td>
<td>398</td>
<td>throw</td>
<td>86</td>
</tr>
<tr>
<td>write(^a)</td>
<td>335</td>
<td>toss</td>
<td>31</td>
</tr>
<tr>
<td>show</td>
<td>307</td>
<td>kick</td>
<td>18</td>
</tr>
<tr>
<td>read</td>
<td>173</td>
<td>fling</td>
<td>14</td>
</tr>
<tr>
<td>teach</td>
<td>50</td>
<td>slap</td>
<td>8</td>
</tr>
</tbody>
</table>

*Note:* The six most frequent verbs in each subclass (from Gropen et al., 1989, pp. 243–244) are presented in order of descending frequencies. Each number shows the frequency count of the verb in either the past tense or the past participle form. This was to avoid overestimating the frequency by including homographic nouns, such as kick(s)/show(s) (N) and teaching/reading/writing (N).

\(^a\)The frequencies of *write* and *shoot* are probably overestimated by the inclusion of the occurrences of *written* (Adj) and *shot* (N), respectively.