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COMMENTARY

Universals, Methodology, and Instructional Intervention on Relative Clauses

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This special issue has attempted to ascertain the universal applicability of the noun phrase accessibility hierarchy (NPAH; Keenan & Comrie, 1977) by extending previous research in this area, which has focused on English and a few other European languages, to East Asian languages. To this end, five empirical studies have been reported; these studies yielded mixed results with regard to their support for the NPAH. Overall, what is striking to me in these results is the fact that despite the expectation of some researchers to find robust counterevidence to the NPAH, many of these studies ended up finding at least partial support for the NPAH, even in East Asian languages.

Specifically, in investigating whether Japanese as a second language (JSL) learners follow the predictions of the NPAH, Ozeki and Shirai (this issue) argued that the acquisition of Japanese is not constrained by the NPAH, unlike the acquisition of European languages. However, the results of their Study 1, which was based on corpus data, are in fact in the direction predicted by the NPAH with respect to at least subject (SU) relatives, on the one hand, and direct object (DO) and oblique (OBL) relatives, on the other (see Table 2, Ozeki & Shirai, this issue). Granted that exceptions are found for first language (L1) Chinese and L1 English intermediate-level speakers in this regard, such exceptions might be accounted for by positing that it is a temporary phenomenon, caused possibly by such external factors as input frequency and instructional effect, which might be corrected by the influence of typological universals later. The temporary nature of this deviance might be captured by looking at the fact that advanced and superior learners in all groups produced SU much more than DO, indirect object (IO), or OBL, consistent with the NPAH. Moreover, Ozeki and Shirai's Study 2, based on data from a sentence combination test, showed even greater support for the NPAH, in that both advanced and

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intermediate JSL learners obtained the highest scores for SU, followed by DO, and then OBL (see Table 3, Ozeki & Shirai, this issue). Although their inferential statistical analyses revealed significant differences only between SU/DO and OBL, thereby giving only partial support to the NPAH, the overall trend in the descriptive statistics is so neatly in line with the NPAH prediction that it is hard to dismiss out of hand.

Likewise, Kanno's (this issue) study showed fairly strong results with respect to its support for the NPAH, in that SU was found to be easier to process than DO in her comprehension task (see Tables 3 and 4, Kanno, this issue). Whereas her analysis, based on sentence type, showed that such results were obtained only for nonreversible-type sentences, the data from reversible-type sentences were largely inconclusive due to a flooring effect (i.e., these sentences were too difficult for the beginning-level learners), as the author admitted. Yabuki-Soh's (this issue) study with Japanese as a foreign language (JFL) participants also found support for the NPAH (see the pretest data in Table 5, Yabuki-Soh, this issue). The fact that this was true only for the production test and not for the comprehension test suggests the complexity of the issue, to which I will return shortly. Jeon and Kim (this issue) focused on the acquisition of Korean as a second language (L2) and found that in an oral production task, externally headed relative clauses (RCs), which are argued to involve a gap in the structure, followed the predictions of the NPAH, but internally headed ones, which do not involve any structural gaps, did not (see Tables 1 and 2, Jeon & Kim, this issue). The study that poses the most serious challenge to the NPAH is Yip and Matthews' (this issue), which investigated the acquisition of Cantonese and English RCs by Cantonese-English bilingual children. This study found results that ran counter to the predictions of the NPAH because DO emerged earlier than or simultaneously with SU in these children's acquisition of both Cantonese and English (see Table 2, Yip & Matthews, this issue).

Overall, it seems that despite some challenging results, evidence in support of the NPAH is still seen even in the cases of East Asian languages like Japanese and Korean and, more problematically, Chinese. In many ways, the results of these studies can be taken equally as partial support or partial rejection of the NPAH. This creates a situation akin to arguing differently for the same phenomenon depending on how one sees it—that the glass is half full of water or half empty. It seems to me, therefore, that the issue here is not all or nothing or simply European languages supporting the NPAH versus East Asian languages not supporting the NPAH, but, rather, it is in identifying what factors in addition to the NPAH are involved in creating ease or difficulty in the acquisition of different types of RCs in world languages. In what follows, I would like to make comments on three issues that I consider important to further the investigation of the NPAH in SLA: the viability of the NPAH as a framework of analysis to explain SLA data, effects of modalities on the obtained data, and issues concerning instructional effects.

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THE NPAH OR NOT?

As indicated in Shirai and Ozeki's introduction to this issue, Comrie (e.g., 2002) proposed that the so-called RCs in many Asian languages might be better classified as attributive clauses and should be distinguished from the RCs found in European languages. It is true that Japanese, for example, has constructions that are similar in the surface form to the RC but that do not involve any identifiable gap, as example (1), introduced by Shirai and Ozeki (this issue), illustrated. An interesting question here is whether such a construction should be treated as an additional category to what has already been identified by the NPAH or whether all RCs in these languages should be reconsidered and be classified as qualitatively different from the RCs specified in the NPAH.

Arguably, for reasons of comparison and analysis, the former is the approach adopted in many of the studies reported in this issue; that is, they used the NPAH as the basic framework and added other types of classification and analysis to it. For example, Ozeki and Shirai (this issue) added a category that they called no grammatical relations (NoGR) to the usual categories SU, DO, IO, OBL, and GEN to analyze different types of RCs in Japanese. Here, obviously for reasons of methodological convenience, the authors treated NoGR as an additional category in Japanese that does not involve any identifiable gap in the structure, instead of assuming that all RC types in Japanese are entirely different from those of European languages. Jeon and Kim (this issue) examined two types of RCs in their study of L2 Korean: externally headed and internally headed RCs. The former type is considered to involve a structural gap relation and is thus captured by the NPAH, whereas the latter type is characterized as a less syntactically constrained attributive clause and thus requires analysis beyond the NPAH. Indeed, these studies found at least partial support for the NPAH, as explained earlier. Therefore, a plausible conclusion that can be reached here is not that the NPAH is incapable of explaining the data from East Asian languages but, instead, that the NPAH does remain a viable framework to analyze RCs in East Asian languages. It is just that these languages have other forms similar to RCs that cannot be captured by the NPAH framework alone.

How, then, can we explain the fact that the NPAH was only partially supported in many of these studies? In this regard, Yip and Matthews (this issue) raised an important question on the issue of the source of language universals—that is, how the learner has access to a generalization that is specified in language universals. I agree with them in their argument that typological universals need to somehow be expressed in relation to learners' competence if the proposed theory is to be explanatory. Yip and Matthews raised two possibilities as to the source of language universals. One possibility is that such generalization is part of Universal Grammar (UG), which might be accessible directly or through the learner's L1. Another possibility is to posit that processing factors are at play, yielding the language universals as

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they are. If typological universals are considered to derive from UG, they might be accorded a privileged status in comparison to other factors that influence the acquisition process, based on the assumption that they come from the inner core of the learner's competence (although this argument might be disputed). However, if processing accounts are presumed to underlie typological generalizations, as some of the researchers in the present issue explicitly acknowledged, then there might be no reason to assume that typological generalizations necessarily exert a stronger effect on the acquisition process than other factors that contribute to SLA. This might be a plausible explanation for the somewhat variable results of studies that consider the NPAH.

Indeed, Keenan and Comrie's (1977) original argument was that the NPAH "*directly reflects the psychological ease of comprehension*," (p. 88), which attributes the source of the NPAH essentially to a processing factor. Putting aside for now the question of whether the processing factor originates from comprehension or production, such processing accounts suggest that the NPAH predictions might be susceptible to a variety of other factors that are important in SLA and, thus, can be overridden by them at least occasionally. The acquisitional data in the studies reported in this issue might be capturing this phenomenon of the complex interaction between structural factors and other variables in operation.

EFFECTS OF DIFFERENT TASKS

To explain the mixed findings in terms of how well their studies' results supported the NPAH, the contributors to this issue highlighted some variables that might be involved in the acquisition of RCs: the animacy of the relativized element (Kanno; Ozeki & Shirai), the learner's L1 or other languages known (Kanno; Yip & Matthews), and task factors (Yabuki-Soh). Again, if typological universals are considered not to have any specially privileged status in the acquisition process but to be one of many factors that influence how learners process and acquire RCs, it should come as no surprise if these factors interact with the structural factors in complex ways to determine the acquisition order and the accuracy and frequency of their use in the learner's production.

Limiting my discussion here to task factors, it is particularly interesting to find that there are some trends for different patterns of acquisition of different RC types in production and comprehension tasks. In this regard, Kanno (this issue) made an interesting observation in her literature review: that the overall results of previous studies on the acquisition of JSL indicated that SU is easier than DO in production tasks, but the results were split for comprehension tasks. Her study employed a comprehension task and obtained results consistent with the NPAH for nonreversible test sentences, for which the learners were able to rely on both structural and semantic cues simultaneously. However, reversible sentences, for which only structural cues were available, turned out to be too difficult for the beginning-level learners in the study. There-

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fore, although the role of animacy was clearly observed in Kanno's study, it remains uncertain how learners process RCs when they have only structural information to rely on in processing test sentences. Also, because this study employed only a comprehension task, it is not clear how the results compare with those from tasks in a different modality. It is possible that different patterns might emerge for learners at a higher JSL proficiency level when they process reversible RC sentences in production and comprehension. It would be interesting to address this issue in future research.

In fact, the issues of task effects are not unique to JSL. Although Kanno (this issue) suggested that the previous literature on the SLA of RCs in English supported the NPAH unequivocally in both production and comprehension, this is not the case. There is a methodological bias toward using production tasks in many of these studies. In my review of the literature, reported in Izumi (2000, 2003), I surveyed 10 English as a second language (ESL) RC acquisition studies and found that only one study used a receptive task (a grammaticality judgment task) to examine the difficulty order for different RC types. A few other studies used multiple measures of data elicitation, but they used either composite scores of all tests or only the production test to address the issue of the acquisition order. Therefore, in my study of ESL acquisition of RCs (Izumi, 2000, 2003), I used multiple tasks, including a written sentence combination task, a grammaticality judgment task, and a comprehension task (referred to as the interpretation task in the articles). In particular, in creating the test items for the comprehension task, I tried to focus on the learner's use of grammatical knowledge by eliminating the possible intrusion of the effect of lexical and pragmatic clues to get at the sentence meaning. I did so by using three animate arguments in each test sentence, any of which could be semantically interpreted as the doer or the recipient of the action in the sentence. This essentially resulted in creating reversible RC sentences similar to Kanno's (this issue).

The results of my study (Izumi, 2000, 2003) with intermediate-level ESL learners indicated that the NPAH was supported in the production task and the grammaticality judgment task with regard to the SU versus DO/OBL distinction, but, curiously, this was not the case in the comprehension task. In the latter task, no significant effect was obtained for the RC type regardless of whether it was embedded in the subject or the object position in the matrix clause—the latter of which, incidentally, was found to be significantly easier to process. To account for these results, I argued, following Prideaux and Baker (1986), that the same resources can be employed quite differently under different language use situations. More specifically, the word order differences in different RC types might interfere less in comprehension than does the interruption created by the center-embedding of the RC in the matrix sentence because the former can be resolved more locally, whereas the latter requires the integration of the entire sentence and is thus more costly for working memory. In production, on the other hand, there might be an extra burden on working memory in processing RC sentences when the learner

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has to attend not only to the grammatical encoding of elements in a gap-filler relationship but also, almost simultaneously, to converting the outcome of the grammatical encoding to the articulatable surface form necessary for production. These task-related processing factors might have resulted in clearer support for the NPAH in the production task and little support for it in the comprehension task.

Interestingly, Yabuki-Soh's (this issue) study on JSL, which used both production and comprehension tasks found results parallel to those obtained in my ESL study, finding support for the NPAH in the former but not in the latter. The converging results of these studies in different languages suggest that greater attention to the issues of task effects is warranted in further investigation of the acquisition of RCs in different languages. Again, if processing difficulty underlies the cause of the language universals expressed in the NPAH, it is reasonable to assume that learners' processing difficulty should be understood not in a vacuum but always in relation to its dynamic use in different tasks, particularly in production and comprehension.

INSTRUCTIONAL EFFECTS AND PEDAGOGICAL APPLICATIONS

Regarding instructional effects and pedagogical applications, Yabuki-Soh's (this issue) study is a welcome addition to the line of investigation on the effect of instructional intervention on the acquisition of RCs, extending previous research (mostly on English) to an East Asian language. Nevertheless, there are some important issues that remain to be settled in both English and Japanese: One concerns the directionality of the projection phenomenon (i.e., whether instructionally targeting a more marked RC type extends to less marked types only or to more marked types as well), and another concerns the scope and the impact of the projection (i.e., how far in the NPAH hierarchy and to what degree learning occurs as a result of projection).

On the basis of his instructional study on ESL acquisition of RCs, Hamilton (1994) argued that learning is not always unidirectional but often spreads not only to the positions implicated in the hierarchy but also to others that are not implicated. This requires explanation, as it is not the result predicted to occur by the NPAH. Also, Hamilton argued that instead of acquiring the instructed position and every other position implicated in the hierarchy, learners seem to follow the same predictable sequence instantiated in the implicational relationship without skipping any levels; that is, learners might add positions higher than those that they knew before instruction but not necessarily learn the position that was taught or all of the positions that are higher on the hierarchy. Hamilton called this phenomenon cumulative constraint. Yabuki-Soh's (this issue) study, on the other hand, showed that the instructional effect on JSL was strongest on OBL, which was targeted, and IO, but the projection effect became smaller for DO and SU. Such a fizzling-out effect seems to run counter to Hamilton's claim of cumulative constraint.

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Importantly, pedagogical implications that might be derived from these studies would be different. Yabuki-Soh's (this issue) suggestion is to teach a more marked type of relativization first and then add other types in the teaching to make sure that learners acquire all relativization types while taking the best advantage of the projection phenomenon. The idea of cumulative constraint, on the other hand, suggests that teaching a marked form would be pedagogically efficient but that, unlike Yabuki-Soh's suggestion, less marked forms do not necessarily need to be taught, as acquisition proceeds from unmarked to marked forms in a cumulative fashion anyway. If anything, it is the more marked forms that need more emphasis in teaching, as the projection might not necessarily spread to higher positions on the hierarchy. If we wish to be more confident in making solid pedagogical suggestions for classroom applications, such debate on the projection phenomenon needs to be settled.

Regarding instructional effects, there is yet another issue that is not touched on in any of the studies presented in this issue, but is nevertheless important: issues of learnability or, more specifically, how to reconcile research findings on the projection phenomenon and those of developmental sequences in SLA. In many SLA textbooks (e.g., Ellis, 1994, 1997; Gass & Selinker, 2001; Lightbown & Spada, 1999), findings in these areas of research are introduced, sometimes right next to each other, without necessarily clarifying how they coexist in a theoretically coherent manner. Seemingly, these findings appear contradictory to each other. The notion of developmental sequences and much of the empirical work suggest that learners go through identifiable stages in the acquisition of certain linguistic forms—from easier to more difficult—that any of these stages cannot be skipped and that teaching intervention should take place by respecting this developmental progress if it is to be successful. On the other hand, research utilizing typological markedness relationships suggests that teaching a more difficult form results in the acquisition of easier ones, implying that there is no need to go from easier to more difficult and that skipping stages is possible.

How do we reconcile these seemingly contradictory claims and empirical findings? One solution was proposed by Doughty (1988, 1991), who argued in relation to RC acquisition that the developmental sequence specifies a larger framework, whereas the markedness relationship of different types of forms holds in one stage of the developmental sequence. Doughty argued that RC formation in English generally involves the same basic syntactic and morphological operations of replacing the coreferential noun phrase with a relative pronoun, moving the relative pronoun to the beginning of the clause, and moving the RC to the position immediately following the head noun. Therefore, if the learner has reached a stage in which he or she can perform this operation, then he or she should be developmentally ready for essentially the same operation in different positions in the same grammatical domain.

Some studies have explicitly adopted this idea in conducting investigations of instructional effects on RC acquisition in ESL (Doughty, 1988, 1991; Izumi, 2000, 2002). Specifically, these studies determined that learners were

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ready for instruction if they showed signs of emergence of SU relatives. Doughty used a grammaticality judgment test to ascertain that a selected group of participants had some rudimentary, emerging knowledge of SU relatives and would be ready for RC instruction on a higher position. Izumi, likewise, used both production test results and reception test results to determine who would be ready for instruction in his study. Leaving aside the question of whether to ascertain the learner's readiness with a production task or a reception task, the results in both studies with different types of instructional intervention revealed that these learners indeed improved in their relativization ability not just on the OBL relative that was targeted but also on other RC types, suggesting that L2 learners with an appropriate developmental level can gain from instruction that targets a more marked type of RC. However, because these studies did not include any group that was unready (i.e., not showing any signs of SU use), it is somewhat uncertain whether using emergence of SU as a benchmark is truly a valid way to ascertain the learner's developmental readiness that is hypothesized to allow the projection to occur.

Unfortunately, as far as I know, Doughty's (1988, 1991) suggestion has not been explored any further in the literature, and little further attempt has been made to integrate the two threads of research on putatively immutable developmental sequences and the learner's projection capacity based on the utilization of the typological markedness relationship. As we accumulate greater knowledge of SLA, we will have to tackle this important issue of theoretical integration.

CONCLUSION

In conclusion, this special issue of *Studies in Second Language Acquisition* is a welcome addition to the continuing research into the complexity of SLA processes. Regardless of whether the universality of the NPAH is put into doubt in the reader's mind, we should be reminded that SLA is a complex process that results from the complex interaction of a number of variables and that typological universals are likely to be but one of many factors contributing to learners' acquisition of a L2. Given this complexity, it might well turn out—as it indeed did in some studies reported in this issue—that the NPAH might not always be supported fully or even partially. However, this does not necessarily mean that the NPAH is falsified. Our continuing challenge is to illuminate the complex interactions among different factors in SLA processes.

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