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Second Language Acquisition and Linguistics: A Bidirectional Perspective

Abstract: We argue for a bidirectional relationship between second language research and linguistic theories. It is our belief that SLA research should look to linguistics for concepts and models that provide a basis upon which to make hypotheses, conduct data analysis, and draw conclusions, and we also believe that linguistic theorists can develop and improve their understanding of linguistic concepts and models by examining the results from SLA studies. In this paper, we present arguments in favor of this approach, with examples from two different types of linguistic universals: the Noun Phrase Accessibility Hierarchy and features such as tense and number. Second language acquisition data have been used to provide evidence for the Noun Phrase Accessibility Hierarchy and provide a way to understand areas in which its predictions are not met. Similarly, second language data provide us with a view of what happens when there is a contrast between features in a speaker’s native language and the language being learned. The data thus may shed light on the universality of features, in addition to how features are represented, parsed, and processed. In both cases, we argue that second language data are valuable when examining certain linguistic questions because they illuminate areas of conflict or mismatch between two linguistic systems.

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The goal of second language acquisition (SLA) research is to understand how second languages are learned and used. Today, the field of SLA is decidedly interdisciplinary, with scholars approaching issues from many perspectives, including psychology/psycholinguistics, sociology, education, and linguistics. In the 1950s, 1960s and even into the 1970s, the purpose of second language research was to improve pedagogy; that is, scholars wanted to understand how languages are learned in order to improve teaching. While this is still a goal for many, others are interested in the discipline in order to better understand the nature and representation of language.

Those who study SLA with the goal of understanding linguistic systems make the assumption that second languages are, in fact, natural languages, that they conform to the principles of natural languages and that structures are represented in the same way (see White 1996: 112). In other words, if second language learners create and use linguistic systems, those linguistic systems (called interlanguages) should follow the same constraints as other, more fully developed natural languages.

Not everyone shares this view, however. Bley-Vroman’s (1990) Fundamental Difference Hypothesis proposes that Universal Grammar is not operative in second language acquisition, as it is in first language acquisition. Instead, L2 learners must rely on general problem-solving principles. Similarly, other researchers argue that second languages are represented or processed in qualitatively different ways than first

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1 We intend second in the broadest possible sense and include both second and foreign language learning.
2 The question of the origins of second language research has been debated (see Thomas [1998] and Gass et al. [1998] for a discussion), but most scholars agree that the modern era of research dates back to the 1960s.

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languages. These researchers highlight differences between L1 and L2 speakers’ production and comprehension as evidence of the deficient L2 system (e.g., Clahsen and Felser 2006; Hawkins and Hattori 2006). We take the position voiced by Klein 1998: The fact that L2 learners’ production and comprehension often deviate from the target language norm is not an indication of faulty systems; rather, the learners’ systems are manifestations of the human language capacity under particular conditions, and their properties can be illuminating for language researchers of all kinds.

In this vein, linguistics and SLA are intimately intertwined, with researchers taking concepts and constructs from linguistics to determine their applicability in a second language system. Indeed, second language research has benefitted greatly from developments in linguistic theory, in particular generative theory (e.g., Gregg 1989; Juffs 2010; White 2003), with an entire subfield dedicated to applying these theories to second language acquisition. Over the years journals (e.g., Second Language Research) and conferences (e.g., Generative Approaches to Second Language Acquisition) have provided a space for dialogue among like-minded researchers in this subdiscipline of SLA. In these fora, the topics in vogue are frequently the same as those that play out in first language research, including the availability of functional categories in early acquisition (e.g., Rule and Marsden 2006), the potential challenges of acquisition at the interfaces between language modules (e.g., Sorace 2011) and emergentist versus nativist approaches, among others (e.g., Gregg 2003; Hawkins 2008).

What has been less discussed is the potential influence of second language research on linguistic theory, that is, the use of second language data to support or refute linguistic claims. This is not a new idea. In 1989, Gass and Schachter noted that it is possible to view the relationship between theories of language and theories of second language acquisition from a bidirectional perspective, in which second language data can be used to “test or develop a theory of language” (p. 4; see also Rutherford 1993). The authors describe the relationship as follows:

The second perspective … argues that linguistic theory, because it is a theory of natural language, must be tested against second language data to be validated. Thus, any theory of language would be false if it failed to account for second language data. The underlying assumption is that a comprehensive theory of language must account for all language systems that involve human processing mechanisms. The strong position (as seen in the work of Gass 1979; Gass and Ard 1980; Eckman et al. 1989) is that second language data can and should be used as evidence for distinguishing between linguistic theories, which, of course, attributes the power of falsification to second language data.

A more moderate position is that a coherent theory of language would be enhanced by evidence from second language data, although the theory itself is not intended to account for anything other than the facts of primary language acquisition and as a result cannot be falsified by second language data. (pp. 5–6)

Since Linguistic Vanguard strives to probe overlooked approaches to linguistic issues, we chose to focus on the following question: How can second language acquisition research contribute to linguistic theory? To explore this issue, we focus on two distinctly different types of universals in linguistic theory: (1) the Noun Phrase Accessibility Hierarchy (NPAH), first introduced by Keenan and Comrie (1977) and (2) formal features, especially number and gender, as they are outlined in the minimalist program (Chomsky 1995).

1 The Noun Phrase Accessibility Hierarchy

The NPAH (example 1) was established to describe the types of relative clauses that any language can have. In SLA research, it formed the basis for determining the ease of relativization for second language learners based on the grammatical role of the noun being modified by the relative clause.

(1) NPAH
   SUBJ > DO > IO > OBL > GEN > OCOMP
The NPAH represents a hierarchical relationship among grammatical positions such that if a language has a relative clause (RC) type on the lower end (to the right) of the hierarchy (“That’s the woman I am taller than”), by implication all other relative clause types are present in that language, although the hierarchy says nothing about the lowest type that any given language has. Keenan and Comrie also suggested that even in a language such as English where the full range of relative clause types exist, there is a range of use by individuals, such that more sophisticated writing (e.g., philosophy) is more likely to use RC types at the lower end of the hierarchy, whereas less sophisticated writing (e.g., tabloids) is restricted to only the higher end types. Thus, the hierarchy has implications for language use as well as for universals. But what about second language acquisition? The claim is that the hierarchy predicts the ease of processing and therefore also the ease of acquisition.

Numerous studies have investigated the NPAH in SLA. In general, the predictions of the NPAH have been supported (Croteau 1995; Doughty 1991; Eckman et al. 1988; Gass 1979; Hyltenstam 1984; Pavesi 1986). That is, learning of subject relative clauses generally precedes the learning of direct object relative clauses, as predicted. Interestingly, the teaching of a more difficult RC type (e.g., DO RC) also appears to result in the learning of a RC higher on the hierarchy (Eckman et al. 1988; Gass 1982). Thus, this work in SLA has supported the formulation of the hierarchy.

Findings from L2 RC studies are also important in the domain of language use. In a scripted syntactic priming study, Behney and Gass (2013) found that exposure to both SU and DO RCs resulted in a disproportionately higher use of SU RCs. In this study, both researcher and participant took turns describing a picture with a single object (noun + adjective) to the other, with the hearer selecting a matching card. The researcher’s descriptions were primes with both SU RCs and DO RCs, but in both instances, most responses were SU RCs; when a SU RC was the prime, there were nearly 81% SU responses, and when the prime was a DO RC (where one might expect DO responses), there were approximately 67% SU RCs. This further suggests the validity of the hierarchy in terms of second language use.

However, work by Comrie (1996, 1998, 2002) has suggested that RCs in languages such as Chinese, Japanese, and Korean are appositive in nature rather than just modifying, and that the hierarchy may therefore not apply to these languages in a straightforward way. Recognizing this different typology, Eckman (2007) argues that SLA data can be seen as a starting point for the consideration of issues such as these:

If the hierarchy is not as strongly supported when other language types are brought into the data pool, then we need to make hypotheses about what kind of principles could be postulated that would subsume both the SLA data from RC acquisition in European languages as well as the SLA data from typologically distinct languages. (p. 327)

Indeed, recent research in SLA, including a 2007 special issue of Studies in Second Language Acquisition (SSLA), has examined RC data from speakers of Asian L1s. Results have been mixed, although it seems that animacy plays a role in the extent to which the data follow the predictions of the NPAH (see, in particular, Ozeki and Shirai and Kanno).

One might ask why it is useful to employ second language data to investigate theoretical questions such as these, when it is inherently messier because of additional variables. As Hawkins (2007) and Comrie (2007) note, learning a second language involves learning strategies, general problem-solving strategies and L1 influences, to name a few. But Gass (1989) has argued that this messiness – in particular, the relationship between the first language and the target language – is precisely why second language data are useful. She writes:

Second language learners provide us with a way to investigate the resolution of conflicts, which is perhaps more difficult with monolingual speakers at a single point in time since conflicts per se are not readily observable in a static situation. By looking at a synchronic grammar ... we never see the process of the resolution of conflicts ... It is only in dynamic situations, such as acquisition ... that we have a suitable venue for observing the onset and subsequent resolution of linguistic conflicts. (pp. 196–197)

With specific regard to the NPAH, it is widely accepted that one needs to understand the underlying principles governing the hierarchy. This is precisely where L2 data can be useful, because they can reveal
areas where there are problems, namely, areas where there are mismatches between predictions and actual data. These mismatches demand a closer look and allow us to see where putative universals may require more complex explanations. Hawkins (2007) notes, “[t]here are so many universals of relativization that are quite mysterious from a purely grammatical point of view... and processing efficiency and complexity can give a unifying and motivated account of these” (p. 338). Similarly, Yip and Matthews (2007) argue for a multifaceted explanation based on processing, the interaction of general principles of learning, and effects related to a learner’s native language.

2 Formal features

Second language acquisition can also provide insight into the resolution of conflicts between linguistic systems in a very different arena, namely, features such as grammatical gender, number, tense, and case. For this topic, we base our discussion on generative linguistic theory.

Recent generative work in the minimalist program has moved away from previous conceptualizations of parameters as syntactic switches that can be on or off. In minimalism, parameters are features of functional categories, for instance, [± wh] on C or [± past] on T. These formal features are universally available, but not all languages select all the features. Additionally, each language may realize these formal features in different ways, for example, with different exponents, on different lexical categories, or combined with other features. Chomsky refers to the construction of the language-particular instantiation of features as “assembly” (2001, p. 4).

The acquisition of these formal features has been a popular topic in generative second language research. Much of the work has debated whether these features can be acquired in a second language if the first language lacks them, with some authors arguing that acquisition of new features is possible (e.g., White et al. 2004), and some arguing that it is not (e.g., Hawkins and Liszka 2003). But Lardiere (2008, 2009) has reframed the issue: If first language acquisition is largely a business of feature assembly, she reasons, then second language acquisition is feature reassembly, given that second language learners come to the learning context with a pre-existing assembly of formal features. From this view, the task of acquiring a second language is not only to acquire any features in the target language that are not present in the first language, but also, crucially, to determine how features are assembled in the target language and to reassemble the features in the interlanguage grammar to match that target.

This, then, is an opportunity to observe the resolution of conflicts between two (or more) linguistic systems. More specifically, we are able to view what happens when a speaker of one language, with a particular set of formal features and their language-specific realization, encounters a system with a different set of features and different realization of features. The results can be enlightening as to the nature of the features in the first language, as well as the universal properties of these features and their availability. Interestingly, recent findings call into question some important assumptions about the nature of grammar by illustrating that the L2 acquisition of a feature that is merely assembled differently in the native language can be as problematic as the L2 acquisition of a feature that is absent in the native language.

For example, Spinner (2013) found that English speakers who were acquiring gender and number in Swahili had persistent errors in the marking of number, even though gender was marked accurately. Since English has the feature number but not gender, this result was not predicted by most current theories of second language acquisition, which assume that if a feature is present in the first language, it should be available to the second language grammar (e.g., Schwartz and Sprouse 1996). Spinner argues that the particularities of the realization of the number feature in Swahili – its realization as a prefix rather than a suffix, the fact that singular as well as plural is marked, and the fact that number markers must agree in gender with the root noun – all make Swahili number particularly difficult for speakers of English. Similarly, Hwang and Lardiere (2013) found that English speakers acquiring Korean were successful at marking “intrinsic” plural, which is very similar to plural marking in English, but had difficulty with
“extrinsic” plural, which differs from English plural marking in a number of ways, including its appearance on adverbs and locative phrases.

Other studies have found that learners also often encounter difficulty, at least at early stages, in acquiring verbal features that are present in their first languages but expressed somewhat differently. For instance, VanPatten et al. (2012), using a self-paced reading format, found that English speakers acquiring Spanish failed to show sensitivity to person/number violations on Spanish verbs in the same way that native speakers did, despite the presence of similar features in English. In fact, the insensitivity of these speakers to person/number violations is similar to the insensitivity to verbal marking that has been observed for speakers of languages that lack features such as tense (Hawkins and Liszka 2003).

The findings of these SLA studies raise questions about our conceptualization of features and their apparent universality. It might seem that translating the feature of one language to the same feature in another should be a relatively simple task; yet when we observe speakers who attempt to reconcile the differences between the expression of features in two languages, we learn that it is not. It may be that there is more to features and their assembly than generative theory currently describes. As Lardiere (2009) puts it,

But is the feature [+ plural] in one language exactly the “same” feature as [+ plural] in another? All generative approaches that I am aware of apparently assume this to be the case. I have always assumed it myself and ... made a virtue of the assumption that such features are atomically primitive, elemental, equivalent, and thus the most valid units of cross-linguistic comparison, and so on. Indeed, the metaphor of “selection” of features from a “universal inventory” essentially forces this view upon us. However, this view may not be entirely correct. (p. 215)

For researchers in the generative tradition, the suggestion that features may not be equivalent and universal is highly problematic. It is also highly controversial among L2 researchers; for instance, Liceras (2009) argues that this approach is compelling, but a step too far, since after all feature assembly does not exist without feature selection in the first place.

Indeed, the rejection of a universal inventory of features may turn out to be a step too far. But even if so, exploring this question with L2 learners will lead us to better understand exactly where the crucial differences between the linguistic systems of speakers of various languages lie. For VanPatten et al. (2012), the crucial difference lies not in features themselves but in the parsing system. They write that English speakers are insensitive to person and number marking in Spanish because “English speakers learning Spanish would not begin the acquisition of Spanish with either a parsing system that expects surface agreement or with a hypothesis space in the grammar that expects rich morphology on verbs” (p. 113). How else to observe this property of the English system except by contrasting it with a different one? Further research can point to other linguistic contrasts, including those in processing, morphology, syntax, phonology, and so on. The point is that by examining what happens at the intersection of two languages, the nature of both the target language input and the native language grammar are illuminated. These observations would be difficult to make by examining first language acquisition or by observing native speakers’ use of English alone.

3 Conclusion

We have argued for a bidirectional relationship between second language research and linguistic theories. That is, we believe that SLA research should look to linguistics for concepts and models that provide a basis upon which to make hypotheses, conduct data analysis, and draw conclusions, and we also believe that linguistic theorists can develop and improve their understanding of linguistic concepts and models by examining the results from SLA studies. In particular, we argue that second language research can be used to observe the contrast between linguistic systems, which provides a unique and revealing insight into the characteristics of both the native language and target languages. Given that no easy answers are forthcoming on the best way to model and understand the linguistic system, only by examining the results of multiple data sources will we come closer to discerning its nature, its universals, its variations, and its vagaries.
References


