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CLIFTON PYE

*The Comparative Method of Language
Acquisition Research*

CHICAGO

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The Comparative Method of Language Acquisition Research

Preface

Modern research on language acquisition was profoundly shaped by Chomsky's revolutionary proposal that children must have access to something like a language acquisition device or, in present terms, Universal Grammar. Tacit knowledge of the abstract structure of human language would equip children with the linguistic foundation they need to break the code of the adult language that was spoken all around them. This theoretical perspective implies that, no matter what the language, children would initially demonstrate a common grammar at some level. This perspective biases the researcher to seek out universals in child language and ignore the differences. Differences according to this perspective are the result of superficial features of the languages, the acquisition process, and individual differences between children. Differences are uninformative in the quest to identify universals of language acquisition.

I began my academic career searching for such universals. I was fortunate at the time to be a student of Terrence Kaufman, a leading investigator of Mayan languages. He introduced me to the Mayan language family and tolerated my interest in the potential implications the Mayan languages have for theories of language acquisition. I began my research career by investigating whether Roger Brown's claims for the order of morpheme acquisition held for the Mayan language K'iche' (Pye 1979).

Brown (1973) claimed that children acquiring English begin producing inflections after first learning to put words together into primitive sentences. He referred to children's initial two word utterances as "telegraphic speech" because they were similar to telegrams, which were still being sent in those days. Telegraphic speech tends to omit functional morphemes such as determiners, tense inflections, and auxiliary verbs,

which were also missing in the children's speech. Brown discovered that children acquiring English would begin producing functional morphemes in similar orders beginning with the progressive suffix *-ing* and the prepositions *in* and *on*, and slowly adding determiners, the copula *be*, and the auxiliary verbs.

I set off to Guatemala in 1977 to investigate whether children acquiring the Mayan language K'iche' would demonstrate the same telegraphic features that Brown had discovered in the language of American children. The initial problem I encountered was learning how to reconcile the differences between the functional morphemes in English and K'iche'. The regular English plural suffix *-s* is used on all count nouns in a plural context (e.g., 'two cows'). K'iche' has two regular plural morphemes that are independent words rather than inflections. The plural morpheme *taq* is used with all count nouns, while the plural morpheme *ee* is used with animate nouns. The K'iche' plural morphemes can be used in combination with each other or omitted entirely. Plural marking on nouns is optional in K'iche' because the verbs also inflect for number agreement with subjects and objects.

These differences hint at a proposal by Quine (1968) that differences in number marking between languages signal profound differences in the underlying concepts. There is simply no basis for comparing plural concepts in K'iche' and English because the semantic structures of the two languages are so radically different. Such differences lead to very different acquisition routes in the two languages and defeat the search for superficial universals in children's language.

I quickly discovered how different language acquisition could be in a Mayan language when the first recordings showed that although K'iche' children simplify their productions, they do not omit all functional morphemes. One example is the children's production of the K'iche' existential verb *k'oolik*. This verb translates into English as the verb *be* in the sense of being in a location and *have* in the sense of having a dog. The verb contains the root morpheme *-k'oo*, the positional suffix *-l*, and the intransitive verb suffix *-ik*. Brown predicted that K'iche' children would produce the verb root and omit the suffixes, whereas K'iche' children did just the opposite. They produced the suffixes and omitted the positional root. The K'iche' children demonstrated early mastery of the various suffixes on intransitive and transitive verbs and thus showed that structural differences between K'iche' and English had a direct bearing on the form of children's utterances (Pye 1983). This example showed that theoretical

predictions based on the study of English did not hold for acquisition of other languages. New data from other languages continue to prove this point.

I began a second phase of my career when I undertook a collaboration with Penny Brown, Lourdes de León, and Barbara Pfeiler to investigate whether the speech of children acquiring the Mayan languages Tzeltal, Tzotzil, Yucatec, and K'iche' had any linguistic features in common. At first glance, these languages have many structural similarities. Verbs in all four languages are marked for aspect and agreement with subject and object. The verbs in all four languages also have suffixes like those that I had found in the early speech of K'iche' children. Although we initially expected the comparison to be easy, we soon discovered that these four Mayan languages had innovated different uses for their cognate morphemes. We faced the same problem that I had initially encountered when I had tried to compare plurals in English and K'iche'.

While the problem of comparison was similar, it was slightly more tractable when restricted to comparison between genetically related languages. The differences made it possible to explore the effects that these differences had on the children's productions in great detail. For example, the absolutive subject marker is a prefix in K'iche' and a suffix in Tzeltal, Tzotzil, and Yucatec. The absolutive markers have similar forms in the four languages, apart from a difference in number marking. K'iche' has six distinct absolutive markers: three for singular persons and three for plural persons. Tzeltal, Tzotzil, and Yucatec combine the singular markers with a separate plural morpheme so that children acquiring these languages hear the same person marker used in both singular and plural contexts. We found that children acquiring Tzeltal, Tzotzil, and Yucatec produce the absolutive suffixes much earlier than K'iche' children do (Brown et al. 2013).

This collaboration led to two developments in my research. I began to develop a framework for crosslinguistic research, the comparative method, and I started to apply this framework to a series of investigations across different Mayan languages. With support from the National Science Foundation, I began a project with Pedro Mateo Pedro that documented how children acquire the Mayan languages Ch'ol, Q'anjob'al, and Mam. Pedro is a native speaker of Q'anjob'al and arrived at the University of Kansas just in time to help me undertake this project. He was instrumental in helping me recruit and train native speakers of the three languages to record and transcribe children's speech in three Mayan

communities. He has now published his findings on the acquisition of Q'anjob'al (Mateo Pedro 2015).

My experience on this project provided a better understanding of the full scope of language acquisition research. Rather than collecting acquisition data in order to test some linguistic theory of the day, I came to view language acquisition research in the context of language loss. The accelerating loss of indigenous languages around the world requires investigators to redirect their attention to documenting the acquisition of the world's endangered languages and the unique challenges the structures of these languages pose for children. The field of language acquisition research has largely neglected children acquiring endangered languages and our knowledge of the human potential for language acquisition is correspondingly deficient.

Documenting the acquisition of an endangered language requires that attention be paid to documenting the full scope of children's linguistic accomplishments. The investigator of an endangered language must assume that there will never be another opportunity for further research on the language. This situation requires the documentation of children's language at all levels from their first sounds to their abilities to engage in discourse. All of these features connect in a holistic fashion that makes it impossible to study how children acquire plural markers without also understanding the various ways that a language uses plural markers across different domains of discourse. Recording how children interact with their caretakers in daily activities is the best way to understand how adults and children deploy the resources of underdocumented languages. The investigator has a responsibility to the local community as well as the scientific community to produce a record of children's language development that is as informative as possible.

The comparative method of language acquisition research that I describe in this book grew from the data that we recorded from Ch'ol, Q'anjob'al, and Mam, as well as from a later investigation of the acquisition of Teenek (Wastek) made by Barbara Pfeiler. These investigations showed how data from additional languages helped complete a picture of Mayan language development that I had begun with research on K'iche'. The Ch'ol, Q'anjob'al, and Mam data filled in the gap between K'iche' and Yucatec that we had explored earlier. With the additional data, we were in a better position to see how the historical changes between the languages resulted in structures that Mayan children interpret in different ways. Teenek is the most distinctive Mayan language, but with the help of our

previous studies, we were able to fit the Teenek data into the larger pattern of Mayan language acquisition.

Writing a book on Mayan language acquisition has provided a new way to apply the comparative method to language acquisition research. My colleagues and I have published a series of articles using the comparative method, but we have always been constrained by the need to confine our investigations to the allotted space in each publication. These space limitations have prevented us from providing a detailed account of Mayan grammar as well as detailing the interconnections between the acquisitions of different levels of the grammars.

In this book I have the opportunity to demonstrate the comparative method and explain its rationale. However, in addition I am able to buttress this discussion with a sketch of Mayan grammar that explains how the individual pieces fit into a complete language. Another section provides a brief history of the research on Mayan language acquisition. The Mayan acquisition studies that I present in the remaining chapters grew out of these preceding studies but differ from these studies in that the analyses that I undertake in each chapter build on the analyses presented in the previous chapters. My hope is that by the end of the book readers will have a better idea of how the individual investigations combine to document the acquisition of a complete language.

I have tried to put myself in the place of readers not familiar with the structure of Mayan languages. I have minimized the grammatical discussions by focusing on the acquisition of three Mayan languages: K'iche', Mam, and Ch'ol. These three languages belong to three different branches of the Mayan language family and demonstrate the startling ways in which historically related languages can put the same morphemes to distinct uses. While I refer to acquisition data from other Mayan languages from time to time, my hope is that readers will acquire an understanding of how the similarities and differences between the three target languages shape children's acquisition of the languages on a number of different levels.

I have also kept the analyses in this book at a fairly general level by omitting a number of details about the individual languages when I felt that these details would obscure the larger picture. Interested readers can consult the grammars of K'iche' (Larsen 1988, Mondloch 1978), Mam (England 1983), and Ch'ol (Vazquéz Álvarez 2011) for details. I also omitted discussion of the theoretical implications of the Mayan results because this discussion would obscure the larger picture of Mayan language

acquisition. I have addressed theoretical implications in a number of my publications (e.g., Pye 1990, 2007b; Pye and Pfeiler 2017).

Mayan Orthography

I use the practical orthography developed by the Proyecto Lingüístico Francisco Marroquín (Kaufman 1976) for the Mayan examples in this book except that I use <'> rather than <7> for the glottal stop. The other orthographic symbols have their standard International Phonetic Alphabet values except: <b'>=/b/, <tz>=/ts/, <tz'>=/ts'/, <tx>=/tʃ/, <tx'>=/tʃ'/, <ch>=/tʃ/, <ch'>=/tʃ'/, <j>=/x/, <y>=/j/, <nh>=/ŋ/, <ñ>=/ɲ/, and <ä>=/i/. <x>=/ʃ/ in K'iche', Ch'ol, and most Mayan languages, but <x>=/ʃ/ in Mam and Q'anjob'al; <xh>=/ʃ/ in Mam and Q'anjob'al.

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