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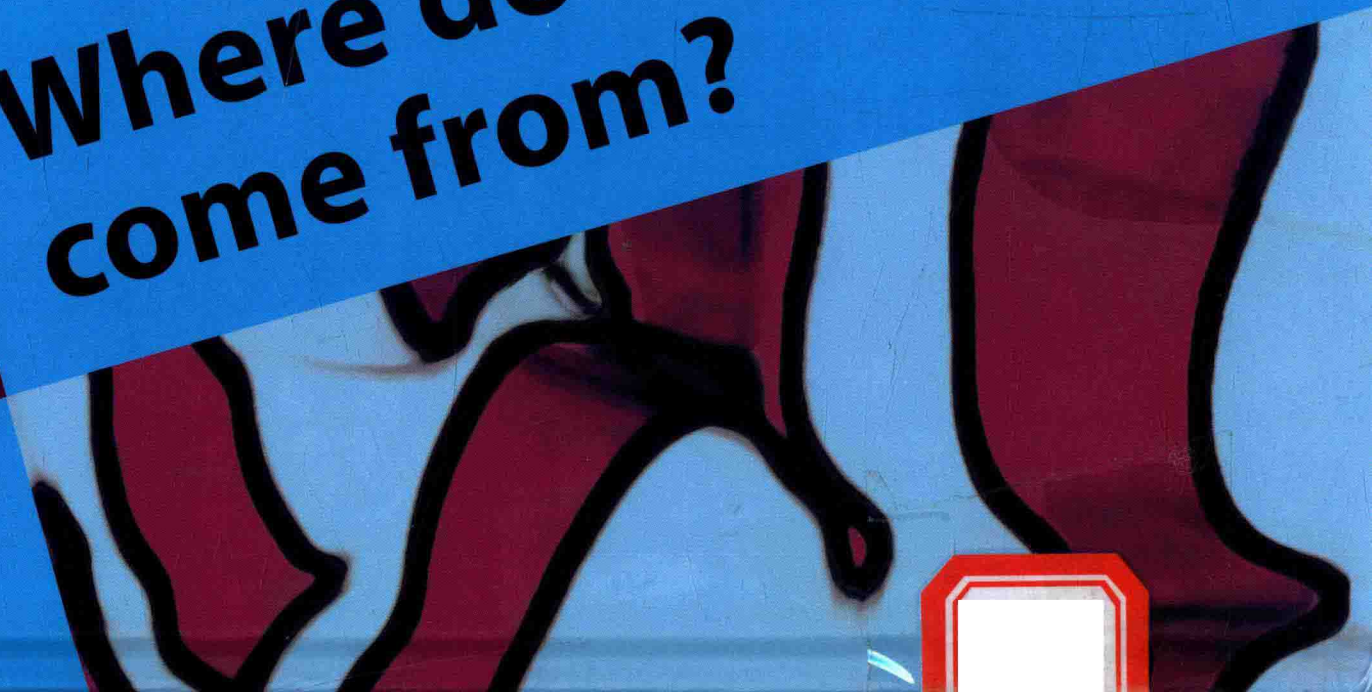
Where do nouns come from?



Where do nouns come from?

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Volume 70

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Introduction

Where does "Where do nouns come from?" come from?

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The collection of four chapters in this volume began life as an organized panel, called "How to invent nouns", at the meetings of the International Society for Gesture Studies held in Lund in July 2012. Here is a version of the original abstract for that panel:

> When interactants must rely on their hands rather than their mouths to talk — either from enforced pantomime or as a result of deafness — the emerging systems of gesture and sign display what have been described as resilient "linguistic" properties (Goldin-Meadow, 1982). Few properties of language are, in turn, more robust than formally marked categorical distinctions between "parts of speech" — between nouns and verbs, for example. This panel considers a wide spectrum of gesture-based communication systems, including (1) experimentally induced attempts at pantomimic representation, (2) homesign systems developed between single deaf individuals and their hearing caregivers, (3) "village sign" systems emerging in circumstances where small communities of deaf and hearing individuals persistently and sometimes over several generations communicate in part through visible signs, and (4) nascent institutionalized sign languages on their way to becoming regional standards. This panel asks a deceptively simple question: where do gestured nouns come from? If gesture is derived from how the hands are used when manipulating physical objects (Kendon, 2004), then the iconic raw material of gestural signs is by necessity (at least modeled on) such practical action. How do emerging sign systems extract, highlight, and communicate object properties from such action profiles to create visible analogues of nominal constituents?

The papers in the original panel in turn had an intertwined history. The idea percolated in the fertile world of gesture and sign language studies at the University of California, San Diego (UCSD), in discussions between members of several different groups. One was the Linguistic Anthropology Laboratory, in the Department

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of Anthropology, where I have presented work on Zinacantec Family Homesign (Z) over the past few years and where anthropology students have pursued other projects on sign languages, homesign, and gesture. Another, even more important, was Carol Padden's lab at the Center for Research on Language (CRL), and including the Sign Language Reading Group and Carol's long term collaborators (Wendy Sandler and Irit Meir, featured here, among them) studying Al-Sayyid Bedouin Sign Language (ABSL). A third element was the presence of psychologist Susan Goldin-Meadow, in residence at UCSD during part of a sabbatical year, when long term conversations resumed about homesign and the possible links between gesture, sign language, and what may be called "silent gesture" — e.g., visible communicative strategies speakers invent when asked to perform various experimental tasks without resorting to speech. Of the original four papers presented in Lund, two addressed homesign systems (one the creation of a single deaf child and his caregivers, another "Z" emerging in a small extended family in rural Mexico with three deaf siblings and no contact with any other deaf people), one (by Matt Hall, then a UCSD psychology Ph.D. candidate) concerned the expression of argument structure in silent gesture, and another (co-authored by Amber Martin, Annie Senghas, and Padden) considered a striking morphological distinction in handshape and iconic selectivity for apparent nominal constituents in both established and emerging sign languages and in gestural practices in the surrounding speaking communities. The resulting panel was well-attended and lively, and we all met afterwards on a sunlight grassy knoll outside the summery conference venue to consider ways we could bring the work to a more general public.

Insofar as recent linguistic typology has enshrined a noun-verb distinction as one of the few reliable categorical universals of human language,[1] the search for such a distinction in any communicative system — spoken, signed, or gestured — seems warranted. As we tightened the theme of our proposed joint publication project to center directly on part-of-speech distinctions, and especially the nature of a nominal category, in a visual modality, three of the original papers eventually fell out of the collection, and were replaced by others, some from the same authors (although in different configurations), and another solicited especially because of its close ties to the theme. Of several possible logics, I have chosen to order these chapters by decreasing magnitude of the speech communities involved, moving from the current state of knowledge about a noun-verb distinction in established and relatively well-studied national sign languages, and its application to two relatively young sign languages, to a careful consideration of alternate iconic handshape strategies in a specific subclass of common nouns in both emerging and

1. For a very recent example, see Dixon (2014): "In many languages the distinction between noun and verb is very clear. In others it is more subtle, but it is always there."

established sign languages and their associated gestural communities, to a very small family sign language where even in a first generation of signers a noun-verb distinction seems to have been grammaticalized, to David, the single homesigner much studied by Goldin-Meadow and her colleagues, whose formal distinctions between nominal and verbal elements are re-examined.

Here is a brief précis of each of the chapters in the present collection.

1. Oksana Tkachman and Wendy Sandler, in "The noun-verb distinction in two young sign languages", begin with a detailed review of existing literature on formal expressions of a noun-verb distinction, in both spoken and established sign languages. The problem is illustrated by the claim that, in particular languages, a large class of what linguists might want to label nouns and semantically related verbs "look very similar to one another", in much the way that one might label spoken elements like 'hammer' (the noun) and 'hammer' (the verb) "cognate", because they are semantically related and, at least in certain contexts (e.g., in the sentence "I saw her hammer") homonymous. The authors review how such a conundrum — that it is hard to distinguish a putative signed noun from a putative signed verb on formal grounds, and methodologically dubious to do so on notional grounds — has been tentatively resolved in sign languages, as over time researchers have developed more and more subtle diagnostics to identify and characterize the distinction formally in a subset of semantically and formationally related noun-verb pairs. The markers include frequency and manner of the movements involved in making the signs, as well as the duration and amplitude of the sign, and the presence of accompanying non-manual markers, notably "mouthing" of a related spoken word.

Then the authors turn to the intriguing contrast between two "young" sign languages of comparable age but strikingly different provenance: Israeli Sign Language (ISL) which arose in an active deaf community from probable origins in the sign languages immigrants brought with them to Israel, versus ABSL which arose over three (and now four) generations in a Bedouin village because of the high incidence of deafness that first appeared in a small cohort of deaf siblings and their progeny. Using a series of tasks based on visual stimuli carefully designed to elicit either signs for objects or signs for actions, Tkachman and Sandler contrast the two languages' use of features of sign form to correlate with the notional object-action distinction incorporated into the stimulus materials. ISL, which is an important medium of deaf education in Israel (where a strong oralist tradition — in which deaf children are encouraged to learn the dominant spoken language as best they can alongside sign languages — also persists) was found consistently to use two formal features to distinguish nouns from verbs, whereas no such consistent formal distinction was found in the village sign language. Both ISL and ABSL also show an interesting but not wholly consistent tendency to employ size/

shape specifiers (SASSs) in certain nominal contexts, and the authors speculate that the presence or absence of such specifiers may respond to typological features of the objects involved or to a hierarchy of such features. They conclude with further discussion of sociocultural constraints on the emergence of syntactic and morphological devices which might yet appear in the subsequent evolution of a village language like ABSL.

2. Carol Padden, Irit Meir, So-One Hwang, Ryan Lepic, Sharon Seegers, and Tory Sampson, in a chapter entitled "Patterned iconicity in sign language lexicons", present a cross-linguistic comparison of what they dub "patterned iconicity" in a selected subdomain of the nominal lexicons of a series of typologically distinct sign-languages — where the typological parameters emerge precisely from the different patterns of iconicity under investigation. The link to nouns here derives from the fact that these different patterns themselves seem to be tied to a 'natural' or at least apparently compelling class of objects, namely instruments or tools typically manipulated by human hands — for instance, to stick with our example, hammers.

The authors additionally appeal to the performance of hearing "silent gesturers" to motivate further a careful typology of iconic strategies for naming tools, derived initially from sign languages, but arguably more widely applicable to a visual modality. An important advance is the idea that individual aspects of sign morpho-phonology (such as, for example, the monolithic notion of "handshape") may itself be a later development from complex "iconic patterns" — for example, combining hand configurations with specific sorts of motion or position, and with different sorts of iconic motivations. These in turn may be decomposed or disassembled over time into discrete components that can individually be recruited to the structural needs of a grammatical system like a sign language. Thus complex iconic patterns (for example, "object" vs. "instrument" vs. "handling" patterns — three of the total inventory of iconic types the authors distinguish) have multiple defining elements, combined in silent gesture, and maintained as gestalten in young sign languages, although perhaps reanalyzed as discrete features of sign phonology as the sign languages evolve.

Like Tkachman and Sandler, Padden et al. base part of their study on ABSL, the very young village sign language from Israel. (One group of their silent gesturers were also hearing men from a nearby Bedouin community without deaf relatives and with little or no reported interaction with deaf people.) Tkachman and Sandler report, as we have seen, that standard sorts of formal devices for distinguishing cognate nouns and verbs in ABSL do not reliably signal such a categorical difference. On the other hand, applying their notion of patterned iconicity, Padden et al. report a striking consistency in ABSL signs for small manmade objects

manipulated by the hands: the language strongly prefers "instrument" forms (in which the hand is configured so as to resemble the tool in question, and moved in a way that suggests the way the tool moves as it is used) over "handling" forms (in which the hand is configured as if it were a hand manipulating the object in question and moved as if performing a characteristic action using the tool). The authors contrast these preferences with ASL, which favors instrument forms over handling forms; with New Zealand Sign Language (NZSL), which has the opposite pattern, favoring handling forms over instrument forms in signs for the same objects; and finally with silent gesture, where the handling pattern heavily predominates, regardless of what the nearby sign language does. ABSL thus presents a striking case of a very young sign language that seems to have recruited an iconic pattern — the "instrument" pattern — to begin to do characteristically linguistic work, that is, to distinguish a class of nominal signs by a consistent type of iconicity. The same formal strategy, incidentally, also increases the language's stock of distinctive handshapes. Notably, the "instrument" pattern is much more heavily employed by the all signers described than by silent gesturers, for whom "handling" appears to be a default.

3. Haviland's contribution (I will refer to myself in the third person, hoping that this is not too awkward), "The emerging grammar of nouns in a first generation sign language: specification, iconicity, and syntax", deals with a quite different sociolinguistic situation, involving a first generation homesign — dubbed "Z" — developing spontaneously within a single extended family of indigenous peasants in Chiapas, Mexico, where the surrounding spoken language is Tzotzil (Mayan). The chapter introduces the family and the small sign community, centered on three deaf siblings and their hearing age mates, and it reviews how putative nouns have been distinguished in emerging, very young homesign systems. It then uses largely quasi-experimental elicitation tasks to illustrate three different formal devices Z signers employ, with varying degrees of consistency, to refer to nominal arguments. The first involves a specifier-like construction in which a sign displaying certain size and shape properties of a putative nominal entity (similar to the SASSs identified by Tkachman and Sandler) combines with a further characterizing sign and perhaps a quantifier. The characterizing element, in turn, typically involves an iconic enactment of the way a human actor ordinarily interacts with the entity in question.

The second formal device is directly linked to the "instrument" vs. "handling" iconic patterns defined by Padden at al. in the previous chapter, as well as to other similar typological distinctions proposed for handshapes in a range of visible communication systems, from other homesigns and alternate sign languages, to classifiers in established sign languages, and even speakers' gestures. Here Haviland

investigates the possibility that the profiling of action inherent in Padden's "handling" pattern might be appropriate to verbs, whereas the profiling of the object invoked by the "instrument" pattern might be more appropriate as a formal means of specifying nouns. Such a hypothesis seems to be confirmed in much of the Z signers' descriptions of stimuli designed to elicit either nominal or verbal expressions, but the distinction is sometimes too subtle (and not always consistent enough) to be considered grammatically robust.

The third formal strategy is especially notable in Z because it appears to involve a clear case of grammaticalization, in which a lexical sign (for a verb meaning 'put' or 'place') has been recruited as a locative or existential grammatical marker precisely to distinguish what would be glossed as nominal predicates — of the form "It's a hammer" — from verbal predicates like, say, "(Someone) is hammering".

Haviland concludes that even a first-generation sign-language like Z can be argued to exhibit a conspiracy of grammatical mechanisms for distinguishing nouns from verbs.

4. In "How handshape type can distinguish between nouns and verbs in homesign", Dea Hunsicker and Susan Goldin-Meadow push the discussion of part of speech categories back to just about the earliest developmental level available, reconsidering how a single, very young deaf child, David, inventing his own homesign system to interact with others, manages formally to mark nominal reference. Building on much earlier work about how nominal referents were gestured — what sorts of gestures served to refer to objects and what morphological devices were associated with them — the authors here ask whether handshapes also play a part in making such a distinction, a question of special interest in the context of a homesign system that is only produced (by David) but not reciprocated by a community of interlocutors. Working from a longitudinal corpus of spontaneous interaction and play, and a parsing/coding scheme developed over several decades of research on the same corpus, the authors concentrate on three kinds of iconic gestures (as opposed to pointing gestures, which could be used to refer to objects either as tokens or as types): those that referred to actions, and those that referred to objects — either as arguments or as nominal predicates. They trace the development of nominal and verbal reference (determined notionally on the basis of what David evidently meant) in David's gesturing from the age of 2 years 10 months through 4 years 6 months. The authors analyze David's handshapes in these iconic gestures, categorizing them in a way comparable to the iconic patterns described by Padden et al. in their article in this collection, and in particular contrasting "handling" handshapes (where the gesturing hand appears to represent a hand manipulating an object) with "object" handshapes (where the hand seems to represent the object itself, whether with or without associated motion — note that in

the former case, David's handshape is also comparable in some ways to a SASS or shape and size specifier).

The central empirical finding of the chapter is that in his earliest productions, when David used iconic signs (as opposed to pointing gestures) to refer to objects, he used predominantly "object" handshapes. At the same stage his iconic gestures referring to actions displayed predominantly "handling" handshapes. This early pattern is thus reminiscent of the preferential use of iconic strategies Haviland describes among Z homesigners in his contribution to this issue. After the age of 3 years 5 months, however, this distinctive pattern of handshapes disappeared, and David began to use both sorts of handshapes for both nominal and verbal reference. Hunsicker and Goldin-Meadow speculate about what other developments might have occurred in David's homesign at that age that could account for his apparently abandoning handshape as a formal marker of a noun-verb distinction. One central feature of David's gesturing that coincided with the change in handshape use was the emergence of a kind of morphological combinatorics, including reduced or abbreviated motion patterns for nouns as opposed to verbs — a feature reminiscent, in fact, of one of the formal devices Tkachmann and Sandler identify in their contribution to this issue as marking a noun-verb distinction in developed sign languages.

The authors go on to speculate about how the special features of a homesign like David's may offer insights into the genesis of manual communication systems with different origins, histories, and sociolinguistic contexts. What role does interaction via gestures with communities of interlocutors play? How does developing a set of communicative practices and conventions over time affect the resulting forms? How much does an emerging sign language build or depend on the gestures of surrounding speakers? The assumption — shared by most linguists and by the authors represented in this collection — that languages seem to need a formal distinction between nouns and verbs here provides a compelling motivation for detailed formal studies of practices of visible communication, as a necessary part of understanding human language.

We are particularly indebted to the organizers of the ISGS meetings in Lund for making our original panel possible, to our colleagues on that panel whose work is only indirectly reflected in this volume, to our generous reviewers — Pamela Perniss, Roland Pfau, and Karen Emmory — for their helpful critical comments on earlier version of these chapters, and especially to Adam Kendon for stern but constructive direction, editorial suggestions, and general encouragement in bringing this project to completion.

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The noun-verb distinction in two young sign languages*

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Many sign languages have semantically related noun-verb pairs, such as 'hairbrush/brush-hair', which are similar in form due to iconicity. Researchers studying this phenomenon in sign languages have found that the two are distinguished by subtle differences, for example, in type of movement. Here we investigate two young sign languages, Israeli Sign Language (ISL) and Al-Sayyid Bedouin Sign Language (ABSL), to determine whether they have developed a reliable distinction in the formation of noun-verb pairs, despite their youth, and, if so, how. These two young language communities differ from each other in terms of heterogeneity within the community, contact with other languages, and size of population. Using methodology we developed for cross-linguistic comparison, we identify reliable formational distinctions between nouns and related verbs in ISL, but not in ABSL, although early tendencies can be discerned. Our results show that a formal distinction in noun-verb pairs in sign languages is not necessarily present from the beginning, but may develop gradually instead. Taken together with comparative analyses of other linguistic phenomena, the results lend support to the hypothesis that certain social factors such as population size, domains of use, and heterogeneity/homogeneity of the community play a role in the emergence of grammar.

> No logical scheme of the parts of speech — their number, nature, and necessary confines — is of the slightest interest to the linguist. Each language has its own scheme. Everything depends on the formal demarcations which it recognizes.
>
> Edward Sapir (1921, p. 119)

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Introduction

Since Aristotle's *Logic*, linguists, philosophers of language, and philologists alike have taken for granted that nouns and verbs are distinct word classes. This assumption about the universality of nouns and verbs arises from the fact that there are usually some explicit means for distinguishing between these two parts of speech in any given language, such as syntactic relations (e.g., with arguments or modifiers) and inter-relationships with co-occurring grammatical categories that are often marked morphologically (including tense and mood with verbs and case marking with nouns).

Today, not everyone accepts the universality of nouns and verbs. For example, Haspelmath (2007) argues that many linguists either confuse universal functions with language-specific categories[1] or believe that regardless of what set of tools a particular language starts out with, all languages end up with the same word categories (see also Croft, 2000, for a discussion of parts of speech as language universals).[2]

Some researchers expressed doubts about the universality of nouns and verbs as early as the 1920s (Sapir, 1921). More recently, a number of fieldwork studies have attempted to demonstrate empirically that some languages do not distinguish between nouns and verbs, either morphologically (Broschart, 1997, on Tongan), or syntactically (Jacobsen, 1979, on Nootka; Himmelmann, 1991, on Tagalog; Gil, 1991, on Riau Indonesian; Jelinek, 1995, on Salish; Launey, 2004, on Classical Nahuatl), and the debate over whether these languages distinguish between nouns and verbs, perhaps through other means, is ongoing (see Evans,

1. Though Haspelmath (2007) does not define explicitly what he means by universal functions and language-specific categories, typically linguists use those terms to distinguish between phenomena that are supposed to exist in all natural human languages vs. phenomena that are found only in some languages and not taken as atypical realizations of some universal feature. For instance, a set of permissible word orders and a means of expressing sentential negation are examples of universal functions that can be expected to be found in all human languages, while numeral classifiers and auxiliary verbs are examples of language-specific categories found only in some languages (Bender & Flickinger, 2005).

2. Older versions of generative grammar postulated two features: [±V] and [±N] or [±transitive] and [±predicative]. Their combinations gave four different parts of speech: N [−V +N]; V [+V −N]; A [+V +N]; and P [−V −N] (Chomsky, 1970). In the Minimalist Program (Chomsky, 1993, 1995) all words are fully formed in the lexicon and then merged with each other in a sentence by the syntax. In the Distributive Morphology framework parts of speech are not present in syntax, and open-class words are acategorical, with their lexical categories determined later by their local relations. For instance, the word whose closest c-command licenser is a determiner will be labeled as noun (see Harley & Noyer, 1999, for the discussion).

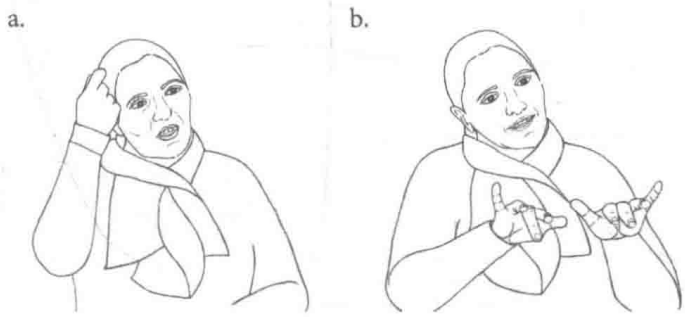

Figure 1. Examples of the iconic signs (a) BRUSH(-HAIR) and (b) (PLAY-)PIANO in Israeli Sign Language (ISL)[3]

2000, for discussion). This debate notwithstanding, the belief that nouns and verbs are universally distinct word classes, regardless of whether or not they are formally distinguished in any particular language, is widely held among linguists.

In the field of sign language research, the history of the debate over universality of parts of speech has undergone the opposite evolution from that of spoken languages. At the inception of linguistic studies on American Sign Language (ASL), Stokoe, Castorline, and Croneberg (1965) claimed that this language lacked any formational distinction between nouns and verbs. Indeed, in many sign languages, a large class of nouns and semantically related verbs that are iconically motivated look very similar to one another, as exemplified by Israeli Sign Language (ISL) in Figure 1; from these illustrations, it is not possible to determine whether the signer is producing the noun or its related verb.

Later, however, Supalla and Newport (1978) argued that Stokoe and his colleagues' failure to find the distinction can be explained by their methodology, and that in fact ASL has very reliable morphological means for distinguishing between nouns and verbs within a subset of noun-verb pairs that are semantically and formationally related. Indeed, a number of studies on subsequent sign languages have demonstrated the existence of noun-verb distinctions in such pairs, as we discuss in the section on previous noun-verb studies in sign languages.

All sign languages in which a noun-verb distinction has been found are established sign languages that have been in use in deaf communities for 150 years or more.[4] Even though they are very young compared to spoken languages, the lack of documentation of their earlier stages leaves unclear whether a noun-verb

3. It is conventional in sign language literature to gloss the meanings of signs in small caps (SIGN).

4. American Sign Language is about 250 years old (Padden, 2010), Australian Sign Language is at least 170 years old (Johnston & Schembri, 2007), Russian Sign Language is 200 years old (Bickford, 2005), and Austrian Sign Language is about 150 years old (Dotter & Okorn, 2003).