Endangerment and revitalization of sign languages

J. Albert Bickford and Melanie McKay-Cody

Abstract

To date, relatively little effort has been expended on revitalizing sign languages. To understand the current vitality of sign languages, it is important to distinguish two sociolinguistic types of sign languages. The better-known type can be termed Deaf communities, typically urban and national in character. Alongside these are shared-signing communities, typically in rural areas with a high incidence of hereditary deafness, in which many hearing people actively use the sign language in addition to deaf people. These two types differ in patterns of intergenerational transmission and language loss. Although we can be cautiously optimistic about the future of Deaf community languages, shared-signing communities are facing massive erosion already. To date, most attempts to strengthen sign languages have focused on supporting continued use of Deaf community languages; efforts to support and even revitalize dying shared signing communities have only just begun.

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There has been little attention so far to revitalizing sign languages. For example, the *UNESCO Atlas of the World's Languages in Danger* (2010) doesn't list any. In this chapter, we establish a framework for approaching this topic. We start by discussing two types of sign language communities, with differing patterns of attrition, then review the current vitality of the world's sign languages and summarize efforts that have been made to strengthen them, concluding with a few suggestions for planning revitalization programs.

TWO TYPES OF SIGN LANGUAGE COMMUNITIES

Sign languages normally only exist when deaf people are in regular contact with each other. This typically happens in one of two ways, which lead to two broad types of sign language communities. Although there is still disagreement how to characterize and name them (Bahan & Nash 1996; Lane, Hoffmeister & Bahan 1996; Woll & Ladd 2003; Kisch 2008), it is generally agreed that a crucial factor distinguishing them is the percentage of deafness, which affects how the language is transmitted to new generations.

The first type, often called a "Deaf community (sign language)"[2] (Meir et al. 2010) is better known. Other common names are "national sign language" (Zeshan 2008), and "urban sign language" (de Vos & Pfau 2015). Typically only a tiny percentage of the population is deaf;[3] only when deaf children are brought together in schools is there is a "critical mass" from which a sign language emerges (Kegl, Senghas & Coppola 1999). Even if teachers don't use signs, children develop a sign language among themselves. When they grow up, they form a distinct Deaf community within the surrounding hearing society. The language is passed on to new generations by older students, especially those few native signers who have Deaf parents. Although some hearing people may also learn the language (family members, interpreters, teachers), the majority of signers are deaf, and the great majority of hearing people do not sign. Deaf communities typically span whole countries but are concentrated in major cities and around Deaf schools.

The second type generally arises in small rural villages, and so is often called a "village sign language" or "rural sign language" (Meir et al. 2010; Zeshan & de Vos 2012; de Vos & Pfau 2015). However, not all are in villages; Plains Indian Sign Language (PISL) was once used widely across North America as a lingua franca between tribes, as well as for storytelling, ceremonies, and oratory (McKay-Cody 1998; Davis 2010). A better term, suggested by Kisch (2008), is "shared-signing community". Shared-signing languages typically develop where people marry within a tight social network, creating a closed gene pool in which incidence of deafness, once introduced, can rise well above typical levels, often over 1%. Deaf people have opportunity for regular contact with other deaf in their local neighborhood. As a result, deaf and hearing develop and use the language together, and hearing signers typically greatly outnumber the deaf.[4] In many such situations, there is little sense of deaf people as

[1] We thank James Woodward and Samantha Rarrick for helping us with data from ELCat, and Elizabeth Parks for helpful comments on the chapter.

[2] It is common to capitalize "Deaf" when referring to a separate linguistic and cultural subcommunity, reserving "deaf" for audiological deafness. We follow that convention for Deaf communities, but not for shared-signing communities, where deaf people are more integrated.

[3] A common estimate is 0.1% (not counting older adults, Schein 1989); actual numbers vary depending on the definition of deafness and socio-economic conditions in a country.

[4] Marsaja (2008) reports 47 deaf and 1155 hearing signers of Kata Kolok.

a distinct sub-community or as being disabled; in contrast, attitudes toward deafness and signing are often positive. These communities generally have labor-intensive economies in which there is little educational or occupational difference between deaf and hearing.

These two types have different patterns of intergenerational transmission. Most deaf children have hearing parents, even when deafness is inherited (Schein 1989; Mitchell & Karchmer 2004; Johnston 2006). In shared-signing communities, this does not interfere with language transmission, since there are so many hearing signers. The language can still be acquired normally, at an early age, since most deaf (and many hearing) children have at least one person in their family who signs (e.g. Nyst 2007; Kisch 2008:289; de Vos 2012:130; Nyst, Sylla & Magassouba 2012:267. In Deaf-community sign languages, normal language transmission is uncommon. Most Deaf children have no family members who already know a sign language, or indeed, who may ever learn one. Thus, if they learn the sign language of the community at all, they generally do so in school from peers, teachers or interpreters, and have little opportunity to do so before school age. The one important exception is those few children who are native signers, who learn from signing parents or other family members.

PATTERNS OF ATTRITION

Patterns of attrition are different from those in spoken languages. Strikingly, some sign languages disappear because deaf people themselves disappear from a community, typically a shared-signing community. For example, Martha's Vineyard Sign Language (Massachusetts) became extinct after deafness dropped precipitously in the late 19th century due to increased diversity in the gene pool (Groce 1985). Mardin Sign Language (Turkey) is dying because younger deaf people have departed for the cities (Zeshan & Dikyuva 2013). Similar processes may be beginning today in places like Ban Khor (Thailand, Nonaka 2012:291).

Sometimes deafness diminishes due to deliberate eugenic policies, as in Adamorobe (Ghana, Kusters 2012), where the rate of deafness has dropped from 11% to 1.1% since the 1960s due to a local law forbidding deaf people to marry each other. Johnston (2006) outlines concerns about genetic testing and the possibilities it holds for eliminating hereditary deafness entirely; the possibilities of genetic engineering magnify this concern. Further, deafness may decrease as a result of public health policies that hardly anyone would oppose, such as immunization for rubella (Braithwaite 2015) or avoidance of medications that can cause deafness (World Health Organization 2016).

Where deafness cannot be prevented, medical devices are promoted to compensate for it, chiefly hearing aids and cochlear implants. Sometimes their use is combined with simultaneous acquisition of a signed language, but often signing is discouraged, under the mistaken assumption (Campbell, MacSweeney & Woll 2014) that it will hinder acquisition of speech. Such practices block transmission of the sign language to children or delay it past the optimum age for acquisition.

In spoken languages, it is seldom the case that a language disappears as a result of its speakers disappearing (due to war, famine, etc.). For sign languages, this is a constant threat. If deafness is ever eliminated, sign language can be expected to disappear also.

More common than total loss of the deaf population is traditional language shift, but even here, sign languages have distinct patterns. A Deaf community usually does not transition completely to a new sign language, but rather mixes[5] the new with the old. This has frequently occurred where ASL (or ASL vocabulary with English syntax) is imported for use in deaf schools, for example Costa Rica and Thailand (Woodward 2011), Jamaica (Cumberbatch 2012), and Africa[6] (Kamei 2006); see also Parks 2014. Within a few decades, this imported "ASL" incorporates substantial local vocabulary and even grammar; sometimes signers do not understand North American ASL at all (Ciupek-Reed 2012). A continuum of signing varieties may arise between an earlier language and "ASL", at least as long as the original generation is alive (Clark et al. 2016). A similar process seems to have created ASL after sign language was imported from France (Woodward 1978).

[5] We will let creolists decide whether this can be called "creolization".
[6] In Francophone countries, Kamei (2006) reports influence from French as well.

Why does mixing happen? There are at least three factors:

1. The imported language is not modeled well, e.g. by teachers who are not skilled signers, and only in limited situations (the classroom), not in a rich community of users, so is acquired incompletely.
2. Sign languages have greater iconicity and similarity of structure; this enables communication despite linguistic differences, thus blurring the boundaries between different varieties.
3. Community members actively invent signs and make choices about which ones to use; these spread easily because higher iconicity makes them easier to remember.

In contrast, when deaf children from shared-signing communities attend schools that use the national sign language, they typically learn it intact and keep it distinct from their heritage sign language (Kisch 2012:99). If anything changes, it is their use of the heritage sign language, either through heavy borrowing (Nonaka 2012), or even complete shift to the national sign language as their primary language (Earth, Lambrecht & Woodward 2013; Lanesman 2016). However, only deaf people change languages; hearing people have no motivation or opportunity to do so, and deaf-hearing interaction continues in the heritage sign language. This helps keep the two languages distinct, and ironically hearing people then become the heritage language's final "custodians" (Kisch 2008; Lanesman 2016; Nonaka 2012; Zeshan & Dikyuva 2013).

In both types of communities, education is often reported as playing a central role in language shift, perhaps more than for spoken languages. Other social and economic factors, such as the prestige of the national sign language and employment opportunities, can also be important (Nonaka 2012; Zeshan & Dikyuva 2013; Parks 2014), but are less often mentioned. Note, however, that what is important about education is not the language used in the classroom, but the language used by children among themselves. This explains why deaf students from a shared-signing community learn a national sign language fully, since they become part of a rich community of peers (particularly if their heritage sign language is discouraged or stigmatized, as happened with PISL), while Deaf-community languages arise from mixing with imported sign languages in schools—the classroom alone is not enough to transmit the language intact. Similarly, educators have often tried to eliminate sign language entirely in favor of spoken language—"oralist" approaches to education—but sign languages have actually thrived in such schools through interaction outside of class. When they bring deaf children together, they create a situation in which sign languages are created and transmitted. The reason cochlear implants in combination with oralist practices may be more effective in blocking sign language transmission is that deaf children are isolated from other deaf people (Johnston 2006). Another common educational practice, "mainstreaming", in which a deaf child attends hearing classes, is also detrimental. Even if an interpreter is provided, interpreters may be poor language models, and besides, peer-to-peer interaction is often absent if there are few or no other deaf children in the school. In short, the impact of education on sign language transmission depends heavily on what language (if any) is available to children in informal interaction with peers.

Padden (2001) argues that Deaf-community sign languages have shown remarkable resilience to replacement by spoken languages, which are much more difficult for deaf people to learn and use. It remains to be seen whether this optimism is warranted in the face of technology like cochlear implants and genetic engineering. Some new technology may actually promote sign language use, such as internet video, which creates new opportunities for Deaf people to interact (Keating & Mirus 2003; Keating 2005; McKee & Manning 2015). At any rate, a total shift from a sign language to a spoken language is unlikely, even if technology reduces the deaf population. As George Veditz noted in 1913, "As long as we have deaf people on earth, we will have signs."

In contrast, shared-signing languages seem much more fragile when they encounter Deaf-community languages (Nonaka 2012; Safar & Webster 2014). This is particularly unfortunate, since most are isolates; their loss will greatly reduce linguistic diversity. The reasons appear to be their small populations, the likelihood that the incidence of deafness will diminish due to genetic mixing from outside the community or deaf people emigrating, and the availability of a practical alternative in another sign language. Indeed, given the relative ease of acquiring a second sign language, language shift between sign languages may be more rapid than between spoken languages.

CURRENT ENDANGERMENT

Two published sources[7] provide information about sign language endangerment: Ethnologue (Lewis, Simons & Fennig 2016) and the Catalogue of Endangered Languages (ELCat 2015).

Ethnologue uses the Expanded Graded Intergenerational Disruption Scale (EGIDS, Bickford, Lewis & Simons 2014) to rate language vitality.[8] Focusing on intergenerational transmission, it includes 13 levels ranging from International down to Extinct. For example, ASL is currently rated at EGIDS 5 (Developing), Adamorobe Sign Language at 6b (Threatened), and PISL at 8b (Nearly extinct) although formerly it was 3 (Wider Communication). The "normal" state of a language, with healthy transmission to new generations but no special institutional support, is 6a (Vigorous). Languages at levels 6b–9 are dying to varying degrees, because they are not being learned by children.

Ethnologue's estimates of vitality for 138[9] sign languages are summarized in Figure 1. The situation may appear optimistic, but closer examination reveals problems. The sample is not random: 117 are Deaf-community sign languages, which have been more accessible to Western researchers. Shared-signing languages in rural areas are almost certainly under-represented.[10] Even this limited data confirms the expectation that they are much more fragile; when more are included, the average will likely shift downward. Individual ratings also have problems. One, EGIDS only considers current transmission, without trying to predict the future, even if there are known pressures toward language loss. Two, some ratings are based on very limited information and are probably inaccurate; in particular, a language without any vitality information is arbitrarily assigned to level 6a (Vigorous). Three, if there are Deaf schools, the language is typically estimated at level 5 (Developing) because of institutional support. However, that rating may be premature; if there is no developing standardization, or if schools do not effectively promote transmission, it should be 6a. Four, when the population is decreasing, the level should be 6b (Threatened) or lower, regardless of any institutional support and standardization. New Zealand Sign Language (McKee & Manning 2015) is experiencing marked population declines; others may be also without our knowledge. In short, lack of information tends to bias EGIDS estimates of endangered languages upwards.

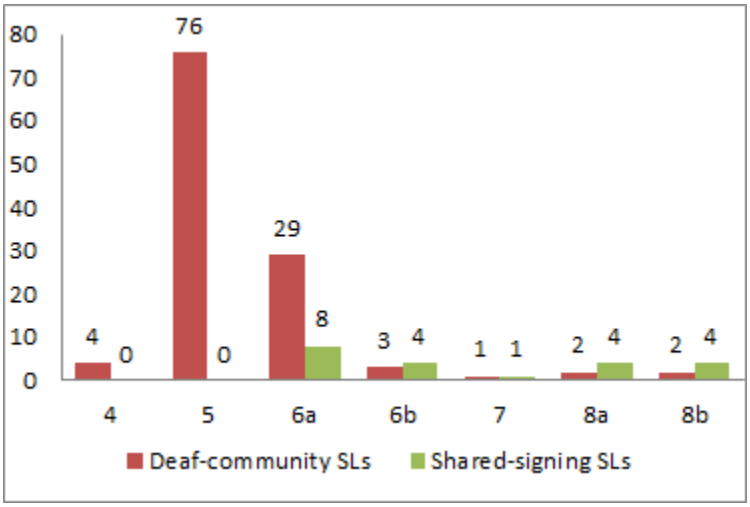

Figure 1: EGIDS ratings for sign languages in Ethnologue 2016

[7] A third source, Safar & Webster 2014, includes only 15 languages, but with similar results.

[8] See http://www.ethnologue.com/about/language-status for a brief description. Two of the levels are subdivided from the original numbering in Fishman's (1991) Graded Intergenerational Disruption Scale.

[9] See [https://www.ethnologue.com/subgroups/sign-language], which includes 141 sign languages, but three are irrelevant to this analysis.

[10] In many countries, there are more shared-signing languages then Deaf-community languages.

ELCat estimates vitality using its somewhat different Language Endangerment Index (LEI), which is designed to bias ratings lower in cases of uncertainty (Lee & Van Way 2016). The LEI considers domains of use and population size/trend in addition to intergenerational transmission.[11]

ELCat's sample is smaller; its estimates for 62[12] sign languages are summarized in Figure 2. Not surprisingly, given the differences in rating systems, ELCat reports less vitality than Ethnologue. Further, ELCat focuses on languages that are endangered; it includes only 44 Deaf-community languages, less than half of what Ethnologue reports, which also lowers the average.

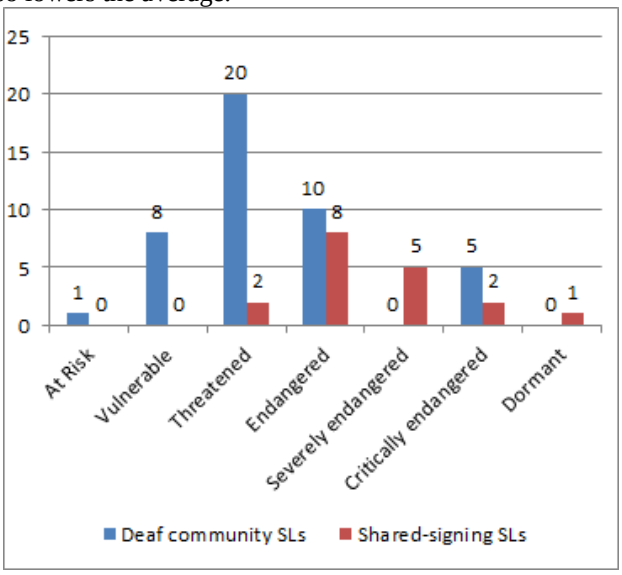

Figure 2: LEI ratings of sign languages in ELCat.

Despite such differences, similar patterns emerge: a) many sign languages are endangered, b) information about vitality is often weak (ELCat rates most of its estimates as having low reliability), c) fewer shared-signing languages are reported, and d) shared-signing languages have lower vitality.

STRENGTHENING SIGN LANGUAGES

To date, almost all efforts to strengthen sign language use have focused on "vitalizing" Deaf-community languages—widening their domains of use or preventing their erosion—rather than revitalizing dying languages. Efforts are generally focused in four main areas of activity:

- Formal legal recognition
- Provision of language-related services (e.g. interpreters)
- Education
- Language documentation

For lists of laws recognizing sign languages, see Wheatley and Pabsch (2012) for the European Union or Ethnologue. General laws in support of minority languages sometimes include sign languages, but often sign languages are forgotten, so laws that specifically mention a sign language are important. Though often pursued, formal legal recognition may be over-rated in its impact. McKee and Manning (2015) point out how the use of New Zealand Sign Language declined in spite of official recognition, since there were few concrete actions backing it up. In other words, until practical language-related services and education are provided in support of language use, legal recognition is only symbolic.

[11] A language may have two or more LEI estimates if ELCat's sources disagree; for simplicity, and following LEI's design, we use the lower estimate.

[12] See [http://www.endangeredlanguages.com/lang/search/#/?q=sign], which in October 2016 listed 68 languages; six are irrelevant.

As already noted, education's most important role is creating conditions where a signing community can develop and thrive, regardless of what happens in the classroom. Still, the classroom can also help if a) the sign language used there is the one used by deaf adults (not foreign or strongly-influenced by a spoken language), b) all teachers and students use it, and c) teachers are skilled signers—in other words, when the signing community is brought into the classroom (Svartholm 2010, de Vos 2012, Bickford, Lewis & Simons 2014). Much Deaf education falls far short of its potential for supporting sign language use.

For sign languages that are already declining, almost all work has been limited to language documentation (e.g. Adone et al. 2012; Clark et al. 2016; Zeshan & Dikyuva 2013). PISL is an exception. A few tribal colleges are teaching it. McKay-Cody, who has collected data on PISL since 1994, is currently working with a team preparing instructional materials at the University of Oklahoma; 19 units were developed in 2015-2016. One challenge has been that some older signers are unwilling to be filmed. When this happens, younger indigenous models learn from the elders and appear on camera; the results are verified by experienced signers. The team is also compiling a dictionary, with particular attention to signs unique to different tribes. Next steps will include analyzing old films and passing the results of that research on to teachers.

These efforts are too new to evaluate their effectiveness. However, we anticipate that many lessons learned in the context of spoken language revitalization—both methodological and ethical—will also be applicable to sign languages. Not all will—placing children in grandparents' homes will obviously not help when the grandparents don't sign. Planning should consider patterns of intergenerational transmission within the signing community and aim to reinforce them. Thus, for example, residential schools may be especially effective in Deaf communities, whereas in shared-signing communities, it will be more effective to keep deaf children at home and promote a desire throughout the community to preserve the language.

Planning must also, as Fishman (1991) emphasizes, take into account the current state of intergenerational transmission. For example, formal legal recognition and provision of interpreters are most appropriate for supporting a language that still is fairly strong. If children aren't learning it, these measures are unlikely to prolong its life, since what is needed is to restore transmission to new generations of deaf (and hearing) children. That, in turn, requires persuading signing adults to pass their language on to children, and opportunities to do so such as involvement in Deaf schools. When the language is very far gone, as with PISL, it may be necessary first for young adults to learn it from the elders, but for it to survive long-term, systems must be devised for children to learn it. It remains to be seen which signing communities will make those choices, and what factors will motivate them to do so.

RELATED TOPICS

- Section 1: Language policy and planning
- Section 3: Revitalization through education
- Section 6: Language documentation, IT and revitalization

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FURTHER READING

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- Kisch 2008. In-depth discussion of the differences between the two types of sign languages.
- Groce 1985. Very readable description of the shared-signing community on Martha's Vineyard.
- Nonaka 2012. Detailed discussion of factors affecting language shift in Ban Khor.