Chapter Title: Language ecological change in Ban Khor, Thailand: An ethnographic case study of village sign language endangerment

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Book Title: Sign Languages in Village Communities

Book Subtitle: Anthropological and Linguistic Insights

Book Editor(s): Ulrike Zeshan and Connie de Vos

Published by: De Gruyter

Stable URL: https://www.jstor.org/stable/j.ctvbkjwzx.13

Language ecological change in Ban Khor, Thailand: An ethnographic case study of village sign language endangerment

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1. Introduction

Still under linguistic typological investigation, 'village' sign languages are currently distinguished from other kinds of manual-visual languages by the particular sociolinguistic context in which they develop. This rare language variety develops in relatively small, face-to-face communities that exhibit considerable geographic and cultural variability but also exhibit remarkable structural and demographic similarity—i.e., significant numbers of deaf residents, high degrees of kin relatedness, labor-intensive economies, and low degrees of occupational and educational differentiation between deaf and hearing people. 'Village' (a.k.a., 'indigenous') sign languages are some of the world's least documented languages. Severely under-described, little is yet known about their characteristic linguistic features. Because they remain poorly understood typologically, it is sociolinguistic context and function that currently distinguish village sign languages from other manual-visual language varieties—i.e., 'national,' 'original,' or 'urban' sign languages (Woodward 2000, Zeshan 2004).

The first schema for categorizing diverse manual-visual language varieties was offered by James Woodward (2000). His tri-partite model identifies three major types of sign languages, which he terms 'national,' 'original,' and 'indigenous' sign languages. According to Woodward, a national sign language typically refers to the dominant sign language(s) of the national Deaf community of a given country. Original sign languages, which often pre-date development of a national sign language, are hypothesised to develop in areas where deaf people have regular and sustained opportunities to meet and converse (e.g., in market towns and urban centers). Indigenous sign languages are assumed to emerge *de novo* without contact with or influence from other sign languages. Although never overtly stated, Woodward's

classification system is a hybrid model, one that integrates insights and assumptions from historical linguistics (e.g., aspects of areal and genetic linguistic typologies) and from sociolinguistics (e.g., language contact, variation, and use vis-à-vis speech communities).

Just as Woodward's model reflects his scholarly training in sociolinguistics and historical linguistics, subsequent critiques and alternative models are also indicative of their authors' intellectual expertise. For instance, the sociocultural anthropologist Erich Fox Tree has problematised implicit assumptions about language contact and language emergence in Woodward's model. Highlighting an all too common analytical trope in which indigeneity is falsely equated with isolation, Fox Tree's research (2009) illustrates the rich avenues for and effects of local lingua-cultural contact for sign language emergence and categorization. An alternative model has been proffered for classifying sign languages by the language typologist, Ulrike Zeshan (2004, 2006), who is endeavoring to develop a formal typology of manual-visual languages. Zeshan's evolving model works from very broad, preliminary correlations between social contexts/structures and linguistic features/structures. Her model initially divides extant sign languages into two broad categories: 'urban' versus 'village' sign languages. Like in any good linguistic typological study, (non)relationships between and among languages are then delineated based on robust, comparative, feature-based analyses.

Classificatory systems in general are epistemological grids that cut across different dimensions or qualities of target phenomena and are imposed for particular analytical purposes. Classification is always provisional, but good classification allows for distinctions and invites refinement. These dynamics are apparent in contemporary efforts to classify sign languages. The development and application, as well as the acceptance and establishment of classificatory nomenclature, are complex, often contentious, processes that emerge and change over time. Typologies are inevitably imperfect, but nonetheless useful. Whatever their shortcomings, each model discussed above makes an important and long overdue contribution to our collective knowledge of sign language diversity. In this publication, I have incorporated terms from both Woodward's and Zeshan's models which best describe the social dynamics that impact the endangerment of sign language varieties used to the village communities where they spontaneously develop.

An apparent hallmark of village sign languages is their widespread endangerment. Like other small language isolates, their local language ecologies are delicate. To date, however, relatively little is known about how and why this language variety is so widely threatened. Based on case study analysis of Ban Khor Sign Language (BKSL), an endangered village sign

language in Thailand, this chapter examines the causes and consequences of language ecological change in Ban Khor. The local sign language is imperiled by a complex combination of macro-level forces and micro-level practices that include: rapid demographic and socioeconomic structural transformations; heightened contact with the national sign language and Deaf community; and shifting language ideologies and patterns of language use. This analysis, built on rich ethnographic data spanning more than a decade, illustrates the efficacy of a holistic anthropological approach for explicating village sign language vitality or vulnerability.

2. Language Ecology and Endangerment of Village Sign Languages: An Overview

Village sign languages are associated with an unusual kind of language ecology, one that motivates the etymology of their classification. Prototypically a language isolate, this type of language is found and used in restricted settings—namely, relatively small, face-to-face communities. Small-scale societies with indigenous sign languages have been identified around the world, across time and space (Bahan and Poole-Nash, 1996; Branson and Miller, 1996; Cumberbatch, 2006; Ferreiro-Brito, 1983; Frishberg, 1987; Groce, 1985; Kakumasu, 1968; Kisch, 2004, 2006; Kuschel, 1973; Johnson, 1991, 1994; Marsaja, 2008; Nonaka, 2007; Nyst, 2007; Sandler et al., 2005; Shuman, 1980; Torigoe et al., 1995; Van den Bogaerde, 2006; Washabaugh, 1978, 1979, 1981, 1986; Woodward, 1982).

As the individual chapters of this volume illustrate, each village and its local sign language are geographically, historically, and culturally unique. Yet there are also striking similarities in the language ecology(ies)[1] of village sign languages, including: unusually high incidences of deafness in the population; high degrees of biological and/or non-biological kinship; labor-intensive, non-industrial local economies; low intra-community educational differentiation between deaf and hearing people; and low intra-community occupational differentiation between deaf and hearing people. In addition to these shared structural features, there are also broad resemblances involving the socio-communicative function as well as the language ideologies and practices associated with village sign languages and their attendant 'speech/ sign communities' (Nonaka 2009). For instance, in the villages where local sign languages spontaneously develop, it is not uncommon to find: widespread fluency in the local sign language among hearing as well as deaf people; neutral to positive attitudes toward sign language and deaf people;

successful integration of deaf people into the mainstream of village life; and minimal interaction and/or identification with national or international Deaf communities and "big D" notions of Deafness (cf. Woodward 1975; Lane 1984; Reagan 1995; Ladd 2003).

Another similarity among village sign languages is the fragility of their signature language ecology(ies). With a life cycle that is often abbreviated, this language variety is vulnerable to extinction. Village sign languages are known to arise quickly, within just one to two generations, or less than 100 years (Nonaka 2009; Sandler et al. 2005). Village sign languages' rapid emergence has made them a focal phenomenon in contemporary studies of language emergence and evolution.

Far less attention, however, has been paid to the fragility and endangerment of this particular language variety. Even village sign languages like Martha's Vineyard Sign Language, which was used for a century or more on an island community with a large sustained local deaf population (Bahan and Poole-Nash, 1996; Groce 1985), are susceptible to endangerment and often rapid disappearance. How and why that is the case is not yet entirely clear, but developing detailed accounts of their delicate language ecology(ies) is crucial for understanding, and where appropriate, reversing, the widespread endangerment of this manual-visual language variety.

Languages have routinely appeared and disappeared since time immemorial, part of a normal cycle of development, diversification through divergence, and perpetuation or decline. "Language change and language loss" of this sort "are inherent to all language situations" (Grenoble 2011: 27). In recent decades, however, languages have begun disappearing on an unprecedented scale and at an unparalleled speed—a magnitude and pace that threaten to further diminish linguistic diversity by disrupting linguistic differentiation through normal processes of historical linguistic change. Whereas in past millennia there was a continual process of contraction and expansion of linguistic diversity, "...the situation now is that linguistic diversity is simply being lost without being replaced" (Ash et al. 2001:19).

The primary cause of the current spike in widespread language death is 'language shift,' a trend in language (dis)use whereby speakers cease speaking their native language in favor of a more socially, politically and/or economically dominant one. It can happen gradually or quickly, unintentionally or deliberately, willingly or unwillingly. Language shift is a complex matter. Multiple variables (e.g., demographic, economic, environmental, historical, ideological, pedagogical, political, psychological, and social) operating simultaneously at different levels (e.g., micro and macro, as well as local, national, international or supranational), contribute to language shift.

Investigation of the complex, multi-faceted phenomena of language endangerment and language shift demands a comprehensive approach, and in that vein, 'Language Ecology,' a.k.a. 'Ecolinguistics,' (e.g., Haugen 1972; Enninger and Haynes 1984; Fill and Mühlhäusler 2001) is a powerful paradigm for studying language endangerment and shift.

In any ecology the environment and its inhabitants are functionally linked in a dynamic system of interdependence. In language ecology studies, 'the term *ecology* is a heuristic metaphor—a tool helping researchers capture the complex relationships that obtain between varieties of speaking, speakers, and the world in which the speakers move" (Mühlhäusler 1997:4). Language ecology research centers on study of language and language use in context — more precisely in multiple contexts, nested and overlapping — that are historically situated and dynamic. The analytical power of the paradigm derives both from the social scientific acknowledgement and demonstration that "...language is not isolated from other social cultural and ecological factors but interacts with them. Such factors include those which are traditionally considered to be within the realm of linguistics such as the presence and use of other languages, as well as those which are not, such as economics, politics, and the physical and natural environment" (Grenoble 2011:30).

Language Ecology's breadth of analytical scope is well suited for examining the intricacies of language endangerment and language shift. Various academic (sub)disciplines[2] invoke and use the paradigm, but there is a strong intellectual affinity between Language Ecology and Anthropology. In their theoretical orientations, both emphasise holism—its merits and applications for conceptualizing and organizing the study of language(s), speakers, and their use of language(s) *in situ*. Methodologically there is a deep resonance too, since most language ecology research adopts, in part or *in toto*, anthropology's hallmark methodology—ethnography—a grounded-theoretical approach based on in-depth case study analysis incorporating a combination of diverse qualitative and quantitative techniques (Fishman 1964, Sommer 1997).[3]

A growing number of case studies of endangered spoken languages around the world illustrate the utility of ethnographically-informed research for explicating the causes, processes and consequences of language shift (Gal 1979; Dorian 1981, 1989; Phillips 1983; Garrett 1990, 2005, 2006; Kulick 1992; Field 1998; Jones 1998; Fader 2006, 2007, 2009; Meek 2001, 2007; Paugh 2001; Howard 2003, 2004; Augsburger 2004; Hoffman 2007; Leonard 2007, 2008; etc.). To date, those studies have focused on imperiled spoken languages. Here, language ecological research is expanded to include a case study of sign language endangerment.

Synthesizing diverse quantitative and qualitative data collected during the course of more than a decade of linguistic anthropological research,[4] this chapter provides ethnographic case study analysis of Ban Khor Sign Language (BKSL), an endangered village sign language in Thailand. Historically, the language's development and maintenance have been sustained by a complex web of interwoven factors, including: close geo-spatial proximity, demography, hereditary deafness, socioeconomic organization, religious ethos, language socialization ideologies and practices, as well as interactional patterns of daily life. Recently, however, alterations in and to that delicate ecological balance have occurred, resulting in rapid language shift and endangerment of BKSL.

The remainder of this chapter provides in-depth description of language ecological change in Ban Khor. By explicating the particular nature of and reasons for those changes in the context of Ban Khor, Thailand, this case study analysis also illustrates the methodological and theoretical contributions of holistic ethnographic research for investigating and understanding the causes and consequences of the widespread endangerment of village sign languages.

3. Ecological Conditions Supporting Development and Spread of Ban Khor Sign Language

3.1. Geo-spatial Proximity and Demography

Ban Khor is a village in the northeastern *Issarn* region of Thailand, founded around 1883 by *Khun Khor*, a low-ranking Thai–Lao nobleman. Geographically, the community is small and is organised as a classic 'nucleated settlement.' Occupying an area of just 1.8 square miles, the village consists of a densely clustered residential core surrounded in all four directions by several miles of rice fields, streams, and forests that separate Ban Khor from neighboring hamlets.[5]

Ban Khor is a village like many others in northeastern Thailand: a Theravada Buddhist community of subsistence rice agriculturalists who supplement their daily diets by foraging or fishing, and who augment their annual incomes by conducting small-scale economic activities or working as seasonal migrant laborers outside the village. Save for the number of deaf residents, Ban Khor is demographically unremarkable. In 2003, there were 16 (formerly 18) native deaf villagers in a population of 2,741 (close

to 0.6%), a number that is numerically small but statistically significant, given that the expected incidence of congenital hearing loss is just 1/1,000 or 0.1% (Reardon et al. 2004: 8).

The linguistic anthropological impact of Ban Khor's deaf population, proportional to its size, has been great. The initial appearance of deafness beginning in the 1930s (Nonaka 2007:30–32) and its steady expansion in the population set the stage for the creation of a new sign language. Ban Khor Sign Language (BKSL) arose *de novo* around 75 years ago. It began as a home sign system among members of the family to whom the first two deaf individuals were born, but quickly became a full-fledged sign language that is now three generations deep, used by more than 400 people in diverse interactional contexts.

3.2. Hereditary Deafness

Ban Khorians know that deafness is more prevalent in their village than in other communities. Recognizing that it occurs across generations but only in certain families, they acknowledge deafness to be 'hereditary.' Rather than a biomedical phenomenon (e.g., a spontaneous, non-sex-linked genetic mutation transmitted in a dominant pattern underlying a syndromic form of deafness with variable expression), however, in Ban Khor, *kamma phan* (heredity) is understood to be a karmic matter—a consequence of *barp* (karmic demerit, misdeed, sin). While there is radical divergence at the level of ultimate causation between the genetic and the karmic explanations for deafness, there are also remarkable parallels between the two explanatory models. For instance, both posit: 1) some sort of intergenerational transmission; 2) clustering according to family bloodline; 3) phenotypic distinctions correspondent with differences in origin/cause of deafness; and 4) increased likelihood but imprecise predictability of individuals being born deaf.

Within the local karmic explanatory model, the appearance and persistence of deafness in two families is locally attributed to two different incidences of *barp* involving unnecessary cruelty to and killing of an animal. These acts were committed by two men whose respective children and grandchildren were subsequently born deaf.[6] This "sins of the father revisited on the son" argument (Groce 1985; Hand 1980; Weiss 1980: 98–99), as it is referred to in the Judeo–Christian tradition, is known as the "cause and effect retribution" idea in the Buddhist–Hindu tradition (Pappu 1987; Prasad 1989; Roeder 2001; Uchikawa 1991). Formal theosophical debates to the contrary notwithstanding, in popular Buddhism, demerit transference and

bad karma remain powerful and pervasive explanations for myriad suffering and misfortune.

Given its purported causal origin, hereditary deafness could have led to stigmatization and ostracization of deaf people, but in Ban Khor, it did not. Instead, the tendency has been toward inclusion and participation. Integration is apparent along several social and economic parameters, such as marriage, kinship, land ownership, education, occupation, and daily routines.

3.3. Socio-Economic Organization

In Thailand, individuals are generally free to choose their own marriage partners, and "there are no prescriptive marriage rules other than that which prohibits marriage between those who are living or have lived together in the same household" (Keyes 1995: 134). Within this system, historically, deaf Ban Khorians, both men and women, have married and formed families with their hearing counterparts rather than with other deaf villagers. There is no single, compelling reason that explains why this pattern developed, but anecdotal evidence suggests that it has been in part a pragmatic choice based on a projected communicative advantage, one that obtains differently than in most other language communities, hearing or Deaf. In the context of the Ban Khor speech/sign community, where many people can and do sign, three deaf villagers married to hearing partners independently mentioned communicative convenience as a positive reason for marrying their spouses. More specifically, they indicated that it would be convenient to have a hearing spouse in case a stranger came to their house or in case they had to conduct business outside of the village.

Kinship is bilateral cognatic (a.k.a. consanguineal), and inheritance is flexible, although ideally, "[rice] paddy fields should be divided equally among all children" (Mizuno 1971: 87). In 2003, a survey investigating the local work activities and daily routines of Ban Khorians was administered to all adult deaf villagers who were resident in the village at the time, their close family members and neighbors who sign, and a group of randomly sampled farmers in the community. The survey revealed remarkable similarity among all three groups. For example, for all those surveyed, wet rice agriculture was their primary activity. Almost all of the respondents also engaged in similar small-scale, supplemental economic activities locally in the community. Many villagers, especially men, worked seasonally outside of the village. The preference for equal inheritance, the inherent labor demands of wet rice agriculture and other local work activities, and the traditionally low educational

level among Ban Khorians, regardless of audiological status, appear to have combined to encourage economic participation by deaf people whose daily routines evince a remarkably high degree of similarity with those of hearing villagers.

Integration of deaf people in Ban Khor has been motivated, not only structurally-functionally, but also ideologically by the notion of karma, which is part and parcel of larger cooperative ethos. Conceptually, karma is inextricably linked not only to *barp*, but also to *bun* or 'merit' (see Hanks 1962, Ingersoll 1975, Kirsch 1977, Keyes 1983a, 1983b etc.). In the Thai Theravadin tradition, "individuals frequently account for events and experiences in their lives in terms of their relative store of merit; all statuses, situations, and events can—potentially, at least—be interpreted and explained in terms of merit" (Kirsch 1977:246). In that context, the pursuit of merit-making and avoidance of demerit accumulation are active processes played out in the course of everyday life.

3.4. Karma and the Moral Logic of Inclusion

As a manifestation of social ideology and praxis, karma vis-à-vis hereditary deafness in Ban Khor has been something of a double-edged sword because, while deafness is attributed to misdeed and demerit, rejection of deaf people would easily constitute a new *barp*, whereas neutral to positive treatment of deaf people could be a means of earning merit. Thus, besides offering a causal explanation for the presence of hereditary deafness in Ban Khor, the cultural logic of karma provides a formidable disincentive for discrimination against deaf people, and a strong incentive for their social inclusion.

The appearance of 'hereditary' deafness in Ban Khor had profound implications for the village's sociolinguistic ecology since, before there were deaf people, there was no sign language in the community. Absent a time-travel machine, it is impossible to reconstruct precisely how Ban Khor Sign Language evolved, but this much can be surmised: BKSL appears to have emerged spontaneously in the home of the family into which the first two deaf people were born.[7] The language, which arose out of communicative necessity, developed rapidly and began spreading widely throughout the community.

While deaf people were crucial for the emergence of BKSL, both deaf and hearing villagers have been vital for its maintenance. Unlike most speech communities, where deaf people are expected to make linguistic accommodations (e.g. learn to speak or write the dominant language or use

an interpreter), in Ban Khor, significant linguistic accommodation is made by hearing people who acquire the local sign language. This unusual socio-linguistic dynamic—a hallmark characteristic of the language ecologies of communities where village sign languages develop—is crucial for the spread and maintenance of village sign languages.

3.5. Language Socialization: Ideologies, Practices, and Patterns of Every-day Life

The willingness of hearing villagers to learn and use BKSL is consistent with broader concessionary linguistic accommodations that they routinely make. With the exception of Thai, all of the vernacular languages spoken in Ban Khor are sociolinguistically marginal (Smalley 1994). The prospect of learning one more—BKSL—is unproblematic in a community where multi-lingualism is the norm. These two patterns of linguistic accommodation derive from more basic Thai patterns of enculturation that have been critical to the maintenance and spread of Ban Khor Sign Language.

As it is classically understood in anthropological language socialization studies, 'accommodation' refers to the tendency of adults in a society to adapt themselves, their language, and the interactional situation to the needs and abilities of the child. By contrast, 'non-accommodation' describes an expectation that children should adjust their communicative interactions to the requirements of the situation (Ochs and Schieffelin 1984). Comparative ethnographic research on language socialization recognises a cross-cultural continuum of accommodation versus nonaccommodation, and Ban Khor falls somewhere midway along that continuum.

> "In their communicative interactions with babies, Ban Khorians tend to let them be. Infants are carefully monitored and lovingly attended, but if they are not nursing or in need of immediate attention, they are often left bundled in blankets under mosquito netting. Babies are seldom construed as conversational partners, although this changes as they grow."
>
> Nonaka 2011:621

Accommodation is evident in the primary language socialization of chil-dren aged nine to twenty-four months. BKSL has a Baby Talk register. Its classic characteristics mirror those of Baby Talk in American Sign Language (Erting et al. 1990:105) and include: "(i) heightened affect, (ii) active phys-ical stimulation of the child, (iii) signing more slowly than usual, (iv) signing close to the child to maximise visual attention, (v) signing on the child's body, and (vi) repetition" (Nonaka 2004: 754). Adults often talk/sign to

toddlers using Baby Talk or other child-directed utterances. Playing peek-a-boo and other linguistic games is common too.

By age three, however, use of Baby Talk with children ceases in Ban Khor. Child rearing in Thailand is permissive (Piker 1964) in most ways, save one—Thai society is quite hierarchical, and early on, children are socialised to begin adjusting their communicative interactions to conform to the cultural norms of hierarchy. They should be polite and demonstrate respect, both linguistically and nonlinguistically (Howard 2003).

Cooperation is also highly valued in rural Thai society. Ban Khorians expect and are expected to help one another; they do so often and, usually, reciprocally. Mutual assistance is extended to family members, neighbors, and friends, but also to community members at large. This cooperative ethos is manifested in everyday practices and cultural patterns of caregiving that have contributed to the maintenance and spread of BKSL. As will be demonstrated below, multiparty and flexible care giving influences language socialization.

In Thailand, the basic family unit is the nuclear family. As mentioned earlier, kinship and descent are bilateral and, ideally, postmarital residence is matrilocal. Upon marriage, the groom moves into his wife's natal home (or her mother's family compound), where the newlyweds live for a few years or permanently. Thus, when the new couple becomes parents, there is abundant social support.

Most children are born at home, and for a few days or weeks after giving birth the new mother is literally expected to 'lie by the fire'—a postpartum tradition that is both a curative practice and a rite of passage whereby a woman 'cooks/ripens' or fully matures (Hanks 1963). While she lies by the fire, the new mother is exempted from all work. Her only duties are to nurse the newborn, to drink special hot herbal water that promotes richer breast milk production, and to heal her genitals by washing with another special herbal water mix. During this period of recuperation, her husband and relatives assume all of her normal household responsibilities and also attend to the needs of the baby. Extended family members are in charge of bathing the child, changing and washing soiled clothing and bedding, arranging a Buddhist initiation and naming ceremony, and even taking the newborn to the health center to register its birth.

Distributed multiparty caregiving is the norm in Ban Khor. Once a child is weaned, it is quite common for others in the household (e.g. young, unmarried aunts or cousins) to assume primary childcare responsibilities. When they are slightly older, children sometimes choose to live in other homes in their maternal grandmother's compound or at the houses of other rela-

tives. Flexible caregiving of this sort influences language socialization in interesting ways. For example, in several instances, a deaf aunt became the primary caregiver for a hearing niece or nephew who grew up to be fluent in BKSL.

As in other societies, Ban Khorian children are first exposed to the language(s) of their community at home. Many of the most fluent hearing BKSL signers are the close relatives (e.g. children or siblings) of deaf people with whom they live. Prototypical primary language socialization among co-resident family members is insufficient, however, to explain the spread of BKSL to 15–26 percent of all villagers within less than a century because in Ban Khor, there are only nine households with deaf residents, who total fewer than 20 village-wide. Yet, there are hundreds of people who can sign.

The rapid transmission of BKSL has not occurred randomly. Of those who know BKSL, 73 percent reside in the same area of the village where most deaf Ban Khorians live. Hearing signers also draw almost exclusively from one social class—they are farmers, as are all the deaf people and their families. Relatives and neighbors of deaf people are more likely to acquire BKSL. In short, there are clear correlations between a hearing person's proximity (e.g. relational links) to and interactions with deaf people and his/her signing ability—the closer and more frequent, the better (Nonaka 2009:221–225).

The rapid spread of Ban Khor Sign Language by way of close and repeated interactional proximity between deaf and hearing people has been sustained, not only by the socio-cultural structures, ideologies, and practices described above, but also by the organization and function of local economic life. Ban Khor's economy is marked by a high degree of labor intensity and a low degree of automation. Human labor is critical for economic survival there. Historically, the value of human capital has derived from practical experiential competence rather than from formal education. In that environment, deafness has posed no impediment to the performance of traditional work, and the nature of those activities, in turn, has encouraged the inclusion and participation of deaf people.

In Ban Khor, the overwhelming majority of residents are farmers. Traditionally, most have practiced subsistence wet rice agriculture, supplementing their daily diets through fishing and foraging, and augmenting their annual incomes through various small-scale economic activities like weaving, basket-making, gardening, herding water buffalo, and so forth.

Unlike other areas of the country, in Thailand's northeastern *Issarn* region, climate limits the number of rice agricultural cycles to one per annum. Farmers have a single opportunity to grow all the rice (the primary

staple of their diet) required to feed themselves and their families for a year, and excess rice is sold for profit. The manpower needs associated with this form of agriculture are very high, and to meet those demands, villagers form *nawan* or labor exchange groups. Another manifestation of the Thai cultural ethos of cooperation, *nawan* are also important social networks within and through which deaf and hearing individuals interact and the latter acquire BKSL.

In recent decades, some people, especially men, have begun seeking employment outside the community. Some people leave Ban Khor for extended periods of time, but more typically, villagers choose to work a seasonal migration circuit. According to this pattern, they go to another province to pick *rambutan* fruit or to cut sugarcane for a relatively brief period of time (e.g., about one to two months), but always return to the village to resume wet rice agricultural work. Even while they are away from home, however, their primarily social and communicative interactions are with other Ban Khorians because, as short-term migrant laborers, they typically travel together in groups with fellow villagers, especially kinsmen and friends.

4. Changing Language Ecological Conditions Contributing to the Decline of BKSL

Although it has thrived for nearly a century, Ban Khor Sign Language is now imperiled. The causes of endangerment are complex—a combination of interwoven macro- and micro-level processes that include: dramatic economic transformations; marked social and demographic changes; and heightened contact with the national sign language and Deaf community that is changing local language ideologies and patterns of language use. Together, these forces are rapidly altering Ban Khor's language ecology and undermining the continued viability of BKSL.

Thailand has experienced profound and on-going politico-economic and social change during the last century and a half. As in other places in the world, processes of 'modernization' and 'development' have occurred not in linear fashion, but rather, in punctuated waves, the latest of which has exerted profound change even in far corners of the Thai countryside. No discussion of the full scope of those transformations is attempted here, save the most striking changes and their impact on the local language ecology.

4.1. Economic Transformations

Wet rice agriculture remains the primary economic activity in Ban Khor, but farmers have increasingly moved away from subsistence to for-profit farming. In recent years, they have not only diversified their cash crops, which now include sweet corn and tapioca, but also have begun converting their rice fields into rubber tree farming plots. At the same time, the lumber industry has begun harvesting the forests of Ban Khor and surrounding communities. Deforestation has occurred rapidly and altered the traditional ecological balance. Many villagers continue to forage and fish for daily sustenance, but to do so, they must traverse ever-greater distances to exploit depleted natural resources. Thus, greater numbers of people now purchase foodstuffs.

In addition to food, an unprecedented number and variety of material objects are now available for purchase, not only in cities and market towns, but, to some extent, even within the Ban Khor community. Consumer products, large and small, are, for the most part, cheaper and more abundant than ever before due to the establishment of wholesale retailing, which has transformed supply chain networks throughout the country. Telecommunications products and services in particular have been utterly transformed. Similarly, transportation options—personal and public—have multiplied both in quantity and quality, dramatically increasing the range and frequency of villagers' mobility. More Ban Khorians of both sexes are now working outside of the village. Most still work the seasonal migrant circuit, although some commute, bi-weekly if not daily. While those who work outside the community still tend to travel in groups with other villagers, they do so in smaller numbers or sometimes not at all. All of these changes are part and parcel of the local shift from a subsistence economy to a complex cash economy. The latter has existed in Thailand for many decades, but the new supremacy of the cash economy in the hinterlands of the country underscores the depth and breadth of the transformation—one with subtle but crucial implications for the local language ecology.

In the past all Ban Khorians, save a handful of monks and a few civil servants, were peers[8] engaged in common daily activities, and the nature of local work indirectly fostered the spread of Ban Khor Sign Language. All traditional economic activities (e.g., wet rice agriculture, foraging, fishing, herding) were both highly labor-intensive and highly cooperative. Hearing loss posed no particular impediment to participating in those activities, and the inherent need for human labor encouraged social inclusion. The frequency and routinization of local economic activities kept villagers in close contact, encouraging regular deaf-hearing communicative interactions, which in turn

provided opportunities for exposure to and acquisition of BKSL by a significant portion of local the population.[9]

By contrast, the dramatic economic changes now underway in Ban Khor are altering the traditional language ecological balance. There is growing differentiation among villagers with respect to their daily activities and their socioeconomic statuses. Projected over time, this trend, especially when combined with concurrent shifts toward greater educational and social differentiation, has adverse implications for the maintenance of BKSL.

4.2. Social and Demographic Changes

The traditional economic structuring of village life along with close residential proximity, a natural outgrowth of the nucleated settlement pattern, have optimised opportunities for deaf-hearing socio-communicative interactions, which in turn have supported language maintenance of Ban Khor Sign Language. Acceptance of BKSL into the community's language repertoire has also been supported by a complex constellation of demographic and social factors, such as: small population size and high kin relatedness, low educational differentiation among villagers, and a cooperative cultural ethos that encourages accommodation and inclusion. In addition to undergoing major economic transformation, the community of Ban Khor is also experiencing significant demographic and social changes that impact the local language ecology—loosening traditional community bonds and social ties that have sustained BKSL.

The population of Ban Khor has grown steadily and significantly over the last decade. Ban Khorians' social networks now include more people from outside the community, a fact illustrated by the significant increase in new surnames found in village registries. Hearing outsiders who marry into the village do not know BKSL and are less likely than in the past to interact with deaf people because of population growth and also because of increasing occupational and educational differentiation between deaf and non-deaf individuals.

When research commenced in Ban Khor, circa 1996, the average educational level among hearing people in the community was at the primary sixth (P6) grade level, although officially, education had recently been made compulsory for nine years. Subsequently increased by an additional three years, the local village school system now provides a full six-year (M6) high school education. Historically, there have been no local opportunities for formal schooling for deaf people.

Formal deaf education[10] began in Thailand after the Second World War, with the opening of The School for Deaf Children at Dusit District, Bangkok, the forerunner of the institution now known as Sesathien School for the Deaf, which was established in the 1950s. Deaf education was centralised in Bangkok for a number of years, but gradually, residential schools were built in other regions of the country, including in the northeastern *Issarn* region. Until recently actual attendance rates have lagged or fluctuated, however, especially in rural areas like Ban Khor.

In 2000, no deaf Ban Khorians over the age of 25 had any formal educational training, although all those under that age either were enrolled in or had attended, if only briefly, special deaf schools. Today, all eligible children attend residential deaf school beginning in elementary school. To get an education, deaf Ban Khorians must leave their community and enroll in boarding schools that are located several hours away by car. They reside there for months at a time, returning home only a few times per year. The language of instruction and of social life at those schools is Thai Sign Language (TSL), the language of the country's national Deaf community, which is used by an estimated 56,000 deaf people in Thailand (Reilly and Suvannus 1999). At school, Deaf children quickly acquire TSL and then introduce it back into their home village's language repertoire.

4.3. Contact with Thai Sign Language

A decade ago, Ban Khorians were keenly aware of and quick to point out differences, especially lexical ones, between their local sign language and other manual-visual languages. In 1996, when study of Ban Khor and its sign language began, there were striking differences between core vocabulary signs in BKSL and TSL, and lexico-statistical analysis of comparative data from the two languages, collected using a modified version of the Swadesh list, underscored the fact that Ban Khor Sign Language and Thai Sign Language were distinct, genetically unrelated languages (Woodward 1996, 2000). Hence, there are significant differences between BKSL and TSL across multiple lexical domains, for example, in kinship terminology, colours terms (Nonaka 2004), toponyms (Nonaka 2007), numbers, days of the week, months of the year, foods, fruits, vegetables, animals, tools, and so on.

Over the course of the last decade, however, there have been many observable changes occurring in Ban Khor Sign Language's vocabulary.

Those alterations have primarily involved contact-induced change in the form of borrowing from Thai Sign Language. At first (circa 2000–2003), lexical borrowing from TSL into BKSL happened gradually, and it primarily involved incorporation of vocabulary for which there were no existing words in the local sign language. This was most evident in the lexical domain of toponyms but also in the targeted borrowing of category words like 'work' or 'animal.' By 2008 there was a marked increase in the appearance of TSL lexical items in BKSL in many vocabulary domains, although in the course of actual conversation the expression of a borrowed TSL word was often accompanied by the original BKSL counterpart sign. Within the last three years, however, the rate and scope of vocabulary borrowings from TSL into BKSL has increased dramatically across virtually all lexical domains, including in core vocabulary.

Lexical changes notwithstanding, there remain other clear differences between BKSL and TSL. With regard to phonology, for instance, BKSL does utilise all of the "B-A-S-C-O-1-5" universal handshapes, a basic set of unmarked handshapes that are predicted to occur in all natural human sign languages, but the BKSL's phonological inventory also includes some less common phonological forms (Nonaka 2004, 2007)[11] not found in TSL. As an illustration of morpho-syntactic differences between the village and national sign languages, compare and contrast their interrogative systems, especially content questions and the size and structure of their respective question word paradigms. Whereas TSL has six distinct *Wh*-signs (Suwanarat et al. 1990), BKSL's entire *Wh*-system is organised around just two signs (Nonaka 2010).

Figure 1—a modified conversation analysis (CA)-style transcript[12] with added visual frame-grabs of spontaneous signing and cultural meta-commentary in Ban Khor Sign Language—provides a partial illustration of the breadth of discourse structures and practices found in BKSL. This narrative was recorded at the Ban Khor Health Center in 2002 as part of an elicitation session which adopted Mercer Mayer's (1980) children's story-book, *Frog, Where Are You?*[13] The participant is a deaf, male, native Ban Khor signer. Embedded within the transcript there are also examples of TSL contact-induced linguistic borrowing and change in BKSL. Both BKSL and TSL glosses are capitalised, with the latter also being italicised. English, utterance-level translations are provided above the embedded photos.

1)   Foreign (.) that's foreign

FOREIGN   THAT   FOREIGN
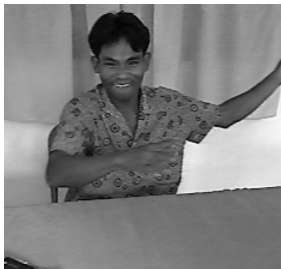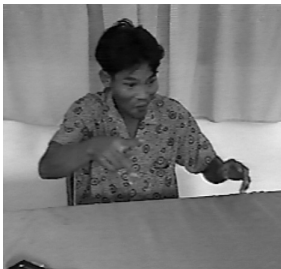
2)   (Here) there are lots of frogs

FROG   LOTS

3)   (We) hunt them over there



(night-)HUNT*   OVER THERE

*There are several distinct signs for different types of hunting in BKSL. The one depicted in Line 3 refers to night hunting and etymologically derives from the fact that local night hunters utilise a special light—*fai song gop*—that is strapped around the forehead and powered by a battery pack worn around the waist (see Figure 2).

4)   *((points to the storybook))* There, though, they love them
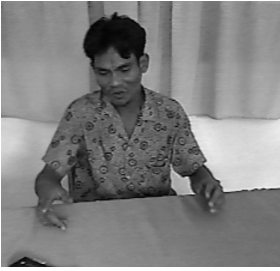
THERE   *LOVE* (intense)

5)   I didn't know

NOT KNOW

6)   I didn't know they love them

NOT KNOW   *LOVE*

7)   We chop off its head, grill the frog, and eat it

| CUT (classifier) | GRILL (classifier) | EAT |

8)   *((rests his head in his hand, hiding his face and laughing embarrassedly))*
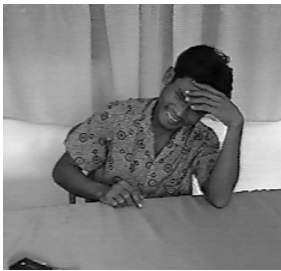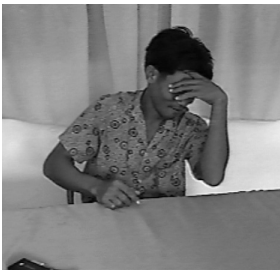

Figure 1. Foreigners Love Frogs but We Hunt and Eat Them

Figure 2. Man wearing *fai song gop*, a special light
worn on the head for night hunting of frogs[14]

The preceding excerpt spontaneously transpired immediately after the
linguistic consultant finished narrating the *frog story.* In this example the

consultant contrasts cultural models about the treatment of frogs: the foreign perspective (Lines 1, 4 and 6) of frogs as loveable pets versus the local Ban Khorian view (Lines 2, 3, and 7) of frogs as a source of food to be hunted and eaten. In offering this cultural meta-commentary, the signer uses complex grammatical and logical structures (e.g., compound predicate = Line 7); engages in multi-faceted perspective-taking (e.g., Line 4 and 6); and offers cross-cultural comparisons (Lines 2–3 and 7 vs. Line 4) and assessments (Line 8).

Embedded within the transcript in Figure 1, however, there is also evidence of contact-induced linguistic borrowing and change. The first instance of intra-sentential code-switching appears in Line 2, where the man uses the TSL sign for FROG, which is articulated at the throat with a V-hand-shape that moves in and out twice in rapid succession (see Figure 3). FROG in BKSL, by contrast, is made in neutral signing space with a bent 5-hand-shape, palm-oriented downward, that 'hops' up and down (see Figure 4).

ท่ามือที่หมายถึง "แพะ" บางครั้งอาจมีนิ้วที่ตรง และส่วนแรกอาจดูเหมือนท่ามือ "กบ" แต่นิ้วจะ สัมผัสกับหน้าผากด้วย (เขาสัตว์) และโดยปกติ มีนิ้วที่งอ โปรดดูท่ามือ 1090.3

frog

Signs for "goat" may sometimes have straight fingers, and the first part may look like "frog," but they also touch the forehead (horns) and usually have hooked fingers. See sign 1090.3.
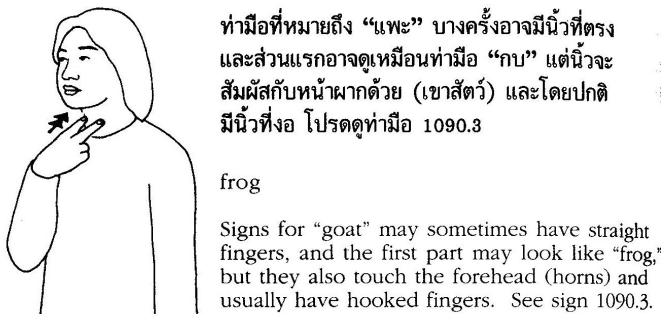
Figure 3. FROG in Thai Sign Language*

*Excerpted from *The Thai Sign Language Dictionary* (Suwanarat et al. 1990: entry #974.1) Reprinted with permission of the authors.

As demonstrated by the little boy (age 3) in white shorts, the sign FROG in BKSL is made as follows:

Handshape	=	5-handshape
Palm orientation	=	down
Movement	=	hand 'hops' up and down
Location	=	neutral space (a.k.a. 'zero zone')

Figure 4. FROG in Ban Khor Sign Language

Figure 5. Thai Sign Language lexeme LOVE*

Figure 6. American Sign Language lexeme LOVE*

*Excerpted from The Thai Sign Language Dictionary (Suwanarat et al. 1990: entry #168.2) Reprinted with permission of the authors.

*Excerpted from *A Basic Course in American Sign Language* (Humphries et. al 1985:42) Reprinted with permission of the authors.

Another interesting example illustrating the complexities and impacts of language contact appears later in the transcript. The lexeme LOVE in BKSL is made with a manual hugging gesture in neutral signing space, accompanied by an obligatory constellation of non-manual markers that include: a slight head tilt, pleasant facial expression, and eyes narrowed or closed depending on the intensity of affection. In Lines 4 and 6 of Figure 1, however, the native BKSL speaker produces a distinctly different sign. It is the TSL lexeme LOVE (see Figure 5) which itself not only resembles but is cognate[15] with the American Sign Language (ASL) sign LOVE (see Figure 6). Although it is geographically counter-intuitive, TSL and ASL are in fact related languages that belong to the same language family (Woodward 1996). It is ironic that language contact, followed by rapid pidginization and creolization, of ASL and moribund and extinct indigenous and original sign language varieties in Thailand produced modern standard TSL (Woodward 2000), which now itself poses a threat, through language contact and language shift, to the continued viability of BKSL.

4.4. Contact with the Thai Deaf Community

Ban Khor Sign Language is rapidly being supplanted—and thereby endangered—by Thai Sign Language. Besides entering the Ban Khor speech/sign community through the formal schooling of young deaf children, TSL is also penetrating the village by several other means. For instance, new community outreach education initiatives promote the national sign language by

distributing free visual TSL dictionaries to adult deaf Ban Khorians and their co-resident extended family members. As another example, local civil servants (e.g., public health officials, police, and teachers), most of whom moved to the village for purposes of work and therefore do not know BKSL, sometimes attend external training workshops where they learn 'sign language'—which is always the national sign language—in order 'to be able to communicate' with deaf people in Ban Khor.

Televised sign language interpreting is yet another means by which the national sign language is being introduced into the village, and both deaf and hearing Ban Khorians, more of whom own and watch televisions than ever before, are being exposed to Thai Sign Language.[16] Currently, the National Broadcasting Services of Thailand (NBT), Channel 11, only provides daily interpretation of news programs as well as regular coverage of parliamentary sessions, although the volume and variety of interpreted programming will inevitably expand as the number of professional interpreters grows. A national priority of the Thai government,[17] significant expansion of interpreting services is already underway, with unintentional but adverse consequences for Ban Khor Sign Language, since development of interpreting services only pertains to sign language interpretation in TSL.

Greater contact with the national Deaf community, however, is the primary reason for TSL's growing influence in Ban Khor. Until the late 1980s deaf Ban Khorians' social networks were anchored in and circumscribed to their home village; they rarely met or interacted with other Deaf people. Throughout the 1990s contact with the Thai Deaf Community was still quite limited, except for a few young deaf Ban Khorians who temporarily left the village, briefly attended residential deaf school, but soon returned home.

Now, in the early 21ˢᵗ century, the frequency, duration, as well as the quality of contact between deaf Ban Khorians and other Thai Deaf people has increased dramatically. Expanded transportation opportunities make it possible for deaf Ban Khorians to attend activities away from home that are sponsored by the National Association of the Deaf in Thailand (NADT). Additionally, deaf Ban Khorians are also seeking long-term employment outside the village, and when they work away from home, they almost always work and/or socialise with TSL-signing Deaf people.

Contact with the national Thai Deaf community is even altering marriage patterns in Ban Khor. Traditionally, deaf villagers of both sexes only married local hearing residents from their own community. That began to change, however, in 2002 when deaf Ban Khorians began choosing native TSL-signing Deaf spouses from distant communities. In the decade between 2002–2012, all but three deaf Ban Khorians were age-eligible for marriage.

Seven (five males and two females) have never married. Eight have wed, however, and in two instances subsequently divorced and remarried. Of those eight deaf Ban Khorians who have married, half continued the tradition of marrying endogamously to hearing members of their own community, while the other half (re)married exogamously, that is, to TSL-signing Deaf individuals from other villages. Significantly, of the four mixed signing couples (e.g. a native BKSL signer and a native TSL signer), three have established post-marital residence in Ban Khor.

Inevitably, these changes have altered the balance of the local language ecology in Ban Khor, intensifying language contact and triggering language shift. During the last decade, lexical borrowing from TSL into BKSL has risen dramatically, and code-switching has started too. What is striking is that both linguistic borrowing and code-switching are being led by deaf Ban Khorians. Hearing village signers, by contrast, have been much slower to adopt TSL signs. Thus, contrary to existing theories of language maintenance of national sign languages, in Ban Khor, hearing signers are becoming the critical 'keepers' of BKSL (Nonaka 2009).

For deaf Ban Khorians, TSL is both a lingua franca (for communication with other deaf people) and a prestige code (for potential social, economic, and political mobility). Hearing villagers, by contrast, have no incentive to learn the language. Their continued use of BKSL is slowing language shift, but is unlikely either to prevent or reverse it because hearing people acquire sign language in order to communicate with deaf Ban Khorians, who are increasingly motivated to learn TSL due to its relative sociolinguistic power and utility. Ironically, the same language socialization ideologies and practices of accommodation, cooperation, and inclusion that once nurtured maintenance of the local village sign language now contribute to its decline and replacement by the national sign language.

Acknowledgements

Notes

1.   The spelling ecology(ies) is intentionally employed here to indicate the nuanced distinction between the broad similarities and shared characteristics (e.g., the singular 'ecology') among communities with village sign languages versus the ethnographic particulars and differences (e.g., the plural 'ecologies') between them.

2.   Language ecology has been utilised in fields such as: sociology of language, sociolinguistics, dialectology, creole studies, language evolution, and so on.

3.   In a seminal article entitled, "Language maintenance and language shift as a field of inquiry," Fishman (1964) notes that "social-psychological aspects of language" (or what today would be termed, 'use-based issues' like language socialization, ideologies, and practices)—impact language vitality or endangerment. He identifies ethnography (e.g., Ethnography of Speaking and Ethnography of Communication) as two possible approaches for investigating such matter (pgs. 64–65). For anthropologists, Sommer's attempt to prescriptively define ethnography in terms of his own particular research agenda is problematic, but his general analysis of the theoretical significance of anthropology and the methodological possibilities of ethnography for enhancing language ecology research is insightful.

4.   For a summary of the history and activities of this research project and for an inventory of the project's anthropological and linguistic data corpora, see the sociolinguistic sketch of Ban Khor and Ban Khor Sign Language that appears elsewhere in this volume.

5.   For more detailed information about Ban Khor's nucleated settlement pattern and for visual illustrations of it, see Nonaka 2009: 215–217.

6.   In one case, the man is reported to have tortured a crow, even going so far as to cut off its beak. Thereafter, many of his descendants were born 'mute.' In the other case, it is said that a father, in a fit of anger, beat a small coconut-gathering monkey to death, after which three of his children were suddenly born deaf.

7. For additional information about the early development of Ban Khor Sign Language, see Nonaka 2007: 59–69.

8. Historically, and even today, the overwhelming majority of Ban Khorians were/are farmers. Within that social class there are detectable distinctions and hierarchies based on economic affluence, political prestige, and familial distinction. While such differences are real, they are relatively minor and can be fluid. Thus it is reasonable, for purposes of this discussion, to describe most farmers in Ban Khor as 'peers'.

9. The claim here is not that all villagers are fluent in BKSL, but rather that a significant portion of the village population was exposed to and developed some degree of competence in the local sign language. This claim is borne out both qualitatively through years of ethnographic observation and also quantitatively by social network analysis, the results of which were discussed earlier in Section 3.5.

10. For additional information about Thai deaf education see Branson et al. 2005, Reilly and Reilly 2005, Reilly and Suvannus 1999, and Suvannut 1987.

11. For a visual example, see the BKSL sign, FOREIGN, in line 1 of the transcript in Figure 1.

12. A longer, unpublished version of this transcript appears in (Nonaka 2007: 149–153). For those unfamiliar with standard CA transcription conventions, see Atkinson and Heritage 1984:ix–xvi.

13. The Frog Story is a popular elicitation device for international cross-linguistic research (Berman and Slobin 1994, 2002). The book consists entirely of a series of sequentially linked and topically coherent illustrations that tell a story (without words) about a little boy and his dog in search of a frog that has escaped from a glass jar. When used as a linguistic elicitation device, consultants are asked to look at the picture book and to narrate 'the'/a story in the target (typically their native) language. In their comparative research generated through The Frog Story, Berman and Slobin examine cross-linguistic development in narration and grammar with the goal of understanding linguistic universals, typological characteristics and language-specific features of grammar as related to the recounting of narrative and by extension, cognition in context.

14. Photo: "Dai lai gwaa" (I have more than you do!) Excerpted from the Chao Din Student Organization's website, "Go to Know" Reprinted with permission of the authors.

15. Both the TSL and ASL signs LOVE are articulated on the chest with hands crossed (palm of the dominant hand atop the back side of the non-dominant hand) over the heart. They vary only in terms of handshape. The TSL sign is made with an extended thumb B-handshape, while the ASL sign I produced using a closed-fist S- handshape.

16. Currently, there are approximately 400 registered interpreters in Thailand (Limanee 2012, personal correspondence). In Thailand, as in most countries, the history and development of sign language interpreting services is complicated—linguistically, politically, and pragmatically. Many conversations over the years with members of the Thai Deaf community reveal that there is widespread agreement on the need not only for expansion of interpreting services but also for improvement of interpreters' signing proficiency. Improvement in both areas is occurring, although interpreters' 'fluency' in TSL remains a thorny issue. With regard to televised TSL interpretation, individual interpreters' TSL fluency levels vary, but even 15 years ago, at least three television interpreters were full-time interpreters at the National Association of the Deaf in Thailand.

17. An English-language translation of the Persons with Disabilities Empowerment Act B.E. 2550 is available online at the following website: http://www.nep. go.th/employment/doc/doc2.pdf.

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