

## 1. OVERVIEW

The Guerrero Nahuatl Language Documentation and Lexicon Enrichment Project (NLDLEP) represents a collaborative three-year grassroots and academic effort to document the language and culture of 15 communities in the Balsas River valley of Guerrero, Mexico (first two years), and then to expand this effort to cover a similar number of communities in the neighboring regions of Copalillo and Chilapa (third year). It builds upon the Nahuatl Learning Environment, an established base of linguistic, ethnographic, and computational expertise. This previous educational project has produced the building blocks for an extensive documentation effort: a far-reaching lexicon and an incipient pedagogical grammar of two Nahuatl-speaking villages in the Balsas valley as well as a core of native speaking documentation experts and community contacts. The present project will use this material and expertise to create an extensive corpus of documentary material in endangered genres of Guerrero Nahuatl discourse. This audio and text archive will permit the continued enrichment of an online lexicon and future descriptive work. It will constitute an extensive permanent record of this Nahuatl language.

The NLDLEP will involve continual collaboration among outside experts and local participants. The former includes anthropologists, computational and descriptive linguists, and botanists and zoologists. The later comprises four permanent Nahuatl-speaking consultants capable of carrying out the important work of language documentation and resource development, an additional core of four elder Nahuatl-speaking consultants who will work on lexicon enrichment, and dozens of Nahuatl-speaking specialists in endangered genres of discourse and vanishing domains of cultural and linguistic knowledge who will be a major source of the documentary recordings. Arrangements have been made to disseminate the materials locally (in text and CD format) and extralocally (through permanent open electronic archives).

After two years, the NLDLEP will have produced a wide range of Nahuatl audio and textual documentation of the traditions and knowledge of various Balsas communities. In its final year the project will be expanded to cover approximately one dozen villages in the neighboring regions of Copalillo and Chilapa. In this way it will cover the geographical limits of Guerrero Nahuatl, one of the three major dialect areas of central Nahuatl (Canger 1980, map 1).

## 2. PRIMARY (BALSAS) AND SECONDARY (COPALILLO AND CHILAPA) DOCUMENTATION ZONES:

The primary documentation zone is the Balsas valley, the center of which is San Agustín Oapan, where Amith resides and has carried out ethnographic and linguistic work since 1978. The major dialect distinctions are among the nine prehispanic communities. Six more recent villages manifest only minor lexical and phonetic deviation from their parent settlements. Documentation efforts will concentrate on sampling diversity based on this understanding of genetic relations among villages.

Temporary and permanent residents of the 15 villages together number about 40,000 (ranging from villages such as Oapan and Tetelcingo with about 4,000 inhabitants each, to Ahuetlixpa with a few hundred). Yet the demographic and cultural stability of the region is precarious. Ethnographic fieldwork shows that some 3–4,000 people from the area (women and children, as well as men) are long-term migrants to the United States. Perhaps another 8–10,000 individuals are either itinerant sellers of artisanry or wage laborers with semi-permanent residence in the major tourist, urban, and agricultural centers of Mexico. Another significant part of the valley population continually travels outside the community for periods of one to three months, often to sell locally produced artisanry. Heavy emigration of wage laborers to the United States and Mexican cities, once more characteristic of the eastern valley, is now a common demographic phenomenon affecting all communities in the documentation zone.

The Balsas valley is located in the northwestern sector of a linguistic area referred to in *Ethnologue* (2004) as Guerrero Nahuatl, which includes the secondary documentation zone: villages in the Copalillo and Chilapa region.<sup>1</sup> The mutual intelligibility of the Nahuatl spoken there with that of the Balsas is important for two reasons. First, native language documentation specialists from the Balsas region will have little problem in extending their expertise to cover villages from these latter two regions. Second,

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<sup>1</sup> *Nahuatl* is best considered a group of closely related but separate languages. *Ethnologue* (2004) lists 26 different Nahuatl languages; perhaps half are in danger of extinction within the next generation.

mutual intelligibility will ensure that documentary materials (audio CDs and printed transcriptions) produced during this project will be of utility to local communities (and particularly to bilingual schools) throughout the primary and secondary documentation zones. Given the lack of linguistic research in and documentary material from the secondary zone, the facility with which expertise in Balsas Nahuatl can be applied to the extended area, and the linguistic and ethnographic value of documenting the widest area possible, the extension of documentary efforts to the Copalillo and Chilapa regions is extremely important. Efforts here will expand the variety of linguistic features of Guerrero Nahuatl documented in an audio and textual corpus. It will provide important material for studies of Nahuatl dialectology including the history of dialect differentiation within Guerrero Nahuatl. It will also offer perhaps a final opportunity to explore the region for the last generation of speakers who still have a command of endangered genres of discourse and familiarity with disappearing knowledge in various cultural domains.

Language documentation in the proposed areas of study is urgent. The most recent *Ethnologue* demographic figures of 150–200,000 speakers of Guerrero Nahuatl (including approximately 40,000 in the Balsas valley) is inadequate as an approximation of endangerment and language “strength.” Demographic figures that treat Guerrero Nahuatl as a linguistic area ignore substantial intralanguage variation that might provide important data for typological studies. Census data is also a synchronic “snapshot” that ignores the socioeconomic pressures that are rapidly accelerating language loss in many areas. Finally, a sharp division between speakers and non-speakers ignores the problematic existence of “semi-speakers,” the high degree of relexification from Spanish, and the extensive loss of Nahuatl language skills in many functional domains of discourse.

### **3. ENDANGERMENT: AN OVERVIEW OF THE PROBLEM OF URGENCY**

The study of phenomena covered by such terms as language contact, shift, decay, and death is relatively recent, the major work having begun only about 50 years ago (e.g., Dozier 1956, Haugen 1953, Weinrich 1953). Originally the focus was sociolinguistic, a concern with what might be called the etiology of language death. Thus in 1977 Jane and Kenneth Hill (1977:55) were able to state that “in the last few years ... dying languages have been found to offer many opportunities, particularly in the study of universals in language change and the relationship of linguistic structure to the functions of language.” More recently, accelerated by a collection of short, dramatic articles in *Language* (Hale et al. 1992), some linguists have shifted their attention away from the theoretical and descriptive implications of language death and toward endangerment itself as a tragedy for linguistic research and for the communities suffering the loss of their language and culture, the most salient features of their group identity. Many linguists have responded with a call for language documentation (see Himmelmann 1998).

Yet there remain many unresolved theoretical, methodological, and practical issues that need to be addressed in any project, such as the present one, that seeks to work with an endangered language community. First, there is the simple question of endangerment itself: when and why does a language become endangered and how does this process affect the phonological, morphological, syntactical, and communicative “integrity” of a language? Second, and related to the preceding, there is a question of language decay and language “birth,” i.e., the possibility that a language might become so affected by shift that it loses its systematic structure (or even functional versatility) and should perhaps be considered a new language with only partial links to a previously spoken form (see Sasse 1992a, 1992b). Just as there has been much debate over the boundaries between *language* and *dialect*, so too is there a parallel discussion of the relationship of dying languages to their more healthy former states and of the possibility of operationalizing such concepts as “language decay” and “language deprivation.” Third, there is the question of the purpose and urgency of language documentation and fieldwork in endangered languages. Should such activity prioritize the creation of documentary archives of moribund languages for future academic study? Or should it prioritize the documentation of endangered genres of discourse and vanishing cultural traditions from viable yet threatened linguistic communities that still have a fighting chance at reversing language shift and that are actively seeking help in linguistic and cultural survival?

The following sections explore the preceding questions of endangerment as they relate to the present project. First the typological implications are examined of documenting Balsas Nahuatl. It is argued that

features found in all or some Balsas communities—such as “transitive nouns,” the development of pitch accent, and an innovative system of reduplication—distinguishes Balsas Nahuatl from all other variants of this language. The next two sections concern questions of language death. The first of these explores the linguistic and cultural concomitants to language death in the Balsas valley, focusing on the problem of heavy relexification and “stylistic shrinkage” (Campbell and Muntzell 1989:195) or functional deprivation. The next section examines the demographic aspects of language death and suggests that Balsas Nahuatl, now under extreme socioeconomic and cultural pressure, is on the verge of “tipping” and passing from one side to the other of what Fishman (1991) calls “the continental divide,” the point at which intergenerational transmission of language ceases and maintenance becomes an often fruitless endeavor. Finally, this section concludes with a critical look at the “politics of documentation.” It is advocated that a primary goal of documentation efforts should be the survival of a community of speakers and that there is an urgent need to prioritize, as part of grassroots educational projects, what could be called “endangered genres of discourse” and vanishing cultural traditions within endangered languages.

**3.1 Variation and the question of boundaries: Balsas Nahuatl as a linguistic community:** Preliminary research on Balsas Nahuatl has shown enough patterns of typological interest to suggest that documentation of this speaker community is warranted for the presence of language features not present in other Nahuatl languages, including variants within Guerrero Nahuatl. Moreover, the fact that the diachronic relationship among the 15 communities is known from ethnohistorical research means that linguistic data gathered here would also be valuable for our understanding of shallow language history and variation. The following paragraphs briefly describe several unusual features of Balsas Nahuatl—“transitive nouns,” pitch accent, and the complementary distribution between vowel lengthening in a prefix and stem reduplication—as part of an argument that the Balsas area, as a unique linguistic community within the Nahuatl group of languages, is typologically very important.

TRANSITIVE NOUNS: “Transitive noun” is a term Amith and Smith-Stark (1994a, 1994b) gave to a phenomenon whereby kinship nouns and other terms of dyadic social relations use verbal prefixes (subject and object) to express possessor and possessum when the latter is 1st or 2nd person. Thus for ‘you are my mother’ standard Nahuatl *ti-no-na:n* (2sgSub-1sgPoss-mother) is found as *ni-mits-na:n* (1sgSub-2sgOb-mother, lit. ‘I-to-you mother’), and standard *ni-i:-tah* (1sgSub-3sgPoss-father) ‘I am his/her father’ is realized as *Ø-ne:ch-tah* (3sgSub-1sgOb-father). These constructions, were analyzed in terms of discourse pragmatics and it was suggested they were survivals of an archaic Uto-Aztec substrate. They have not been reported for any other Nahuatl-speaking community. The importance of the Balsas Nahuatl material has been noted in typological studies of “kinship verbs,” (Evans 2000:105–6). This typologically significant pattern would have gone undetected if Nahuatl were considered a unified language with a single way of expressing dyadic social relations as two-place predicates and if sample data of this phenomenon had been obtained from a community outside the Balsas area.

PITCH ACCENT AND REDUPLICATION: Unlike “transitive nouns,” which are found in the Nahuatl of several Balsas villages, two other unique features are limited to Oapan (and its recent offshoots Tula del Río and Analco). This is the development of pitch accent and an unusual mora-based paradigm for reduplication. The pitch accent system of Oapan Nahuatl is a reflex of historical \*h lost in non–phrase-final coda position. Apparently this loss was compensated for by a raised pitch in the syllable nucleus (with subsequent readjustment based on syllable weight and number). Thus Tetelcingo *xtlapálo* {x-tla-palo} (imper-nonspec.obj-lick) ‘Sop up (food)!’ and *xtlahpálo* {x-Ø-tlahpalo} (imper-3sgO-greet) ‘Greet him/her!’ are realized in Oapan as *xtlapálo* and *xtlápalo*.

Oapan manifests a unique innovative pattern of monomoraic reduplication (what has been described as a (C)Vh- “template”). If a prefix immediately preceding a consonant-initial stem has a short underlying vowel, this prefix vowel is lengthened, a process that is in complementary distribution with stem reduplication in the (C)Vh- pattern, which occurs when the prefix has a long vowel.<sup>2</sup> Thus the Tetelcingo transitive verb paradigm *ne:xtehte:mówa*, *mistehte:mówa*, and *kitehte:mówa* (‘s/he looks for me,’ ‘s/he

<sup>2</sup> This alternation is undocumented for any other Nahuatl language. Indeed, complementary distribution of stem reduplication and vowel lengthening in a prefix has not been found in any other language surveyed.

looks for you,' 's/he looks for him/her,' reduplicant underlined) is realized in Oapan as *né:xtete:mówa*, *mí:ste:mówa*, and *kí:temówa* (the pitch accent on the prefix is a reflex of coda \*h in the reduplicant, in the last two words vowel lengthening in the prefix provides the melody for the reduplicant mora). With vowel-initial stems in Oapan, however, reduplication manifests a distinct pattern. If the vowel is short, it is lengthened and stressed. If long, however, "reduplication" is realized simply as accent on the initial vowel. Thus Tetelcingo *a:polaki* and *aha:polaki* 'to become submerged in water,' once or repeatedly, is realized in Oapan as *a:poláki* and *á:poláki*, with only high pitch marking the reduplicant.<sup>3</sup> The realization of a reduplicant on long stem-initial vowels solely as pitch accent, with no added mora, suggests that pitch has replaced the historical monomoraic reduplicant. This pattern is unique to Oapan Nahuatl.

**3.2 Relexification and stylistic shrinkage as symptoms of language death:** Phonological and morphosyntactic features of Balsas Nahuatl suggest that documentation would contribute significantly to typological studies and to historical linguistics. However, although Balsas Nahuatl variants is dying, to paraphrase Dorian (1978), with its intricately patterned morphosyntactic boots on, it *is* dying, a process that is mostly reflected in the social and cultural aspects of language activity. Relexification and stylistic shrinkage, along with extensive code-switching (often a precursor of deep borrowing of core lexical forms and system morphemes<sup>4</sup>) are taking an increasingly heavy toll on the lexical wealth and cultural richness of not only Balsas Nahuatl, but of Guerrero Nahuatl in general.

The lexicogrammatical and cultural concomitants to language death suggests that extensive relexification and stylistic shrinkage have a severe impact on linguistic and cultural continuity and on identity maintenance, regardless of whether minority language phonology and complicated morphosyntactic structures are retained. In Balsas Nahuatl, preliminary linguistic data and indisputable ethnographic evidence point to shifts that threaten language and cultural continuity. These shifts comprise extensive intrasentential code-switching and relexification of Nahuatl core terminology from the dominant language (Spanish), particularly among the younger generation and male speakers in general; attrition of traditional cultural knowledge in key domains of rural life (such as ethnobiological knowledge); and rapid loss of culturally significant genres of discourse.

Relexification is pervasive in other Nahuatl languages (in Tlaxcala Nahuatl, hispanisms constitute up to 40 percent of Nahuatl speech<sup>5</sup>) and is a threat to linguistic continuity, not simply because of the invasion of core terminology, but because an increasingly mixed lexicon evokes negative sentiments among speakers (in part because of purist condemnations from within and outside the community).<sup>6</sup> Non-elicited and everyday Balsas Nahuatl speech manifests many of the tendencies that have been documented in Tlaxcala Nahuatl, though except in Xalitla, Nahuatl has not yet been reduced to a symbolic function as a "language of solidarity." Spanish is replacing core vocabulary items throughout the valley often, in the case of verbs, with Nahuatl morphological adjustments that facilitate a full range of tense/aspect inflection.<sup>7</sup> For nouns, the general shift from incorporation to periphrastic constructions has facilitated Spanish borrowing, which is now widespread.<sup>8</sup>

The lexicon of key domains of cultural life is disappearing as well. Relexification is related to pervasive shifts away from a rural lifestyle. The making of baskets, traditional masks, utilitarian pottery, fishnets, agave-fiber hemp bags, flutes, thatched housing, fish nets, and many other items of traditional material culture has vanished or will end within a decade. Activities such as snare and net hunting, lime burning, cotton spinning and weaving, traditional children's games, as well as labor-intensive food preparation (even of handmade tortillas) are all disappearing at an alarming pace as Mexican and United

<sup>3</sup> Initial vowel of *a:polaki* averaged 246Hz, that of *á:polaki* 287 Hz (8 tokens), with equal vowel length.

<sup>4</sup> See Myers-Scotton (1992).

<sup>5</sup> Hill and Hill (1977).

<sup>6</sup> See the works of Jane and Kenneth Hill cited in the bibliography.

<sup>7</sup> E.g., *ayuda:rowa* for *pale:wia* 'to help'; see Flores Farfán (1999). For early examples of this process, see Karttunen and Lockhart (1976).

<sup>8</sup> The same decline is documented in the attrition of Tlaxcalan Nahuatl; see the works by Jane and Kenneth Hill cited in the bibliography.

States commercial culture and technology take over the material life of the valley.<sup>9</sup> Based on Amith's fieldwork observations, botanical knowledge has been greatly reduced among the younger generations.<sup>10</sup> This represents an irrecoverable loss of knowledge and terminology.

More striking—if only for the suddenness of loss that occurs with the death of the last fluent practitioner—is the disappearance of ritual discourse in a wide range of genres. Memorized dance relations or poems that date to the colonial period, bride-asking speeches and admonitions to newlyweds that abound in metaphors for courtship and marriage, shamanistic prayers to the invisible *aires* who seize peoples souls until assuaged to let go, and music for syncretistic line dances that originated in the Middle Ages—all of these disappear with the death of the last practitioner. These ritual texts are not lost piece-by-piece, like the specialized vocabulary of fading cultural practices, but suddenly vanish from one day to the next, as has occurred over the last 50 years with the death of the last “traditional” generation.

The loss of endangered genres of discourse, be they ritual texts or specialized vocabulary of a dying material culture, is an urgent area for documentation, and one that Amith has already begun as part of the Nahuatl Learning Environment.<sup>11</sup> These domains of discourse need to be prioritized, although many other forms of oral communication and performance will be targeted as well. Perhaps most significantly, a focus on endangered genres of discourse and fading cultural knowledge in a grassroots educational language documentation project will provide an excellent means to articulate the needs of Nahuatl-speaking villagers with the linguistic and ethnographic goals of language and cultural documentation.

**3.3 Living and speaking on the edge: Balsas Nahuatl as an endangered language:** If languages die, they don't die of old age. And if they commit “suicide” when parents cease to transmit their language to their children, as one scholar has claimed (Denison 1977), it is certainly heavily assisted, with the push over the edge coming from, among many factors, the “ease of modern travel, the ‘global village’ phenomenon, the power of the modern nation-state to affect the lives of even its most outlying citizens, the savage thoroughness of the more modern instances of genocide or attempted genocide, the spread of literacy, the penetration of radio and television, and so forth” (Dorian 1986:73). For endangered languages, two scholars (Grenoble and Whaley 1998) have suggested that both macro-level (local, regional, national, and extra-national) and micro-level (intracommunity) variables need to be considered, though “one must take into account the potential of economic issues to outweigh all others combined” (p. 31). However, the academic study of the precarious situation and historical development of endangered languages can and should be used by present documentation scholars to determine, to some extent, which languages are on the verge of what Dorian (1981:51–52) has referred to as “language tip,” a sudden drop in speakers of a language that had been demographically stable for several centuries. The following paragraphs explore the macro- and micro-level factors—the threat of modernization projects; the collapse of subsistence agriculture; the rapid upsurge in migration and itinerant commerce—that suggest “tip” and an impending tragedy for Balsas, as well as Guerrero, Nahuatl language and culture.

The 15 villages of the primary documentation zone are located along the Balsas, one of Mexico's major rivers. Ever since the 1950s the federal government has been planning to build a major hydroelectric dam near San Juan Tetelcingo. In the 1990s, when the Tetelcingo dam was scheduled for construction, strong opposition by the Balsas villages and the reluctance of the World Bank to finance the project led to its temporary cancellation.<sup>12</sup> However, the present government of Vicente Fox has revived this project as part of its neoliberal Plan Puebla-Panamá, an effort to privatize and industrialize a corridor running through Mexico and Central America. Whether or not this plan will be carried out remains to be seen, but it is not the only development project that threatens. Enticed by the ease of communication with

<sup>9</sup> Hill and Hill (1980:345) note the narrowing functional range of Nahuatl in the Malinche region and see this as “probably a transitory stage which will lead rapidly to language obsolescence.”

<sup>10</sup> On the loss of botanical knowledge, see various articles in Maffi (2001).

<sup>11</sup> At <http://www ldc.upenn.edu/nahuatl> link to Site Map for a representation of this encyclopedia and learning environment. From the homepage, also follow the links to Botany & Zoology > Plants: By botanical family.

<sup>12</sup> For protest art against this modernization project, see Amith (1995).

Mexico City and the flat valley land around Oapan, General Motors has recently offered to buy 25,000 hectares around this village and neighboring Tecuiciapan. Despite heavy pressure and the presentation of a rosy industrial life, Oapan citizens rejected the offer and the company has started to look elsewhere. Development initiatives will nevertheless continue to threaten the Balsas and surrounding areas.

There are other challenges to cultural survival. A variety of factors, including a decline in rainfall and lower commercial maize prices has occasioned the rapid collapse of subsistence agriculture, particularly in the western valley. The villages of Ameyaltepec, Ahuehuepan, and San Juan Tetelcingo have now completely abandoned subsistence agriculture; there has also been a significant decline in planting among villages east of Oapan. Migration is another constantly increasing threat. In the western valley, the decline of agriculture, which has propelled many peasants into the wage-labor economy in Mexican and U.S. cities, has combined with itinerant commerce in the major tourist centers of Mexico (from Baja California near the northern border to Cancún on the shores of the Caribbean) to greatly deplete the resident population. For example, Ameyaltepec had virtually no migrants to the United States in the early 1990s. Now over two hundred men and women reside in Houston and Ontario, California. Scores of families have built houses in Acapulco, Cuernavaca, Iguala, and Cancún. The situation in other western valley villages is similar. For example, at a recent town fiesta in San Juan Tetelcingo, many of the firework-towers that are traditionally set off ended with banners exclaiming ¡*Viva Acapulco!* or ¡*Viva Houston!* public evidence of allegiance to new sites of identity beyond the village.

The eastern part of the primary documentation zone, from San Miguel to Totolcintla, is still quite agrarian, but the linguistic and cultural integrity of this area has been equally, if not more negatively, affected by emigration. In San Miguel, villagers estimate that well over a thousand neighbors reside in the U.S.; entire rows of abandoned houses give silent testimony to the accuracy of their claims. Totolcintla and Analco have for decades participated in massive migration to the cane fields of the northern state of Colima, where there are now large communities of migrant Nahuatl workers, though many Analco citizens, given their geographical proximity to the commercial villages of the western valley, have begun to sell artisanry in the tourist centers of Manzanillo and Mazatlán. In sum, for most of the year, thousands of emigrants from throughout the valley are immersed in Spanish-speaking environments.

This and the previous sections have adduced socioeconomic and linguistic factors that make language documentation in the Balsas valley urgent. The less explored Copalillo and Chilapa regions are apparently likewise threatened, and certainly knowledge of many traditional genres and cultural domains is rapidly disappearing. An extensive documentation effort is needed now to avoid exasperated hindsight on missed opportunities, as implied in Dorian's (1986:75) warning about language tip:

Because of the seeming suddenness of the switch-over, it's rather like watching a structure slowly eaten invisibly away at the bottom topple over almost without warning.

Yet when the tip has occurred and one begins to examine the period which led up to it, the tip is seldom if ever so sudden as it initially appeared.

**3.4 Triage: the politics and priorities of language documentation:** Metaphors of disease abound in the literature on language death. Languages are *moribund* and suffer from *decay* and *attrition*, and the language deficiencies of semi-speakers, the final generations, have been called *pathological* (Sasse 1992b). For language documentation and revitalization, however, there are few medical metaphors. One of them, offered by David Crystal (2000:145), is perhaps the clearest in its implications for prioritizing work in this field. In his call for "preventive linguistics" he states:

My view is unequivocal: in exactly the same way as doctors only intervene with the primary aim of preserving the physiological health of patients, so linguists should only intervene with the primary aim of preserving the linguistic health of those who speak endangered languages. The concept of linguists working on such languages, with no interest in the people who speak them—other than to see them as a source of data for a thesis or publication—is, or should be, as unacceptable a notion as it would be if doctors collected medical data without caring what happened subsequently to the patients. This point would not be worth making if it had not often happened.

Another medical metaphor, offered to complement Crystal's principle of prevention to preserve the linguistic health of communities of speakers, is that of *triage*: "the sorting of and allocation of treatment to patients and esp. battle and disaster victims according to a system of priorities designed to maximize the number of survivors" (*Merriam Webster*). This concept provides one way (similar to Crystal's) of thinking about the goals of language documentation projects. It suggests a guideline appropriate to Guerrero Nahuatl: prioritization of threatened linguistic communities that with appropriate linguistic and cultural politics and practice (i.e. his "intervention," though I would prefer the term "collaboration") could indeed survive and retain some of their linguistic health.

There is one caveat to this position, and one concomitant. The caveat is in regard to the ultimate goal of "linguistic health." It will often be the case that an ethnic community perhaps one or at most two generations removed from fluency will want to document its parents' and grandparents' language, even though the possibility of regaining full, or even highly significant, command of the language is virtually nil. In other cases the community will be so reduced in size that to hope for long-term survival would be illusory. Nevertheless speakers, foreseeing the fate of their language, want to preserve and document their language and culture. It was probably these communities that Dixon (1997:136) had in mind when he asserted that "documenting languages is the responsibility of linguists. By so doing they can help native speakers to record their traditions, and often extend the use of a language by a generation or two." This one-to-two generation lease on life is not "linguistic health" in Crystal's sense. Instead, it reflects attention to the desires of an ethnic community to preserve its linguistic heritage, a common bond of identity for future generations no longer fluent. Despite the lack of real hope for restoring "linguistic health," such situations are certainly worthy of documentation efforts. However, the other situation, the documentation of endangered genres of discourse and threatened domains of cultural knowledge within a potentially viable language community, should not for this reason be neglected.

Balsas Nahuatl communities, those with which Amith is most familiar, are starting to "tip." Demographic hemorrhaging is not likely to cease. However, the pervasive relexification, the loss of terminological repertoires for specialized activities, and the continual disappearance of ritualized texts of various genres can all, to some extent, be stemmed or compensated for through an intensive grassroots documentation and educational program. This effort is supported by community authorities, bilingual teachers, and most residents of the documentation zone, who have shown great interest in these activities, which have already begun (see support letters #7-12). If continued, multimedia materials and written texts will be produced, first in many of the 15 Balsas communities and then in additional villages from the Copalillo and Chilapa regions. These materials will be disseminated locally through the primary and secondary schools and shared, in audio and printed format, along the lines of a lending library. The goal is to create linguistic awareness, develop language and literacy tools, and create the documentary bedrock for maintenance of endangered genres and specialized vocabularies. One goal of the documentation effort in Guerrero Nahuatl is the recuperation and preparation for community use of endangered genres of discourse and traditional knowledge, along with other didactic materials meant to strengthen linguistic awareness and skills. Students and community members who make use of the documentary and pedagogical materials already possess the language competence that will enable them to integrate the materials into their linguistic repertoire.

#### **4. LANGUAGE DOCUMENTATION OF BALSAS NAHUATL: PAST AND FUTURE**

*Triage* (along with Crystal's *preventive linguistics*) as a metaphor for language documentation suggests that it is imperative to pay attention to languages that are endangered yet viable. In these cases intervention could result in the survival not just of a besieged linguistic community speaking a relexified and functionally reduced language, but of one that has access to as much of its severely endangered linguistic and cultural heritage as is now possible to document and preserve. This same metaphor suggests that waiting would be unacceptable. In several generations (perhaps one to three in the Balsas, Copalillo, and Chilapa areas) the language will have "tipped": the endangered genres and specialized lexicons will have long since died (many have disappeared or will within the next decade), complex processes such as noun incorporation and relative clause constructions will have become greatly simplified or reduced, and

the vast demographic hemorrhaging will have left the community in a depleted and greatly enervated state. Delaying action now will only make documentation in the future less rich and less viable, and it will wind up treating a Nahuatl linguistic community that has slipped from the column of potential survival to one of imminent death. If a documentation project aims to preserve a wide range of linguistic and cultural forms, then it is urgent that this be undertaken immediately for Guerrero Nahuatl. Otherwise the “comprehensive documentation of texts” that is a priority of many documentation programs will no longer be possible.

There are many reasons to take immediate action. One has already been stated: the unusual morphosyntactic and phonological processes that make the Balsas an area of typological interest. A second reason has to do with the rapid loss of endangered genres of discourse and cultural knowledge. A final set of reasons is logistic, it has to do with the descriptive tools and human resources presently available for a documentation project. One such resource is an

The screenshot shows a web browser window with the address [http://www.jdc.upenn.edu/hyperlex2/nahuatl/search\\_results.php4](http://www.jdc.upenn.edu/hyperlex2/nahuatl/search_results.php4). The page title is "The Nahuatl Learning Environment Lexicon". The search results show "The query returned 1 hits. La búsqueda resultó en 1 palabras." The entry for "KOTO:NA (Am): kikoto:na" is displayed, including its part of speech (Trans. verb), derivation (V2-alt-ni), affixation (Op. pref. te-), and verb inflection (class-3a). The entry provides detailed semantic information, including numbered examples (1-5) and a list of root(s) (koto:). A semantic note explains the use of the intensifier te-.

extensive and semantically rich, though incomplete, lexicon for the Nahuatl of two villages (Ameyaltepec and Oapan). It is unlikely that a similar tool will be created for other Nahuatl languages. Likewise, an incipient pedagogical grammar that has been developed for language instruction at Yale and the University of Chicago has been used with great success among students. Thus the descriptive work on this language, a necessary *prerequisite* for successful documentation, is already at an advanced state, though clearly it will be greatly enriched by further documentation. There is other important factor: a team of local and international experts for fieldwork and consultation has been assembled, making this a truly interdisciplinary endeavor of the highest caliber with potential for growth in many areas. The following sections review (1) the descriptive work already accomplished, and (2) the synergy among participants (community and individual) in the present project.

**4.1 State of descriptive work:** A successful documentation project, which involves the transcription and translation of audio (and video if possible), as well as the presentation of texts in an interlinear format with part-of-speech and morphological glosses along with key syntactic or grammatical information, requires a solid base in previous descriptive work in both lexicon and grammar (see Himmelmann 1998).<sup>13</sup> In this regard the Guerrero NLDLEP rests on years of labor-intensive work: 1) a 9,000-word online Nahuatl to English/Spanish dictionary with particular emphasis on detailed semantics; 2) a powerful search engine of a MySQL database produced by a PHP program from an original Shoebox file; 3) searchable coding for, among other key items, etymology, parts-of-speech, compounding and incorporation patterns, and transitivity alternations (both valency increasing processes such as causatives and applicatives, and valency reducing processes such as anticausatives and lexicalized passives); and 4) an extensive corpus of over 20,000 speech tokens linked online to 7,500 Ameyaltepec and 6,500 Oapan headwords. The recording and review of these sound files has been a necessary prerequisite to

<sup>13</sup> Himmelmann (1998:163–64) is quite clear in stating that “the most important area of overlap [between description and documentation] pertains to the transcription of primary data.”



documentation of Nahuatl, given the importance of phonological vowel length but the difficulty of hearing this in rapid speech. Present orthographic representation of vowel length is extremely accurate; it is supported by audio material that is available online and has been confirmed by work over three years with Nahuatl-speaking documentation consultants from Oapan and Ameyaltepec. The Ameyaltepec/Oapan lexicon is the best available source for vowel length data on a modern Nahuatl language.

A sample online entry (see above) illustrates the extent of lexicographic work. *Koto:na* is a transitive verb of the nondirected alternation type (coded as *V2-alt-ni*) described by Haspelmath (1993); it accepts an optional *te-* intensifying prefix although, as the semantic notes indicate, only with certain senses.<sup>14</sup> Its inflectional paradigm is *class-3a*, described in the linked grammar; when incorporated into the online structure, a morphological transducer will allow users to generate the inflectional paradigms of all verbs. The citation form, *kikoto:na*, with zero-marked subject and obligatorily marked 3rd-person singular object *k(i)-*, can be heard by clicking on the adjacent icons (mp3 and wav). Five senses and illustrative phrases give a comprehensive account of the semantics of this word. Comparison with other Nahuatl lexicons, which generally have only insufficient single-word “translations,” reveals the value of the Ameyaltepec/Oapan lexicon. Extensive in-depth semantic presentation of the lexicon is the sine qua non of any documentation project, for without this lexicosemantic base future researchers will have insufficient tools for the full and proper understanding of the documented linguistic practices and traditions of a speech community. The Balsas lexicon can be viewed at <http://www ldc.upenn.edu/nahuatl> > Lexicon > Dictionary Search Page (username: jamith; password: nle).<sup>15</sup>

The search engine (at the above URL) is extremely powerful and enables multiple searches, including regular expressions. A “Vowel Length Neutralization” box allows users (such as those not familiar with vowel length) to automatically neutralize this factor in their searches (e.g., *toka* returns *toka* and *to:ka*). Or, for example, linguists interested in applicatives of intransitives (not a common phenomenon cross-linguistically) could search on *applicatives—not empty and part of speech—equals—VI*; this will return all intransitive verbs that have applicatives. The actual regular expression submitted to the MySQL database appears at the end of all search results. This can be copied and inserted into a cgi query that when embedded in the electronic version of the grammar (e.g., “The following *verbs* are basic intransitives that have an applicative form.”) will automatically link to the lexicon and conduct a search, producing for the reader a list in dictionary format of the relevant lemmas. This will allow a grammar to link to the lexicon. Other codings are of equal importance to linguistic research. For example, by searching the incorporation field and part-of-speech field, scholars interested in noun incorporation (a key facet of polysynthetic languages such as Nahuatl) can isolate transitive verbs in which the incorporated noun reduces valency from those in which it does not. In short, the lexicon database and coding system have been designed with extreme care to facilitate access to scholars and students from a variety of disciplines interested in a wide range of data. A tutorial is being enhanced that will facilitate user access.

In a model that could serve other lexicographic endeavors, the online lexicon structure can be continually modified, given that the php4 configuration file for Hyperlex2<sup>16</sup> converts an uploaded Shoebox database to MySQL, detects new fields, and asks the lexicographer whether these should be made searchable. The search engine and presentation form can be easily modified at any time by simple adjustments to templates. No advanced programming capabilities are needed to update and modify.

Finally, with outside funding from U.S. Department of Education Title VI grants to Yale University and the University of Chicago, Mike Maxwell is developing with Amith a morphological transducer for

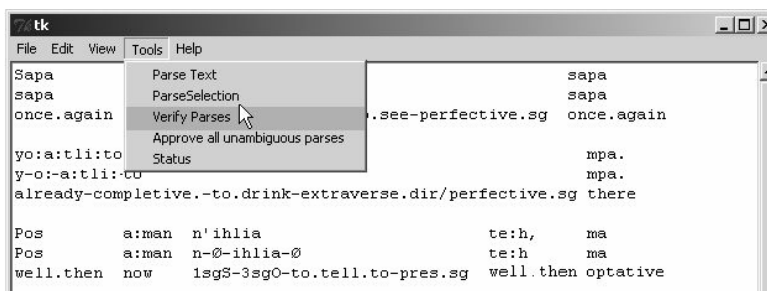
<sup>14</sup> For another example of extensive documentation of semantics, see the entry online for “Ameyaltepec word equals *ka:wa*.” The entry has 10 senses and 18 illustrative phrases.

<sup>15</sup> For example, one major dictionary (Campbell 1985) has for *kutu:na* only “to cut, to cut up.” Brewer and Brewer (1971) have *quicotuna* ‘lo parte, lo revienta’; and Brockway, Brockway, and Santos Valdés (2000) have only *quicotona* ‘partir,’ with an example sentence. Not only are the semantics inadequate for documentation purposes, where multiple senses must be understood, but the dictionaries lack important lexical information such as verb categories, inflectional paradigms, and transitivity alternations.

<sup>16</sup> Hyperlex2 was elaborated by Jonathan Dick, a modification of Steven Bird’s earlier version.

Ameyaltepec and Oapan Nahuatl using Xerox Finite State Toolkit software (see mockup below). The transducer will be an important complement to the present documentation and lexical enrichment project. It will facilitate lookup between the online corpus and the Ameyaltepec/ Oapan dictionary by offering users parses (in ambiguous cases users will be asked to choose and given the means to verify through lookup) and then providing direct links between parsed stems and corresponding lexical entry. Future plans will expand the morphological grammars to include other local dialects. Given that the lexicon will be continually enhanced with words found in language documentation from other villages and that the morphological grammars of the dialects are not that dissimilar, lookup will be possible for most of the corpus developed in this present project.

Although the electronic architecture for online presentation is advanced and independently funded, the lexicon is still very incomplete. Amith has never conducted direct work with Nahuatl speakers on the lexicon. Instead the online material is the result of two decades of “participant



observation” of Ameyaltepec and Oapan Nahuatl. Many entries are woefully incomplete; some in fact are blank, only the word having been documented but the meaning still obscure. Morphosyntactic coding is likewise incomplete. This project will remedy this situation by concentrating on both corpus development and lexical enrichment in tandem. Two teams of four Nahuatl-speaking specialists will work with Amith on slightly overlapping schedules: one will concentrate on transcription and documentation, the other will concentrate on lexical enrichment. New words found in the texts will be incorporated into the extant lexicon. As new basic lexemes are documented in nearby dialects, they will be added to new, community specific fields in the Shoebox database as regional variants. The power of the php4 program already developed will automatically convert these new fields to new MySQL columns; updates of the HTML display template will control how these new regional lexemes are displayed online.

Lexicography is one facet of the Nahuatl Learning Environment, a lifelong project. Another is the Nahuatl Cultural Encyclopedia, an extensive multimedia exploration of Nahuatl language and culture. Amith aims to combine language description and documentation with educational projects in indigenous communities and to create accessible online resources of value to an interdisciplinary audience with various levels of expertise and wide-ranging interests. He hopes to work with native communities along with U.S. academic institutions in a joint documentation project, preserving the most threatened linguistic and cultural aspects of the Balsas region, training village members to achieve self-sufficiency in documentation, and preparing materials for use in the communities and beyond. The advances already made in the descriptive aspects of this enterprise are but a first essential step to these ultimate goals

**4.2 Language documentation synergy:** A successful language documentation program depends upon the synergy among its many elements: project coordinator, native language specialists (individuals trained in documentation activities such as audio and video recording, basic sound editing, and standardized transcriptions, as well as other speakers, such as native curers, who are specialists in various linguistic and cultural aspects of community life), village authorities, indigenous schoolteachers with roots in the community, and a team of outside fieldworkers and consultants. The creation of such collaboration is difficult, and one consideration for urgency in documentation endeavors is that this synergy may not be repeated in subsequent generations. The commitment and qualifications of the individual and institutional participants in the Guerrero NLDLEP illustrate this point

**JONATHAN AMITH, PROJECT PI:** Amith is an independent scholar whose research and writing is multidisciplinary (anthropology, linguistics, history). He has experience in sound processing, graphics, photography, editing, and translation that will enable him to prepare materials in the field for immediate use in Guerrero schools and communities. For over 25 years he has worked in Balsas Nahua communities. This includes over five years of virtually uninterrupted residence in Ameyaltepec and

Oapan, and periodic visits throughout the valley and central Guerrero (Copalillo and Chilapa regions). He is very familiar with those genres of discourse that are dying out and the specialized cultural knowledge that is disappearing. He knows many native language consultants who are experts in these two aspects of Balsas Nahuatl culture. Besides Amith's descriptive work mentioned above, he is fluent in the Nahuatl spoken in Ameyaltepec and Oapan and familiar with the grammatical particularities of the variants from many other villages, including those beyond the Balsas valley. His long-standing commitment to the region goes far beyond an academic interest. In the mid-1990s he worked with indigenous artist friends in producing an award-winning book of political art to protest the proposed construction of a hydroelectric dam near San Juan Tetelcingo. Foreseeing long-term involvement in the area, he has bought land in Oapan and has constructed a one-room house with an additional building that has been equipped for use in language documentation and literacy training. Documentation of Guerrero Nahuatl is an integral part of his professional life and career goals. He has various qualifications to carry out a documentation project, particularly those enumerated by Himmelmann (1998).<sup>17</sup>

**COMMUNITY SUPPORT:** Over the last two years, with financial support from the Ford Foundation and Mexico's Secretaría de Educación Pública, Amith has begun to focus on literacy training, the documentation of endangered genres of discourse and disappearing cultural knowledge, and the preparation of linguistically and culturally rich multimedia (audio and text) materials for local and extralocal use. All recordings have been made with informed consent from the native language consultants (in general accord with Max Planck Institute guidelines), who have agreed to donate their materials for educational and non-remunerative activities. For a total of eight months over a two-year period, Amith has carried out workshops with four local speakers in Oapan and Ameyaltepec on recording, sound transfer, and transcription. These consultants have become proficient in Transcriber and Shoebox. All have expressed great interest in continuing to work on language documentation after funding expires in 2005. The results of documentary activity will be electronically prepared in the field and disseminated through schools and community authorities; this will allow continual revisions and corrections until acceptable final versions are developed. Amith has established a close working relationship with Bano Tecolapa, a native of Zitlala (near Chilapa) and the supervisor for the Xalitla (which includes the Balsas valley) and Copalillo bilingual school districts. He will facilitate work in these two regions and help present the results to bilingual schools. Community authorities of Ameyaltepec and Oapan have likewise certified their interest and support in writing, as has the director of the tele-secundaria school in Oapan. Authorities and schoolteachers in other Balsas villages have been consulted and again the response has been extremely enthusiastic. Written letters of interest were not solicited at that time as Amith wished to avoid raising expectations when funding was still not secure. However, it is certain that most, if not all, of the 15 Balsas valley communities and schools as well as those in the Copalillo and Chilapa regions will collaborate in the documentation project (see support letters #7–12).

**DOCUMENTATION AND LEXICOGRAPHIC TEAM:** In addition to the abovementioned four specialists in language documentation (recording, transcribing, translation, and editing) an additional four elders (two from Ameyaltepec and two from Oapan) will be specifically hired to complete and enhance the Nahuatl lexicon. Amith's experience has been that by far the best lexicographic work is done in teams. Periodically, additional experts in specific endangered genres of discourse and knowledge will be consulted on a day-to-day basis. The resulting team offers a unique opportunity at language documentation and lexicon development. They will work 6 months/year during years 1–2 of the project (when Amith will spend half his time in the field and half analyzing and compiling material in the U.S.) and 12 months/year during the project's 3rd year, when the documentation effort will consolidate the Balsas material and add from the undocumented Nahuatl speaking region around Copalillo and Chilapa.

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<sup>17</sup> He states: "Ideally, the person in charge of the compilation speaks the language fluently and knows the cultural and linguistic practices in the speech community very well. This, in general, implies that the compiler has lived in the community for a considerable amount of time. Furthermore, the compiler should be familiar with a broad variety of approaches to language and capable of analyzing linguistics practices from a variety of points of view. These demands will only rarely be met by a single individual" (p. 171).

**PHONETICIAN: SUSAN GUION:** Guion, a phonetician at the University of Oregon, is an expert on language acquisition and has researched and published on the phonetics of Quichua-Spanish bilingualism. She is presently working with Amith on the phonetics and phonology of Balsas Nahuatl, basing her research on Amith's recordings from the region as well as the focused elicitation interviews that she and Amith conducted in Summer 2004. Her expertise will aid in the resolution of any difficulties in transcription and the refinement of a practical orthography. She will visit the documentation zone twice a year for a total of 30 days. Funding is sought only for travel (see support letter #2).

**COMPUTATIONAL LINGUIST/MORPHOLOGIST: MIKE MAXWELL:** Maxwell is a researcher at the Linguistic Data Consortium, University of Pennsylvania and an expert on natural language processing and the building of morphological tools for linguistic analysis. He has collaborated with Amith since 2002 on the building of a morphological transducer for Oapan and Ameyaltepec Nahuatl in a project funded by the U.S. Department of Education. Plans are to expand the capabilities of this transducer to include other Balsas and Guerrero dialects, a process that will involve (1) expanding Amith's online dictionary to include new lexical items as they appear in texts from villages other than Ameyaltepec and Nahuatl, and (2) adjusting the morphological grammar for new dialects (i.e., adding new morphemes and changing some phonological rules) (see support letter #3).

**HISTORICAL LINGUIST: KAREN DAKIN:** One of the leading historical linguists of Uto-Aztecan languages, Dakin (a researcher at the Universidad Nacional Autónoma de México) has been in close consultation with Amith throughout the development of the NLDLEP and is familiar with the Balsas region (see Ramírez and Dakin 1979). In project year 2, she will consult with Amith to target the Guerrero Nahuatl communities beyond the Balsas valley that will be the focus of intensive documentation efforts, basing her evaluation on her understanding of Nahuatl historical linguistics and issues in contemporary dialectology. She has been budgeted for one-half month of total consultation.

**INSTITUTIONAL CONTACTS: UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO:** Given that the NLDLEP focuses on domains of diminishing cultural knowledge, it will be necessary to work with specialists in several fields, particularly botany and zoology, one of the most endangered domains of cultural knowledge. Amith has been working with noted experts for the last three years: Nelly Diego is the leading authority on Guerrero botany, having dedicated her life to research in this area; Alfonso Navarro is an expert on the ornithology of Guerrero (the subject of his doctoral thesis); and Alonso García is an entomologist who is coordinating identification at the Instituto de Biología, UNAM. All will share their immense knowledge and resources (e.g., specimens, drawings, photographs, and well as contacts with other biologists). To date approximately 500 plant species, 90 bird species, and 100 insect species have been collected and identified in scientific and Nahuatl terminology. The biologists' participation will be invaluable in developing Nahuatl documentary materials (recorded and transcribed) in natural history and ensuring, through correct scientific identifications, that these materials will be useful to botanical and zoological scholars and students throughout the world (see support letters #13–17).

**OTHER ASSOCIATED INSTITUTIONS AND CONSULTANTS:** Amith is a non-salaried language consultant to Sylvia Schmelkes, director of bilingual education in Mexico's Secretaría de Educación Pública. She has written a letter of support and has been active in getting Amith working papers in Mexico, which cover all permissions needed for the present project. Bano Tecolapa, Supervisor for the school districts centered in Xalitla and Copalillo, has expressed a strong interest in using the Nahuatl documentation materials in primary and secondary school education. He will facilitate contacts through the bilingual teachers in the villages under his supervision and promote the use of the materials in regional schools after first presenting them to community educators for comments and corrections (see support letters).

**RESEARCH ASSISTANT: GEOFF HALL:** Hall is a field botanist who has collaborated since 2001 on developing a floristic inventory of the Balsas valley with Amith and Nelly Diego. He will be entering the University of Montreal as a doctoral student in botany, with a regional focus on the Balsas valley. Hall will maintain an active database of the status of all documentation material, including metadescriptions according to OLAC standards. He will help in the field (e.g., archiving and indexing the sound files for illustrative phrases in the dictionary) and be responsible for coordinating scientific biological data (identifications, descriptions, photos and illustrations) with the Nahuatl documentation. Finally, he will

help create and maintain an online exposition of the documentary material. He is budgeted at 50% FTE (fulltime summer months in the Balsas area, one-third time September–May).

**PERMANENT ARCHIVING:** The Archive of Indigenous Languages of Latin America (U. Texas), the Linguistic Data Consortium (U. Pennsylvania), and the University of Chicago have agreed to provide permanent archiving and open access to the materials produced by this project (see support letters #4-6). The American Philosophical Society has been contacted and will probably be an additional depository.

##### **5. ACCOUNT OF RELATED PROJECTS AND CONTRIBUTION OF PRESENT EFFORT**

Nahuatl (along with Maya and Quechua) is one of the most important indigenous languages of Latin America. Yet for Nahuatl, most research has focused on colonial and classical materials. Works on modern Nahuatl (see bibliography, including part 2) are very limited. Grammars are mostly short sketches or addenda to dictionaries, almost all of which were created by Summer Institute of Linguistics missionaries. Notable among these is the work of Tuggy (see bibliography), who frames his study in the cognitive grammar of Langacker. Also important is the dictionary and grammatical sketch of Pipil (a Nahuatl language spoken in El Salvador) by Campbell (1985). Yet even here the analysis is summary: there is only one paragraph on causatives and another on applicatives; reduplication receives eight lines of text. Word definitions are summary glosses, with virtually no example sentences. Unfortunately there is little in terms of articles, essays, or corpora to fill these lacunae in modern Nahuatl studies. Indeed, the most extensive and important work on this language has been carried out by Jane and Kenneth Hill in sociolinguistics (treating issues such as language death, language and identity, and language and social stratification; see, for example, Hill 1983, 1987; Hill and Hill 1977, 1978, 1980, 1986).

Modern Nahuatl language documentation, in the sense of a corpus of recordings and accompanying text, is virtually nonexistent, as evidenced in the following account:

**Taller de Tradición Oral:** A grassroots language documentation project active in San Miguel Tzinacapan, Puebla, from 1984–1990. This workshop produced 12 small pamphlets of texts (see compilation of about 200 pages of Nahuatl text in Argueta, 1994). Although the collaborative effort between an indigenous community and a Western anthropologist, Pierre Beaucage from the Université de Montreal, is an early model to emulate, there are facets to this project that limit its use for language documentation: a) there is no audio component; 2) vowel length is not documented; 3) the material is hard to get and limited in quantity (the original pamphlets are out of print and in no library while a later compilation is only in 36 libraries worldwide); 4) there is no grammatical study of this dialect; and 5) the project is no longer active.

**José Flores Farfán:** A sociolinguist (at CIESAS, Mexico) who has worked in the Balsas valley and has collaborated with Amith on Nahuatl migration testimonials. His *Cuaterros* book (1999) explores Spanish interference and confirms many of the ideas stated in this proposal about relexification and language loss. The book does not, however, document the language. Besides some children's books containing perhaps two dozen local riddles,<sup>18</sup> Flores Farfán has produced approximately 30 minutes of animated videos of Nahuatl riddles and stories aimed at Balsas schools. However, this material is limited in quantity and was not produced according to best practice for documentation: the written text is not representative of spoken Nahuatl; the audio studio recorded, and at times read by non-speakers; and some dialogue was electronically altered (e.g. echo, raising pitch) to make it more attractive to children.

**Project for the Documentation of the Languages of Mesoamerica (PDLMA):** Headed by Terry Kaufman, John Justeson, and Roberto Zavala, this is the most important and extensive coordinated project on modern Mesoamerican languages. The project's goal is the study of 36 Mesoamerican languages, including 10 Nawa languages. All of the latter are from eastern Mexico. Three are what Canger (1980, 1988) calls peripheral dialects (in the sense that they were peripheral to many Aztec induced changes), and seven are central dialects from the Huasteca. In an areal sense, the present Guerrero project clearly complements the PDLMA initiative, for whereas the former covers Nahuatl languages from western Mexico, the latter covers related languages from eastern Mexico.

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<sup>18</sup> For riddles from the Balsas, see also Amith (1998) with about 125.

The Guerrero project differs from PDLMA in other, non-geographical, respects. First, it is community based in both a physical and political sense. Amith lives in the area of documentation and is fluent in the language. Documentation will be conducted directly in the communities with the widest range of speakers and thematic foci possible. The Guerrero project is also committed to archiving and sharing materials locally, which will give communities a vested interest in the project. Second, the Guerrero project, unlike PDLMA, is ethnographically based and informed, an approach that stresses documenting not only linguistic forms but cultural richness, particularly endangered genres of discourse and cultural knowledge. It aims to compile and record comprehensive material on various aspects of Nahuatl culture (ethnobiology, life histories, stories, ritual texts, material cultural production) and present this material as a unified encyclopedic whole. Material will be organized thematically so that the widest range of scholars and students can easily find texts relevant to their interests. Finally, the Guerrero project aims to provide immediate (to the degree possible) and open access to language and ethnographic material for both the local and academic community at large.

#### **6. WORKING PROGRAM AND TIME SCHEDULE; PROVISIONS FOR ACCESS**

The NLDLEP will begin in January 2006. Throughout the three-year grant period Amith will dedicate 100 percent FTE to documentation activities. During the first two years this will be divided into two major phases: 6 months of intensive fieldwork in the Balsas Nahua communities (June–August, December–February), during which time Amith will maintain permanent residence in Oapan, making periodic visits to surrounding villages in both the primary and second documentation zones; and 6 months in the United States for intensive processing and preparation of the documentary material (lexicon, texts, and grammar). During the third year Amith will reside fulltime in Guerrero, consolidating the previous Balsas valley efforts and expanding documentation into the neighboring Copalillo and Chilapa regions. Fieldwork activities will be carried out in a documentation center Amith has built in Oapan, centrally located in the valley. It is equipped with six laptops, tables, chairs, blackboards, and recording equipment. To expand the impact of the NLDLEP, two Huasteca–Nahuatl-speaking students from John Sullivan’s workshop at the Universidad de Zacatecas will be invited to Oapan for one month each summer. There they will learn documentation techniques: lexicography and the use of Shoebox, recording, and transcription. These students will then begin documentation activities in their home Huasteca villages (see support letter #18).

The six-month period in the Balsas will be dedicated to intensive language documentation and lexicon enrichment. Material will be digitally recorded according to the best practice standards (48,000 MHz, 16-bit), transferred to CD and hard disk, and then transcribed using Transcriber, a tool in which the Nahuatl language consultants are fully trained. While four documentation specialists work on transcription, four other consultants (lexicon specialists, and more elderly members of the Oapan and Ameyaltepec communities) will work with Amith on completing and enhancing the extant Ameyaltepec/Oapan dictionary. All present entries will be reviewed. The complete range of senses for any individual word will be discussed and example phrases (marked by village of origin) developed, recorded, and entered into the database. Gaps in the lexicon will be filled not only through consultation with these specialists, but through extraction from the recorded and transcribed textual corpus. Continual feedback and discussion in the workshops and with bilingual teachers will resolve concerns with the practical orthography (both spelling and word division) that remain (although this has been a focus of previous work in literacy). New lexical items from other villages will be added to the database in new fields. All lexical material will be uploaded at least twice a year, ensuring immediate access to scholars. Corpus material (audio recordings and transcriptions) will also be rapidly archived at the AILLA, LDC, and U. Chicago, again to ensure the academic community quick access. Two CD copies of all material will be made onsite on Mitsui Gold CDs, the best-rated product for permanent archiving.

The documentation specialists and Amith (assisted by Hall) will work with indigenous consultants who are experts in particular endangered genres or who possess specialized cultural knowledge. They will be periodically contracted to share their expertise. All participation and recording will be undertaken with fully informed consent (as has been done with documentation work up to the present); authors will be asked to cede their rights to the material only for educational and nonprofit activities.

Documentation will be focused on covering the greatest range of material. Care will be given to geographical distribution; sampling from different sex and age groups; and, most importantly, ensuring a careful balance of different genres of discourse. Approximately 20% of all final material (about 40 hours) will document rapidly disappearing knowledge of the natural environment (plants, birds, insects, fish). Extended expositions of the natural environment by elder native speakers (already 120 texts of 2 to 15 minutes have been recorded on Balsas avefauna) will provide the last opportunity to document and preserve this important domain of knowledge. Hall will coordinate the database of Nahuatl nomenclature and scientific names provided by botanical and zoological specialists. The care given to Western terminology is to ensure that the Nahuatl data is accessible for comparative ethnobiological studies. Other targeted genres include: 1) stories (religious and secular); 2) ritual speech (e.g. bride petitions); 3) descriptions of material culture production (e.g., lime-making, basket-weaving, etc.); 4) myths about the heavens and underworld; 5) children's speech; 6) life history testimonials (e.g. on migration, itinerant sale of artisanry); 7) descriptions of agricultural and other subsistence activities; 8) carnival and other songs; and 9) community histories, told by elders (this is of particular interest to many villages in the area).

Transcription has been found to take approximately four days per hour of audio. An extra day will be allotted to proofing: the language documentation specialists will review each other's work. An additional day will be needed for formatting and editing (i.e., converting Transcriber to readable format and storing in Word and PDF). A final day will be needed for lexical enrichment, incorporating the new lexemes and uses found in the corpus into the dictionary. Given that the equivalent of one day per two weeks will be dedicated to training seminars (in Nahuatl grammar, computer use, recording techniques) and the equivalent of one day every two weeks to documentation trips to outside villages, it is estimated that every two weeks each language specialist will produce an average of 75 minutes of transcribed, proofed, edited, and incorporated (into the lexicon) recording. Thus four specialists working 6 months/year over the first two years will produce 120 hours of documentation on Balsas Nahuatl.

Lexicon enrichment and correction will take two years of development (half-time for project years 1 and 2, fulltime for project year 3). This involves review of all material already in the Ameyaltepec/Oapan lexicon: refining and amplifying definitions and providing (and recording) example sentences. Lexicon enrichment will incorporate new Ameyaltepec/Oapan lexical information (new lexemes and senses) obtained from the documentation material. Words documented in texts from neighboring villages will be added to the database. Biological names will be identified by scientific and common English and Spanish terms; nouns will often be defined by encyclopedic texts that will form part of the corpus and be the responsibility of the language documentation specialists. (For example, all three different types of *metate*, 'grinding stone,' will have a simple definition and link to an audio and transcribed texts.)

Geographical coverage is divided into two phases. The first (years 1–2) will focus on the Balsas communities, with a minimum of two hours audio from each of the 15 villages (30 of the projected total of 120 hours). The second phase will be carried out in the Copalillo and Chilapa regions during the intensive (fulltime in Guerrero) third project year. Target villages will be selected by Amith and Dakin on the basis of linguistic criteria, to ensure the greatest range of divergence within the zones and the material most significant for historical and contemporary studies. Given that during transcription it might be necessary to make additional trips to the village where the texts originated, production might be slightly lower per hour for this year. It is estimated that an additional 90 hours of recordings will be transcribed, formatted, and edited by the four Nahuatl-speaking specialists.

For comments and corrections, documentation materials (audio CDs and transcriptions) will be presented to bilingual schoolteachers by Bano Tecolapa (regional supervisor). The final products will be distributed: each participating village (perhaps a total of 25 to 30) will receive a set of all the documentary material created during the project. The result will be an increased level of local Nahuatl cultural and linguistic awareness, an extensive library of digital and printed materials for child and adult education and intercommunity sharing, and the foundation for permanent preservation and archiving of endangered genres of discourse; lexical inventories, and cultural knowledge. Along with the dictionary, the same audio and text files will be permanently archived at the AILLA, LDC, and University of Chicago. Open access will be permitted at all sites if author permission is given, as is expected.