

NATIONAL SCIENCE FOUNDATION



NATIONAL ENDOWMENT FOR THE HUMANITIES



Documenting Endangered Languages

SAMPLE APPLICATION NARRATIVE

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Project Summary

The main goal of this project is the documentation of Wichí (a.k.a. Mataco), a Matacoan language of South America. This research focuses on Central Pilcomayo Wichí (CPW), but will also establish the range of variation across the very divergent Wichí dialects. A significant feature of this research is the training and participation of native speakers in language documentation, linguistic analysis and materials development. Wichí remains poorly documented. There are an estimated 20,000-30,000 speakers in communities in Salta, Chaco and Formosa provinces of Argentina, and in southeastern Bolivia (only c. 3,000 speakers of CPW).

The materials that will result from this project include: (1) Two dictionaries, one for linguists and one for non-linguists; (2) two versions of a basic reference grammar, one for linguists and one for non-linguists; (3) two collections of morphologically analyzed and translated texts, one for linguists and one for non-linguists; (4) a classification of the major dialects of Wichí and the traits which define them; (5) a website with linguistic and cultural information about the language and its speakers; (6) an online database with a lexicon and grammatical notes and analysis; (7) a corpus of archived recordings; and (8) training of native speakers in language documentation and description, materials development and literacy; (9) literacy materials.

Intellectual Merit: Documentation of a significant endangered but poorly known language, a comprehensive study of Central Pilcomayo Wichí, and determination of the range and nature of Wichí dialect differences. This is urgent because of (1) the community's sense of language loss and (2) the importance of taking advantage of current circumstances: community motivation, trained native speaker participation, access to rich cultural materials, with the research infrastructure in place. Results will be made readily available to linguists, native communities, and the public through academic publications, conference presentations, a website and online databases, and archiving of all materials at CAIL and AILLA. The results will contribute to linguistic scholarship in several ways, furthering (i) the typological understanding of languages; (ii) Wichí offers rich typological traits that can contribute to linguistics generally, (e.g. active-stative alignment based on unusual parameters, animal possessive classifiers--different functions from other Matacoan languages, two unusual bilabial fricatives, variant lateral fricatives, spontaneous nasalization with /h/, aspiration which has confounded descriptions, and multilingualism of a unique sort (frequent linguistic exogamy without language shift among spouses); (iii) historical linguistics, providing material needed for the study of language change, language contact, and possible genetic relationships among languages of this part of South America, where little is known and information is needed; and (iv) dialect study of a South American indigenous language, possibly a model for other work of which very little exists.

The linguistic training component is significant, both for graduate students involved and especially for native speaker participants in the research and in community-based native language programs for both children and adults.

Broader Impacts: This project will also benefit other disciplines which depend on language-related material for their research. It will benefit the Wichí communities in multiple ways: (1) it will be the first project carried out in Argentina with extensive support from the communities and their leaders, and in close collaboration between researchers and community members; it can therefore serve as a model for other projects; (2) it addresses the community's request for resources they very much need and want: literacy materials and printed materials for language maintenance efforts and native-language literacy classes; (3) it will create the infrastructure and provide the knowledge for this kind of work to be continued once this 3-year project is over and for this knowledge to be passed on to other speakers interested in language maintenance work.

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Wichí: Documentation, Description and Training [mzh, mtp, wlv]

1. INTRODUCTION

The main goal of this project is the documentation of Wichí (a.k.a. Mataco)¹, a Matacoan language of the Chaco in South America. This research focuses on Central Pilcomayo Wichí, but will also determine the range and nature of the divergent Wichí dialects. A significant feature is the participation of native speakers in documentation, analysis and materials development.

Wichí remains poorly documented. There are speakers in Salta, Chaco and Formosa provinces of Argentina, and in southeastern Bolivia; the reported number of speakers varies wildly, from 7,000-8,000 (Tovar 1981:35) to 35,000-60,000 (Censabella 1999:79), with c.25,000 as more likely (Wallace, p.c.). Wichí is a member of the Matacoan family, together with Chorote, Chulupí [Nivaclé, Ashlushlay], and Maká (Campbell 1997; Kaufman 1994; Loukotka 1968). While speakers consistently report numerous dialects with limited intelligibility, sources vary considerably in this regard (details below). This project focuses on Central Pilcomayo Wichí and will be based in the community of La Paz (or Misión La Paz).

This research will produce nine outcomes:

(i) Two grammars of Wichí, one practical in Spanish for speakers and community members, and one more technical in English for linguists.

(ii) Two dictionaries: one trilingual, in Wichí, English and Spanish, intended for linguists; one bilingual Wichí-Spanish and Spanish-Wichí, for non-linguists, especially for members of the Wichí community and Spanish speakers working with Wichí.

(iii) Two collections of texts, with linguistic analyses: one intended for the linguistic community, with phonemic transcriptions, English and Spanish translations, and detailed morphological analysis; the second for non-linguists, particularly for the Wichí community, with two versions plus Spanish translations, one for native speakers of Wichí, and a more detailed version with a more in-depth analysis for non-native speakers.

(iv) A classification of the major dialects of Wichí with the traits which define them.

(v) A website, in English, Spanish and Wichí, containing databases, linguistic and cultural information, and several texts with sound and analysis.

(vi) An on-line lexical and grammatical database.

(vii) An extensive corpus of recordings, archived in digital form at the Center for American Indian Languages, University of Utah (CAIL) and at the Archive of Indigenous Languages of Latin America (AILLA), University of Texas Austin, with copies in the community.

(viii) A collection of literacy materials both for children and adults to be used in the schools and by community literacy programs for both adults and children.

(ix) Training of Wichí speakers in language documentation, description and materials development, and native-language literacy classes for community members.

2. THE NEED

There are five reasons why this project is needed: (1) the community has requested this work, worried about language loss; (2) Wichí is poorly documented, and Central Pilcomayo Wichí remains entirely undescribed; (3) dialect differences are extensive but essentially unknown, in need of clarification; (4) the data are needed before adequate historical work on Matacoan and language contacts in the region can be undertaken; and (5) Wichí grammar has

¹ Wichí is commonly known in the literature as Mataco. However, the latter is a pejorative term to which native speakers object. The term Wichí is used since it is the term preferred by native speakers of the language.

much to offer the linguistic world –Wichí is an endangered language, already not being learned by the children in numerous communities

2.1 Community Request

La Paz (Misión La Paz) is a community of approximately 800 people on the Pilcomayo River in Salta, Argentina. Three Matacoan languages are spoken here: Chorote, Chulupí and Wichí. We (Grondona and Campbell) have been documenting Chorote and Chulupí since May 2003, primarily in La Paz, supported (2003-2006) by a grant from the Hans Rausing Endangered Languages Programme (HRELP) of SOAS. We have trained several Chorote and Chulupí consultants in language documentation and description, and began training several Wichí speakers at the community's request. In fact, the community has been concerned with cultural and linguistic loss and needs for preservation for some time.

The La Paz community, especially its leaders (Víctor González, Chief, Gallardo Alejo, Chief Secretary, and Laureano Segovia, former second chief) talk openly about worries for language and culture loss. They welcomed our project for Chorote and Chulupí, and at the same time expressed strong concern for documentation of Wichí, especially the dialect spoken there. Laureano Segovia (former second chief of La Paz, Wichí speaker) is dedicated to preserving Wichí and its cultural heritage; with no financial support and with inadequate recording equipment he has recorded oral traditions for 15 years across the region. He has the only indigenous language radio program in Argentina. In 2004, he asked us to digitize and archive his tapes (ca. 200). For this, Megan Zdrojkowski, graduate student, at her own expense, with minimal university aid (not part of the HRELP project), went to La Paz in the summer 2005; she began copying, transcription and translation of these tapes. Segovia's remaining tapes are part of this proposal; he is a major participant in the project.

In the summer 2005, leaders of La Paz (also leaders from other communities in the area) formally asked us to document Wichí and to train native speakers in language documentation, materials development (grammars, dictionaries, oral history and traditional tales, and literacy materials), and native language literacy and teaching. (See appended letter.) In addition, the Director of the La Paz school and the community asked us to develop materials for bilingual education in the three languages, where Wichí represents half of the children. Though not part of the HRELP project, we contributed time to developing materials, which were well received, not only in La Paz, but now other communities are asking for help. La Paz community leaders are willing to establish a language center for training native speakers who can take such programs to other communities, and can help with bilingual teaching materials for the schools and with programs for adult literacy in the indigenous languages.

2.2 Lack of documentation

Although Wichí is the indigenous language with the greatest number of speakers in Argentina, an accurate and reasonably representative description of the language, and especially the Central Pilcomayo dialect, is lacking. Most of the early work is too inaccurate to be of significant value. The earliest information is a short vocabulary list by d'Orbigny (1839), apparently given to him by Franciscan priests in a convent in Tarija, Bolivia. There is a brief description by Armelan (1883, cited by Tovar 1958:7), and one by Pelleschi (1896, 1897). There are also two "grammars" by Lafone Quevedo (1895, 1896), based on the works of two Franciscan priests, Massei and Remedi. Remedi (1904) gave a short vocabulary, and Lehmann-Nitsche (1926) offered a somewhat longer one. Hunt, an Anglican missionary, published on the Vejoz dialect (1913), a Wichí-Spanish Spanish-Wichi dictionary (1937), and a grammar (1940). These are useful, but neither extensive nor linguistically informed. Harrington (1948) wrote

briefly on Wichí morphology, based on Hunt. Tovar (1951) is a short account of possessive prefixes, and Tovar (1958) is a very brief description of Wichí sounds with a vocabulary list based on the Swadesh list. Tovar also published some texts with Spanish translations, which included cultural notes and a sketch of the language (Tovar 1981). Viñas Urquiza (1974) is a basic grammar with a short collection of texts and a small lexicon. Lunt (1999) is a brief textbook for Spanish speakers to learn Wichí. The information in these works, both individually and collectively, is not extensive.

There are various attempted treatments of the sound system: Najlis (1968) (reformulation in Najlis 1971) is a brief description of phonological characteristics of Wichí with reference to some dialect differences. There is a phonological description by Viñas Urquiza (1970), and a brief outline of the sounds of an eastern dialect of Wichí by Gerzenstein (1992). There is a phonological description of the Noctén dialect in Bolivia by Claesson (1994), and a brief treatment of some phonetic differences between the Bazanero and Vejoz dialects (Braunstein and Messineo 1990), primarily on vowels. Golluscio (1993) briefly described possessive noun phrases. There is a wordlist prepared for an intercontinental dictionary series edited by Ritchie Key (Braunstein 1989), and an outline of the sounds of the Bazanero dialect, with a brief description of locative and directional deixis by Braunstein (1993).

These materials cited do not represent an adequate description of Wichí. First, most relate only to one of the dialects, Vejoz (Western) (Hunt 1913, 1937, 1940; Najlis 1968, 1971; Tovar 1951, 1958, 1981; Viñas Urquiza 1970, 1974). Few touch on other dialects, and these provide only brief glimpses (Braunstein 1993, 1989; Braunstein and Messineo 1990; Claesson 1994; Gerzenstein 1992; Golluscio 1993, Lunt 1999). Claesson (1994) provides a more detailed description of the phonology of the Noctén dialect spoken in Bolivia – poorly analyzed (for example, indefensibly considering the glottalized consonants to be clusters of plain consonant and glottal stop). A comprehensive account of Wichí is very much needed, in particular one which incorporates information on dialects other than Vejoz (Western).

Second, most of these works provide only brief and fairly superficial accounts; they do not provide adequate descriptions of any component of the language, and give data that are inconsistent, incomplete and often outright confusing.

Third, many of these sources are outdated and inaccurate, from the nineteenth and early twentieth century. Although the information is valuable for historical investigation, it is not adequate. More recent works on Wichí are less problematic, but provide only limited analyses (Braunstein 1989, 1993; Gerzenstein 1992; Golluscio 1993; Najlis 1968, 1971, 1984), or are restricted to the western dialect (Viñas Urquiza 1970, 1974; Tovar 1958, 1981); the more extensive ones (Najlis 1984; Viñas Urquiza 1970, 1974; Tovar 1981) are still limited, and some (Lunt 1999) are brief and not linguistically informed.

Fourth, most of these sources are not available to the linguistic community, since most are out of print, usually from obscure publishers, and in Spanish so not so accessible to the broader linguistic world. Worse, they are not available to Wichí speakers and they do not meet their needs.

Fifth, no recorded data are widely available to linguists or to the public in general.

In sum, though some fourteen scholars have written on Wichí, we still only have brief and incomplete descriptions, with inconsistencies in the data and no reliable information on the dialect differences. Several features have been identified in the literature on Wichí which reveal major inconsistencies among the sources, problems in the data which need detailed study.

Although there is some on-going research on the language, it is of a different sort. Ana Fernández Garay received \$970 from FEL, to collect texts and begin a phonology study – no full-blown documentation intended. Lucía Golluscio, Beatriz Gualdieri, and Alejandra Vidal have a DOBES project, “Languages in danger, peoples in danger in Argentina: Mocoví, Tapiete, Vilela, and Wichí”. Its focus is not full documentation with grammar, dictionary, etc., but rather is aimed primarily at texts with ethnographic and linguistic lexical bases, in video documentaries. The orientation is different, and in any case the extreme dialect differences call for the work on Central Pilcomayo Wichí.

2.3 Lack of work on Wichí dialects

Dialects, especially endangered ones, often reveal features that are not found in mainstream varieties, with important insights into the patterning of language and language variation; these need to be documented in order to provide a full representation of a language (Schilling Estes and Wolfram 1999). There is no doubt that the dialect variation in Wichí is marked and essentially unknown. Speakers consistently report numerous dialects that are not mutually intelligible; indeed, varieties of Wichí frequently are considered separate languages, with names such as Güisnay, Noctén, Vejoz, Oriental (Abajeño, Arribeño), and Salteño (for one example, see Ethnologue www.ethnologue.com/show_country.asp?name=AR). It is crucial to determine the nature and status of these entities.

Most sources recognize distinct dialects of Wichí, though inconsistently and with little real information. Some claim only two, “Upriver” and “Downriver” dialects (Gerzenstein 1992, Golluscio 1993); however, these are terms used by all the communities to refer to their neighbors up or down stream, regardless of which dialects or languages they may speak. Tovar (1981) also distinguishes two principal dialects, (1) Northeastern or Güisnay and Pilcomayo (which includes Misión La Paz), and (2) Southwestern of Vejoz. Golluscio and Tomé (1993) also have two, but theirs are (1) the zone from Embarcación to the Pilcomayo and (2) the zone from Morillo (Salta) to Pozo del Tigre (Formosa). Others cite three dialects (Susnik 1961, Tovar 1958, 1981): (1) Vejoz, Western, (2) Noctén, northern, and (3) Güisnay, the rest of the Wichí linguistic area. Others follow Najlis’ (1968) three divisions: (1) Pilcomayo dialect, (2) Bermejo dialect, and (3) Vejoz. Still others claim five dialects (Najlis 1968, 1971, 1984), and more -- the numbers escalate: 22 Wichí “tribes” have been identified (Fabre 2005). Braunstein (1991-2, 1992-3, 1993) recognize 11 distinct Wichí groups: (1) Noctén or Oktenay [Northeast, Bolivia], (2) Pilcomayo Salteño [including Misión La Paz], (3) Vejoz (Wehwós) [including Tonono, Tartagal, Embarcación and the Bermejo river], (4) Wichí Montaraz [Alto de la Sierra, west central Rivadavia department to the border of Formosa], (5) Pilcomayo Formoseño riverine communities] or Güisnay, (6) Wichi Montaraz of Formosa and Salta [North Bermejo groups], (7) Southwest Wichí [between Rivadavia on the Bermejo and bordering Jujuy], (8) The Bermejo and Bermejito groups [Cunatas], (9) Bermejo groups in Chaco province [Eastern sub-Bermejo groups], (10) Bazanero [Ukutas], and (11) Gomeláy “Downriver”. These “ethnolinguistic” groups are equated vaguely with such dialect names as Pilcomayo, Montaraz (1), Montaraz (2) Bermejo Medio, Pilcomayo-Carmen, Wejwus (Vejoz), Pilcomayo Salteño [where Misión La Paz is located], Western Mataco-Bermejo, etc. (Fabre 2005).

Nevertheless, the sources do not state the basis for their dialect claims, and seem simply to repeat what earlier accounts have said. Only Najlis (1968, 1971) provided a brief description of some dialect traits but restricted to phonetic observations. Most of the accounts of Wichí currently available describe only the Vejoz dialect. This is a major problem and represents a

significant gap in the documentation . Wichí of the Central Pilcomayo is undescribed;, though distinct from the varieties which have received some (inadequate) attention.

2.4 Lack of data for comparative and historical studies

Wichí is one of four languages in the Matacoan (a.k.a. Mataco-Mataguayo) language family, with a divergence on the scale of Germanic. The only historical linguistic work on the language is Najlis' (1971) attempt to reconstruct an earlier stage of Wichí, "Pre-Mataco". The only work on the Matacoan family is Tovar's (1958) brief comparison of vocabulary items. Viegas Barros (1993), in a brief paper, proposes a relationship between the Matacoan and Guaicuruan families. However, he only suggests the relationship, stating further investigation is needed since the similarities could also be due to areal convergence. Tovar (1964a, 1964b) explored relationship among the Matacoan languages and a possible relationship with other languages of the area; however, his argument is sketchy with no systematic historical or comparative work. Viegas Barros (2002) looks in particular at the back fricatives of Proto-Matacoan. No other comparative Matacoan work has been done, and historical linguistic investigation of languages of this area and their linguistic contacts is badly needed. The data that will result from this project will allow us to test the possible genetic relationships among Matacoan languages and other languages of the region, and also to identify patterns of language contact which may account for some of the observed similarities.

2.5 Lack of trained Wichí speakers

It is important that documentation and description of endangered languages be carried out, but this tends to be in the hands of outsiders. Although there has been some work on Wichí, there has been no training of native speakers as language documenters, in language description or materials development. It is important not only that Central Wichí be documented but that the research team train native speakers in such work.

3. PROJECT OUTCOMES

The materials that will result from this project will address the needs identified above and will include the following (more detail below):

- (1) Two dictionaries, one for linguists and one for non-linguists
- (2) Two versions of a basic reference grammar, one for linguists and one for non-linguists
- (3) Two collections of morphologically analyzed texts, one for linguists and one for non-linguists
- (4) An analysis and classification of the major dialects of Wichí.
- (5) A website with linguistic and cultural information about the language and its speakers.
- (6) An online database with a lexicon and grammatical notes and analysis.
- (7) A corpus of archived recordings.
- (8) Training of native speakers in language documentation and description, materials development and literacy.
- (9) Literacy materials.

The dictionaries and grammars intended for linguists will be submitted to the American Indian Languages publication series at the University of Utah; appropriate Argentinian publishers will be sought for the grammars and dictionaries intended for non-linguists. The results of the dialect survey will be published in journal articles.

The lexicons, reference grammars, texts, databases, and archived recordings will do much to address the need for complete documentation of this endangered language. The data to be collected will not only document the language but are essential for comparative and historical studies of the S. Chaco region. Furthermore, the data will be widely disseminated within both the

academic and indigenous communities, providing the materials not only for later scholarly analyses, but also for community-based revitalization and maintenance efforts. The following sections discuss these outcomes in more detail.

3.1 Dictionaries

Two versions of a dictionary will be published: One is a more technical dictionary intended for linguists, trilingual in Wichí, English and Spanish, with preliminary grammar, dialect differences, and cultural notes. The second version is a bilingual Wichí-Spanish dictionary intended for non-linguists, primarily for members of the Wichí community and for Spanish speakers, especially those more closely involved with the Wichí communities. These dictionaries will contain at least 5,000 entries, and will include grammatical notes for lay persons, and cultural notes. The following information will be provided for each entry: linguistic form, morphosyntactic category, English/Spanish translation, a definition when appropriate or necessary, an example, paradigms (e.g. possessive and plural/collective forms for nouns, pronominal markers on verbs), if it is a morphologically-complex form, its morphological makeup will also be provided, and cultural notes when relevant. (The dictionaries' format and entries follow roughly the model suggested by Mosel 2002)

Entries will be derived from the electronic databases. The databases will contain the following information (fields):

Phonological form of the lexical item (including phonetic transcription in any unusual or difficult cases), plus alternative pronunciations when they occur

Spanish gloss, English gloss (including both regional and more standard Spanish where relevant)

Source (name of consultant or text from which obtained; name of person who collected it)

Date recorded, date entered in database, person who entered the form in the database

Part of speech (abbreviation to indicate grammatical category, e.g. n. = Noun, v. = Verb, etc.)

Morphological composition (identification of morphemes in morphologically complex entries)

Lexical cross-referencing notes (where relationships with other lexical items are noted)

Historical observations (where known: etymological information, historical connections, identity of loanwords, etc.)

Sociolinguistic and cultural notes (relevant observations about usage, stylistic level, cultural context or content, sociolinguistic status [e.g. elevated, colloquial, etc.]

Other comments (for examples, about doubts, difficulties, possible connections or errors)

Example sentences

3.2 Basic reference grammar

A basic reference grammar of Wichí will be published in two versions, in English and in Spanish, with phonological, morphological, syntactic and sociolinguistic information. These reference grammars will be useful both for linguistic research and for community-based teaching efforts. (A grammar written in Wichí for Wichí speakers and a more comprehensive grammar are planned for later phases of this long-term project.)

The aim for the grammars is clear, accessible presentation and reasonably comprehensive coverage. For more academic grammars, presentation will be modeled after some of the best reference grammars (e.g. Haspelmath 1993, van der Voort 2004); the best recommended practice will be followed (see for example Jeff Good <http://emeld.org/workshop/2004/jcgood-paper.html>). Grammatical features and constructions will be in numbered sections and nested subsections, in clear descriptive prose, illustrated with multiple examples (from texts wherever possible), with general, clear terminology (together with alternative terms by which they may be known, i.e. different ontologies). Each example will be given standard interlinear glossing and translation. Abundant charts will be used to exhibit intersecting and contrasting sets of phenomena, such as

pronominal affixes, tense-aspect markers, etc. Extensive cross-referencing will be used to draw attention to related phenomena elsewhere in the grammar. The table of contents and particularly the index will be comprehensive to aid in finding elements.

3.3 Collections of texts

Two versions of a collection of texts will be published. One is intended for linguists; each text will include the orthographic form, phonetic transcription, morpheme-by-morpheme analysis, morpheme-by-morpheme English and Spanish glosses, and free English and Spanish translations. The other version is for non-linguists, particularly members of the indigenous communities. It will include two sections: the first is primarily for native speakers of Wichí and provides the texts in orthographic form, with a free translation in Spanish; the second section is intended for Spanish speakers, particularly those in close contact with the indigenous communities, such as school teachers, and will provide more detailed information. It will include the texts in the most commonly used orthographic form, phonetic transcription, morpheme-by-morpheme breakdown, morpheme-by-morpheme Spanish glosses, and free Spanish translations.

3.4 Wichí dialect survey

The major variants of Wichí will be surveyed by applying a standard regional dialectology questionnaire (modeled on those used to determine the dialects of Guatemalan Mayan languages and the varieties of Chorote and Chulupí – these include a standard wordlist of 300 words selected to target known phonological variables and some morphological features, plus a short (5 minute) recorded text. Survey interviews will be conducted by the native speaker members of the research team in c. 30 locations across the Wichí territory, who will aid in transcription of the interview texts, while the PIs will analyze the patterns of variation (following standard traditional dialectological procedures, e.g. as laid out in Francis (1983:48-144). The results will be published in journal articles in both English and Spanish.

3.5 Website

A website will be designed for the project; it will provide general information about the project, the language, and its speakers (geographic location, number of speakers, a brief history of the people, and basic information about the language). It will also include visual aids (maps and photographs), and audio recordings. The website is intended for linguists and for the general public; users will be able to interact with it in Spanish or English, and we expect to be able to provide most of the information in Wichí as well. The website will also contain a link to the lexical databases and to the archived audio and audiovisual recordings. LinguistList has agreed to provide server space and to host this website; the CAIL server at the University of Utah will also provide space.

3.6 Online lexical databases

An online lexical database will be created, providing grammatical notes when relevant. This database will use XML markup and will be designed by Grondona, Campbell and the graduate student research assistant, with technical support provided by LinguistList and the E-MELD project, an NSF funded project for digitizing linguistic data on endangered languages and making it accessible on the world-wide-web. The database will then be integrated into the set of databases in the E-MELD project. The integrated databases will be accessible online, and will allow for multiple, cross-linguistic searches by the user. The user will be able to interact with the interface in Spanish, or English.

3.7 Archiving of corpora

Field notes and original transcriptions by native speakers will be scanned and archived at CAIL (Center for American Indian Languages, U. of Utah), together with original XML files of all databases and documents produced in this project. A corpus of audiovisual and audio recordings will be collected. The corpora will be archived at CAIL and in AILLA (Archive of Indigenous Languages of Latin America, U. of Texas at Austin) at the completion of this project, and will be accompanied by transcriptions of the data, detailed morphological analyses, and translations (these will be annotated using ELAN, a tool developed by the Max Planck Institute), as well as metadata files with information for each recording. All the text mark-up will be XML format. Computer files of the video recordings will be created and archived with their metadata, transcriptions and translations.

The results of this project will be disseminated electronically to scholars and to the public as described above. LinguistList and the E-MELD Project (<http://emeld.org>) have agreed to provide server space, software tools, and technical assistance for the electronic databases and webpages.

For the printed materials, The University of Buenos Aires has expressed a possible interest in publishing versions in Spanish (intended for the community members and local linguists) and we will negotiate further with them on this when the material is ready to be presented. Additionally, printed results will be disseminated in the form of:

(i) Conference papers: Each year the PIs will present results from their work in linguistics conferences, including the Annual meeting of the Society for the Study of Indigenous Languages of the Americas, the Linguistic Society of America, the Association for Linguistic Typology, plus at annual meetings of professional linguistic organizations in Latin America.

(ii) Journal Articles: The results will be submitted for publication to journals, including the *International Journal of American Linguistics*, *Anthropological Linguistics*, the *Revista LIAMES* (Linguas Indígenas Americanas), and the *Cadernos de Estudos Linguísticos* published by the University of Campinas, and *DELTA*. Historical linguistic work (not primarily part of this project, but for which the materials collected here will be used) will be submitted to *Diachronica* and other journals, and papers on the theoretically more significant findings are anticipated for *Language* and the *Journal of Typology*.

3.8 Training of native speakers

The training of native speakers and their collaboration in this project is extremely significant. This participation of community members ensures much more can be done, and permits the collection of unique materials which would not be accessible to scholars from outside. The Center for Indigenous Languages and Cultures of La Paz recommended by the La Paz community leaders will be created. Two types of training of community members will be provided: (1) technical training in language documentation, description, analysis and materials development, and (2) native-language literacy.

3.8.1 The Center for Indigenous Languages and Cultures of La Paz

As a result of the community's interest in their own languages and cultures, the Centro de Lenguas y Culturas Aborígenes de La Paz (CLCA La Paz --*Center for Indigenous Languages and Cultures of La Paz*) is being created, to be housed in the former health clinic building. (Community leaders are currently negotiating with provincial authorities the transfer of the building.) CLCA La Paz provides the workspace where community researchers can work on transcription, translation, data input, and materials development. It will house a library with materials currently available on the languages and cultures of the area, an archive with copies of all recordings and other materials produced by the project, two 'classrooms' for workshops, and

a ‘recordings lab’ with equipment for transcription. It will also provide short-term accommodation for members of other communities who come to the center for training.

3.8.2 Technical Training

Since 2003, we (Grondona and Campbell) have successfully trained Chorote and Chulupí speakers in the use of recording equipment (both audio and video), collection of naturally-occurring speech (interviews of other community members particularly elders, accounts of culturally significant tasks such as honey gathering, the use of medicinal plants, crafting musical instruments, local history, etc.), elicitation from other native speakers using linguistic questionnaires, transcription and translation of audio-recordings and elicited data (using the International Phonetic Alphabet). In 2004-2005, following the community’s request, we began training several Wichí speakers (Laureano Segovia, Eliseo Alejo, Valeriana Yaque, Amancio Martínez) in transcription, data collection and materials development. In fact, Yaque is in the process of transcribing six audio-recordings –ca. 75 minutes each—of three older Wichí speakers interviewed by Segovia between 2004 and 2005. In 2005 Segovia and Grondona were awarded a small grant from the Endangered Language Fund that will allow Segovia to collect more data from old speakers in the area.

Grondona and Campbell, with the aid of a graduate student will formalize the training of native speakers as language documenters and researchers. This training will include:

- a) use of recording equipment (both audio and video)
- b) methodology for elicitation of linguistic data from other native speakers using linguistic questionnaires
- c) methodology for collection of naturally-occurring speech (interviews of other Wichí speakers particularly elders, accounts of culturally significant tasks such as honey collection, the use of medicinal plants, crafting musical instruments, local history, etc.),
- d) transcription of audio-recordings and elicited data using the International Phonetic Alphabet
- e) linguistic analysis
- f) design and development of written materials for community use and for literacy programs, both at the school and in community-lead literacy programs

This project will allow us (Grondona and Campbell) to formalize and continue the training of native speakers as language documenters and researchers, and to expand the collection of oral history and traditional tales from the Wichí speakers in the Central Pilcomayo area.

3.8.3 Adult Literacy in the Native Languages

Following the community’s request, this project will provide native language literacy classes for community members, particularly adults. For this, Grondona, Campbell and a graduate student will train project participants in literacy methodology and work with them in the organization, planning and development of materials for these classes. In addition, two one-week workshops will be offered every year for Wichí speakers from other communities in the area interested in providing literacy classes in their own communities. These workshops will be offered by Wichí speakers working closely with Grondona, Campbell and the graduate student. Community researchers will then provide assistance for workshop participants throughout the year when necessary, and will travel to other communities to provide training and to consult on site.

3.9 Literacy materials

Community Researchers will be trained in the design and development of native-literacy materials. A collection of literacy materials both for children and adults will be developed and

will be used in the schools and by community literacy programs for both adults and children. These will also be distributed to other communities in the area, and assistance will be provided to those who want to adapt the materials to their local dialect(s).

4. PLAN OF WORK

4.1 Methodology

Work to be undertaken in this project includes: (1) fieldwork, i.e. the collection of data from native speakers of the language in the Central Pilcomayo region; (2) analysis and documentation of the language; (3) training of native speakers of Wichí in language documentation, linguistic analysis and materials development, (4) write up and dissemination to the linguists and to Wichí communities; (5) materials development; and (6) determination of the nature and range of Wichí dialects. The work will be carried out by a team consisting of two linguists, one graduate student and at least 5 trained community researchers.

4.1.1 Fieldwork

The fieldwork will be carried out using traditional field methods for data collection: elicitation of data; audio and audiovisual recording of elicitation sessions and of naturally occurring speech (narratives, including oral history, traditional tales, etc., and dialogue); and transcription and analysis of these data. The naturally occurring speech will be collected by the Community Researchers, all native speakers of Wichí to ensure the “naturalness” of the data and make it as authentic as possible. Native speakers will also be employed as language consultants. Linguistic questionnaires (lexical and morphosyntactic) will be designed and administered. One will record personal/social information from each language consultant, information that will accompany the recordings for archiving (but note that the individuals’ privacy will be strictly protected). The second is a lexical questionnaire of 4,000-5,000 words especially designed by Grondona and Campbell for Indian languages of the southern Chaco region, based on Kaufman and Berlin’s (1987) questionnaire and Kaufman’s (1967) questionnaire for Mayan and other Mesoamerican languages. Various sources on native flora and fauna will be used to provide relevant information on species typical of this area (de Luján Gutiérrez 1993; Erize 1996, 1997; Laurence 2001, Olrog 1984), and visual aids from these sources and from Bouquiaux and Thomas (1992) will be incorporated. Experience elsewhere with these questionnaires shows that using them is an effective and rapid way of obtaining the foundations of a bilingual dictionary with 4,000 to 5,000 entries (though to be thoroughly checked and supplemented with findings in texts and additional elicitation, particularly to guarantee accuracy of the glosses; for example, a number of the recent dictionaries of Mayan languages were begun in this way.) A third questionnaire will be developed for eliciting grammatical information drawing from Grondona and Campbell’s work with other Matacoan languages and using other commonly used sources such as Comrie and Smith (1977), Bouquiaux and Thomas (1992), the first part of the questionnaire by Kaufman & Berlin (1987), and Payne (1997).

Each researcher will use the same questionnaires, which will be fine-tuned to the individual consultant, but which will ensure uniformity in the data collected in all varieties, particularly for comparative and historical studies. Each elicitation session will be recorded using an Edirol R-1 digital recorder and an AT831b microphone, and this information will be transcribed. At the end of each fieldwork session, a preliminary analysis of the information elicited will be made, and the data entered into an electronic database. Excel will be used to database the field notes and the database will then be exported as an XML file.

Trained Community Researchers will collect naturally occurring speech and communicative events: narratives which include oral history, traditional tales, descriptions of every day events and tasks, and dialogues thus providing audiovisual documentation and a permanent record.. The material will be collected from other native speakers other than the researcher, with special care taken to recruit those with less knowledge of Spanish. A Canon Elura85 videocamera and an external microphone (AT Pro70 or Shure SM50 as appropriate) will be used for audio-recordings. For practical reasons—mainly climate, living conditions (humidity, heat and dust) and ease of use—the Community Researchers will use Marantz PMD-222 recorders and AT Pro70 Lavalier microphones. At least three copies of each recording will be made from the masters: one to give back to the data provider, one for the transcriber to work with, and one for archiving at the CLCA La Paz. The masters will then be digitized and archived at CAIL and AILLA. (This equipment and methodology has been used for documentation of Chorote and Chulupí by native speakers in 2004-2005 and has proved very successful.) Appropriate rights and permissions will be secured from data providers. (We do not foresee any problems with this, since speakers in these communities have been very open to disseminating their work.) Information about each communicative event recorded in the field (audio and video recordings) will be provided in the metadata file developed for this project based on the International Standards for Language Engineering Metadata Initiative (IMDI). This will provide unified information for all the data recorded and will ensure that all the relevant metadata about each recording is systematically and appropriately documented. Each utterance in the text will be morphologically analyzed. Each text will be transcribed by a native speaker other than the narrator, and translated. These texts will provide crucial information for the description and analysis of morphological and syntactic structures of the languages and on lexical items not included in the questionnaires. The videocamera recording of communicative events will provide audiovisual data and documentation. The team will make use of ELAN, an annotating tool developed by the Max Planck Institute (<http://www.mpi.nl/tools/elan.html>), to analyze the audio and audiovisual recordings and align the analyzed and translated text with the audio or audiovisual output. The corpus collected in the field will be archived in CAIL and AILLA.

The dialect survey of Wichí involves similar fieldwork, but will be conducted by the native speaker members of the research team in locations across the Wichí territory. They will help with transcription of the interview texts, and the PIs will analyze the patterns of variation using standard dialectological procedures (see, for example, Francis (1983:48-144). A standard regional dialectology questionnaire modeled on the dialect questionnaire for Guatemalan Mayan languages (and informed by our investigation of Chorote and Chulupí dialects) will be administered; it is composed of a standard wordlist of 300 words, selected to target known phonological variables and some morphological features, plus a short (5 minute) recorded text of free speech. Some 30 dialect locations will be investigated in this way.

4.1.3 Analysis, documentation and archiving

More in-depth analysis will be undertaken at each researcher's home base, following preliminary analysis and documentation in the field. This involves detailed morphological analysis of the data collected. This information will be entered in the lexical database of the project designed to provide a unified framework for the researchers. This will ensure consistency; will facilitate the sharing of information among the researchers, and will facilitate later phases of the long-term project (for example, comparative research). Grammatical analysis will also be undertaken, and entered appropriately in its own database.

4.1.4 Dissemination

The results of the project will be disseminated both electronically and in published form, as described in section 3 above.

4.1.5 Training of native speakers and materials development

Training of native speakers of Wichí in language documentation, in the practice of linguistics and in materials development will be carried out in La Paz by Grondona, Campbell and Zdrojkowski during their field seasons through one-on-one sessions and regular workshops. Written materials will be developed primarily by Community researchers throughout the year.

4.2 Project Participants

This project will be carried out by two principal investigators (Grondona and Campbell), one linguistics graduate student (Zdrojkowski), and a team of 'Community Researchers'.

Grondona, Campbell and Zdrojkowski will conduct fieldwork for 6-8 weeks each year in the Central Pilcomayo area, working with language consultants. They will train community researchers in language documentation, description and materials development (See Section 3.7), offer literacy classes and workshops. Grondona (PI) has extensive fieldwork experience in the Chaco and has worked extensively with languages of this area, mainly Guaycuruan and Matacoan languages. Campbell, has done extensive fieldwork in Latin America, and has longterm experience with descriptive and historical linguistics. We (Grondona and Campbell) have been working on Chorote and Chulupí in the Pilcomayo area since 2003 and have excellent relations with the communities in the area and their leaders. We have worked closely with indigenous communities in efforts to revitalize and preserve the languages, in the development of instructional materials and in basic linguistic training of native speakers. Grondona will organize and coordinate the team's work, process data for dissemination and archiving, administer the project, and develop websites and databases. She will be assisted by a graduate student in the development of the webpages and databases, data entry, analysis and verification, and the processing of audio and audiovisual materials for archiving. Zdrojkowski is a graduate student at Eastern Michigan University who conducted fieldwork on Wichí in the summer 2005. The community has requested that she return to continue her work and assist in the documentation of the language. She will be supervised and mentored by Grondona and Campbell.

A team of Community Researchers are a very significant part of this project. The following Wichí speakers are already committed to the project: Laureano Segovia, Amancio Martínez, Valeriana Yaque, Eliseo Alejo, and Franco Bravo. They will be main language consultants for Grondona, Campbell and Zdrojkowski for 6-8 weeks each year and will assist in eliciting linguistic data from other Wichí speakers. Segovia will continue collecting texts, with better equipment, and will participate in the training of other younger speakers. Because he is well-known through his radio show, he has access to old speakers across the region. Since his interviews are in Wichí, by an insider to the culture, he has access to cultural materials no other could obtain – priceless. All of the Community Researchers will work throughout the year collecting data and transcribing recordings: they will interview other speakers of Wichí and record other samples of natural speech such as dialogues, traditional tales and oral history. They will transcribe audio recordings and provide morphological analysis and translation of recorded speech. They will also serve as instructors in the language workshops (under the guidance of Grondona, Campbell & Zdrojkowski). Each will be paid monthly (August-April) and weekly May-July during Grondona, Campbell and Zdrojkowski's fieldwork. Other community members and Wichí speakers will be interviewed and recorded (audio and videotaped), and will be compensated for their participation in this project.

4.3 Timeline

C=Campbell, G=Grondona, Z=Zdrojkowski, CR=Community Researchers

YEAR 1	YEAR 2	YEAR 3
<p>A. Fieldwork (1) Elicitation of at least 2,000 words in the lexical questionnaire, basic morphology and grammar (C, G, Z) (2) Recording of at least 20 hours of natural speech (each CR). (CR) (3) Preliminary dialect survey of Wichí communities in the area. (C, G, Z, CR)</p> <p>B. Analysis (1) In-depth analysis of at least 3 texts each (C, G, Z) (2) Phonological description of the language (phonetic and phonemic inventory of sounds, phonological processes, and morphophonemic alternations) (C, G, Z) (3) Basic sketch of grammatical structures, including (preliminary description of morphological processes (e.g. valency changes, derivation) (C, G, Z) (4) 1 formal meeting of research team (C, G, Z, CR) (5) Identification of issues to be addressed in future fieldwork (6) Transcription of at least 10hrs of recording each CR (CR)</p> <p>C. Archiving (1) Input of fieldnotes, metadata and other data into database and preparation of Stage I database (C, G, Z) (2) Digitization of audio & videorecordings (C, G, Z) (3) Scanning of fieldnotes & transcribed texts (C, G, Z) (4) Preliminary outline for dictionaries (C, G, Z)</p> <p>D. Training (1) individual and group training of CR (in documentation, description & materials development) (C, G, Z) (2) 2 workshops for native speakers from other communities (C, G, Z, CR) (3) Literacy classes for native speakers (C, G, Z, CR)</p> <p>E. Materials Development (1) Design, development and distribution of at least one packet of instructional materials for basic level literacy</p> <p>F. Dissemination (C, G, Z) (1) Presentation of aspects of the work at</p>	<p>A. Fieldwork (1) Elicitation of c. 2,000 additional words through lexical questionnaires. (C, G, Z) (2) Recording of at least 20 hours of natural speech (each CR). (of more than one genre). (CR) (3) Continue dialect survey of Wichí communities in the area. (C, G, Z, CR)</p> <p>B. Analysis (1) In-depth analysis of at least 3 texts (C, G, Z) (2) Revise & update phonological descriptions from Year 1 (C, G, Z) (3) Update and in-depth description of basic grammatical structures from Year 1. (C, G, Z) (4) Preliminary description of more complex structures (e.g. relativization, subordination, coordination, etc.) (C, G, Z) (5) In-depth morphosyntactic analysis of morphemes (C, G, Z) (6) Preliminary description of varieties surveyed in various communities. (C, G, Z) (7) Further identification of dialect differences and traits (C, G, Z) (8) 1 formal meeting of researchers (C, G, Z, CR) (9) Identification of issues to be addressed in Year 3 (C, G, Z) (10) Transcription of at least 10hrs of recording each CR (CR) (11) Edit dictionary from Year 1 (C, G, Z, CR)</p> <p>C. Archiving (1) Input of fieldnotes, metadata and other data into database and preparation of Stage II database (C, G, Z) (2) Digitization of audio & videorecordings (C, G, Z) (3) Scanning of field notes & transcribed texts (C, G, Z) (4) Refine outline for dictionaries (C, G, Z)</p> <p>D. Training (1) individual and group training of CR (C, G, Z) (2) 2 workshops for native speakers from other communities (C, G, Z, CR) (3) Literacy classes for native speakers</p>	<p>A. Fieldwork (1) Completion of lexical questionnaire; check and verify lexical entries from questionnaire and texts. (C, G, Z) (3) Check and revise data from all communities. (C, G, Z, CR) (4) Recording of at least 20 hours of natural speech (each CR). (of more than one genre). (CR) (5) Complete dialect survey, check data, revise, prepare for publication (C, G, Z, CR)</p> <p>B. Analysis (1) In-depth analysis of texts, checking for accuracy (C, G, Z) (2) Completion of phonological descriptions (C, G, Z) (3) Completion of syntactic survey and description (C, G, Z) (4) Completion of in-depth morphosyntactic analysis (C, G, Z) (5) Final identification, description, and write up of dialectal differences – major statement of Wichí dialects and their classification (C, G, Z) (6) Last formal meeting of researchers (C, G, Z, CR) (7) Edit dictionary from Year 2 (C, G, Z, CR) (8) Resolution of remaining problems (C, G, Z, CR)</p> <p>C. Archiving (1) Input of field notes, metadata and other data into database and completion of database (C, G, Z) (2) Digitization of audio & videorecordings (C, G, Z) (3) Scanning of fieldnotes & transcribed texts (C, G, Z) (4) Refine outline for dictionaries (C, G, Z)</p> <p>D. Training (1) individual and group training of CR (C, G, Z) (2) 2 workshops for native speakers from other communities (C, G, Z, CR) (3) Literacy classes for native speakers (C, G, Z, CR)</p> <p>E. Materials Development (1) Testing and refinement of literacy materials from Year 2 (C, G, Z, CR) (2) Design, development and</p>

<p>2 linguistic conferences (2) Establishment of website (3) Design and development of online database</p>	<p><i>(C, G, Z, CR)</i> E. Materials Development (1) Testing and refinement of literacy materials from Year 1 <i>(C, G, Z, CR)</i> (2) Design, development and distribution of at least one packet of instructional materials for intermediate level literacy <i>(C, G, Z, CR)</i> F. Dissemination <i>(C, G, Z)</i> (1) Presentation of work at linguistic conferences (2) Preparation of articles to be submitted for publication (3) Refinement of website (4) Development of online database (5) Begin preparing dictionaries in preliminary form</p>	<p>distribution of at least one packet of instructional materials for upper level literacy <i>(C, G, Z, CR)</i> F. Dissemination <i>(C, G, Z)</i> (1) Presentation of work at linguistic conferences (2) Preparation of articles to be submitted for publication, including results of dialectology survey (3) Refinement of website (4) Development and refinement of online database (5) Complete and write up for publication of dictionaries, text collections and basic reference grammars; preparation for publication major statement of Wichí dialects and their classification (6) Check for accuracy in all the work produced (7) Publication of the dictionaries and text collections (reasonably soon after the closing of the grant).</p>
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5. RESULTS OF PRIOR NSF SUPPORT

Campbell received one NSF grant, “Xinkan, Pipil, and Mocho’: Bringing Three Endangered Language Documentation Projects to Completion” (PIs Campbell, Kaufman, Martin) (NSF 0513449). This research is well underway, with teams of native speakers and community members recording and entering data on Pipil [Nahuate] and two Xinkan languages in their communities, and with extensive data entry, digitization, and analysis underway at the University of Utah, undertaken by Campbell and a team of graduate and undergraduate students. Work on Mocho’ and Tuzanteco is also beginning now.

Gronona has received two NSF grants: (1) DATA: Dena’ina Archiving, Training, and Access (OPP-0326805), a project to digitize legacy material on the Dena’ina language in the Alaska Native Language Center and to institute a small student exchange program focused on the use of digital technologies in documentary linguistics. To date on the DATA project, a metadata database with web interfaces has been created, 75 Dena’ina texts have been scanned and catalogued, over 10 other Dena’ina texts have been time-aligned with digital audio, and an interactive website has been designed for the Dena’ina community. Native speakers have been trained in the use of technology for language documentation and learning at annual workshops. (2) LL-MAP: Language and Location—A Map Annotation Project was awarded in August 2005 and work will begin in January 2006. This project will exploit the power of a distributed GIS to dynamically integrate language information with extensive data from the physical and social sciences.

6. PROJECT SIGNIFICANCE

6.1 Intellectual Merit

This research describes and documents a significant endangered but as yet poorly known language, a comprehensive study of Central Pilcomayo Wichí. The products will include two dictionaries (a more technical one for linguists and a more practical one for non-linguists and community members), two grammars (again a more technical and a more practical one), two

collections of texts, and extensive recordings made available on-line. The project is urgent because of (1) the community's sense of language loss and (2) the importance of taking advantage of current circumstances: community motivation, trained native speaker participation, access to rich cultural materials, with the research infrastructure in place. The results will be made readily available to linguists, native communities, and the public through academic publications, conference presentations, a website and online databases, and archiving of all materials at CAIL and AILLA. The results will contribute to linguistic scholarship in several ways, furthering (i) the typological understanding of languages; (ii) Wichí offers rich typological traits that can contribute to linguistics generally, such as active-stative alignment based on unusual parameters, animal possessive classifiers (different functions from other Matacoan language), two unusual bilabial fricatives, variant lateral fricatives, spontaneous nasalization with /h/, aspiration which has confounded descriptions, and multilingualism of a unique sort (frequent linguistic exogamy without language shift among spouses); (iii) historical linguistics, providing material needed for the study of language change, language contact, and possible genetic relationships among languages of this part of South America, where little is known and information is needed; and (iv) extremely little dialectology has been done with South American indigenous languages, and this research may serve as a model.

The linguistic training component of the project is also significant, both for graduate students involved and especially for the native speaker participants in the research and in community-based native language programs for both children and adults.

6.2 Broader Impacts

In ensuring the documentation and description of Wichí, this project will benefit, not only linguistics but also other disciplines which depend on language-related material for their research. Moreover, it will benefit the Wichí communities in multiple ways. First, it will be the first project carried out in Argentina with this level of support from the communities and their leaders, and in such close collaboration between researchers and community members and can therefore serve as a model for other projects. Second, it directly addresses the request of the native speaker community by producing resources they very much need: literacy materials and other printed materials (dictionaries, basic grammars, and collections of texts) which will be used in language maintenance efforts and native-language literacy classes for all members of the community. Third, in training community members in language documentation, the practice of linguistics, and materials development and in establishing the CLCA La Paz, it will create the infrastructure and provide the knowledge for this kind of work to be continued once this 3-year project is over and for this knowledge to be passed on to other speakers interested in this kind of work. In addition, this project will provide training of graduate students and involves minorities/underrepresented groups: at least two women (one linguist and one graduate student, and indigenous researchers (speakers of Wichí). It will also benefit the general public interested in cultural diversity, by enhancing accessibility to texts which are of cultural, as well as linguistic, significance.

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