"So that we don't lose words:" Reconstructing a Kaqchikel medical lexicon

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Abstract

Background/Objectives: An important characteristic of an indigenous language's vitality is the number of domains in which it is spoken. In our work among Kaqchikel-speaking communities in Guatemala, we have found that most speakers are acutely aware of this phenomenon. In collaborative work designed specifically to expand Maya-language medical coverage in highland communities, it is not at all uncommon to hear the work promoted among indigenous speakers as, "so that we do not lose words." In a semantic domain as demanding of precision as medicine, reintroducing Kaqchikel lexical items, or creating neologisms to cover missing concepts, is a complex matter, which involves many iterations and requires the participation of numerous actors, including native speakers, linguists, and medical professionals. *Methodology/Findings:* Here we describe the collaborative process we have utilized to develop a comprehensive, technically-precise Kaqchikel medical vocabulary . In particular, we focus on the dynamics of deliberating over word choices: We provide examples of attempts to draw on various sources, including colonial sources and related Mayan languages, as well as attempts to approximate or translate culturally foreign Western medical concepts. Additionally, we focus on the process of field-testing novel lexical items in the context of dialogue with ethnomedical providers and in medical consultations. *Significance/Future Research:* Our findings are unique in their emphasis on the multidisciplinary nature of such domain-expanding language work, which requires the input not only of

language and education specialists, but also domain-specialists, in this case medical providers. Additionally our experiences field-testing lexical items in the real-world context of medical consultation sheds some light on the dynamics of acceptance or rejection of such novel items by a language community.

Introduction

> Interviewer: "Achike roma nawajo' aqomanela' yecho'n pa qachab'äl?" *Why do you want doctors who speak Kaqchikel?*
>
> Respondent: "Ri jun chi ri jun yawa' jeb'ël nutzijoj pe achike ri q'axomal ruchajin. Ja ri jun. Jukan chik k'in jub'a' nqatzolij ronojel ri…ri jun chik chi ma nqamestaj ta ri qatzij." *First so that the patient can communicate easily about what is wrong. That is the first thing. Second, maybe so that we can recover everything…the second thing is so that we don't forget our words* (Henderson, 2006).

This quotation marks the start of our thinking about the intersections between language maintenance and revitalization work and medicine. Guatemala is a majority indigenous nation, and most of the population speaks one of more than 20 distinct Mayan languages as a first language. Despite this fact, access to health care and health services in Mayan languages is virtually nonexistent. This largely reflects the fact that, for indigenous persons, access to professional education remains extraordinarily restricted, and therefore the number of trained medical professionals proficient in indigenous languages is limited. Additionally, attitudes toward indigenous languages among non-indigenous (ladino) providers remain dismissive (Hinojosa, 2004).

This fact also serves to underscore the fact that, despite decades of activism (England, 2003 and the promises of the Peace Accords to elevate the national status of indigenous languages (Helmberger,

2006), use of these languages remain extremely limited in important domains of civic life, especially health, government, and popular media (Lewis, 1994). In our introductory quotation, our respondent first identifies the need for medical care in Kaqchikel as a matter of practical concern—patients should be able to talk to and be understood by their physicians. However, she quickly moves on to identify a second concern, that of language maintenance and vitality: "so that we don't forget our words." Restricted domains of usage do not bode well for a language's maintenance (Crystal, 2000), a fact which, as our quotation indicates, is not lost on Maya speakers.

This paper details our involvement in community-based attempts to develop Mayan language health care services and the various lexicographic and discursive strategies we have explored. Most of these experiences were in the context of our roles with Wuqu' Kawoq, an NGO working primarily with Kaqchikel speakers in the departments of Sacatepéquez, Chimaltenango, and Suchitepéquez. Like the structure and foci of out health care initiatives, our language policy has grown directly our of conversations and collaborations with community members. The way we speak today is a direct result of people's reactions to how we spoke when we first started working in these communities. Similarly, the areas in which we have focused our language revitalization efforts have been those where there is significant community interest besides language maintenance, for example, in reclaiming medicinal plant knowledge and better understand those diseases most common in the community.

Different Models: Revitalization vs. Providing Care

Language revitalization schemes in Guatemala have historically been headed by linguists and educators (England, 2003). And unlike medicine, there has been a concerted effort to train native speakers of Mayan languages in linguistics so they can lead language standardization and maintenance efforts. As a result, advances have been made in the institution of bilingual education, especially at the primary school level, and the development and standardization of grammars and publication of dictionaries. One important strategy utilized in these schemes has been the promotion of a "pure speech"

ideology—i.e., attempting to avoid code switching when speaking a Mayan language and to develop neologisms to replace Spanish loan words.

One of the inevitable consequences of the emphasis on purist ideology is a tendency to open up a gap between the "specialist" activists, leaders, and linguists who promote language revitalization activities and the less-well educated adult speakers whom they seek to address (Collins, 2005). As occurs in other linguistic contexts as well (Bielenberg, 1999; Kamana and Wilson, 1996), this has the potential to lead to resentment among native speakers that the language they hear promoted is not in fact the one they speak. Alternatively, it may provoke feelings of shame. Our community collaborators repeatedly comment to us that they are embarrassed whenever they hear a Maya leader or (worse yet) foreign anthropologist use Kaqchikel words that they themselves do not know.

Such dynamics, while perhaps unavoidable and even sometimes acceptable in a strict revitalization context, cannot to be countenanced in the examination room. Here, an emphasis on intelligibility is paramount; as our introductory quotation illustrates, secondary concerns about language maintenance are always in view but do not rise to the level of primary concern—namely, that of being able to communicate with a health care provider about what ails you. Additionally, any embarrassment or hesitation caused by a provider's use of lexical items very unfamiliar to the patient threatens to undermine the therapeutic relationship.

These reflections have led us to a modified view of the standard language revitalization paradigm as it relates to the practice of medicine. In the first place, we reason that, because of the near complete lack of Mayan language medical services, the use of *any* Kaqchikel in a medical context is, by definition, revitalization of the language by expansion of domains of usage. At the same time, since both our own experiences as well as the published work of others (Collins, 2005; Barrett, 2008) show that codeswitching among Maya speakers is nearly universal especially among the elderly or less-well educated (i.e., those who comprise the bulk of any patient population), we conclude that the avoidance of codeswitching on the part of the practioner can actually impair the medical interview.

As a result, we have found it necessary in some contexts to abandon even many of the most generally successful neologisms. For example, the revival of Maya mathematics and associated lexical items (Closs, 1996) has been one of the most successful and widely-accepted campaigns of the revitalization movement. However, in the Kaqchikel dialect from one of our clinical sites, Pa K'in (Santiago Sacatepéquez), speakers only count to four before codeswitching: *jun, ka'i', oxi', kaji', cinco, seis*…. This is not a matter of preference; numbers above 4 are simply no longer a part of the language, except for a few bilingual educators or spiritual leaders (*ajq'ija'*) who have made a conscious effort to relearn them. As a result, we have had to discourage the use of Kaqchikel numerology in clinical activities *for the sake of intelligibility*.

Alienation of Adult Speakers and Discursive Strategies

As we have been discussing so far, attempts to introduce language revitalization activities into contexts which have other distinct, primary goals (in our case, medical care) impose some interesting restrictions on the language agenda. Although the vast majority of the medical consultations we have participated in occur in Mayan languages, this is, crucially, by patient choice alone. If patients did not feel more comfortable speaking to our providers in Mayan languages, they would speak Spanish. This means that both our medical and revitalization missions fail if we alienate patients by unfamiliar neologisms or standardized forms not present in the local dialect. We have discovered, however, several highly successful methods for introducing unfamiliar forms in a way that does not alienate speakers in a medical examination context. These strategies, though, require deep knowledge of dialect differences and linguistic attitudes, which only highlights the necessity of collaboration between linguists, anthropologists, and medical personnel. The approach we want to consider here is doing standardization from a localist perspective; that is, teaching standardized forms as belonging to other dialects. Before considering why this strategy is important, we first want to consider how our work fits into the wider language revitalization climate.

Since we are forced to speak the local dialect, there is an immediate tension between our work and the principles drive much of the linguistic work in Guatemala, which strives for standardization. For example, Rodríguez Guaján's (1994) pedagogical grammar states that its goal is the development of the language at the global and not the local level. The strong unificationalist ideology in part grows out of growing Maya critique of outside linguists who in the past have emphasized the differences between various languages and dialects of languages.. The feeling is that this drives a wedge between groups and prevents a unified stance on language issues. Moreover, it dilutes already scarce resources because all materials have to be reproduced for every major dialect. At the same time, Mayas have been very reluctant to propose standards that favor a local dialect over others (England, 2002).

Kaqchikel is not free from the sort of dialect variation that leads to tension between the desire for unification and the fear of privileging specific variants. The various dialects of Kaqchikel have nontrivial differences in their grammars and lexicons. In terms of medical vocabulary, if two dialects have the same proportion of Kaqchikel to Spanish lexical items, it is not certain that they will have retained the same Kaqchikel words. Moreover, any two dialects might use different Kaqchikel words where they have retained Kaqchikel lexical items. In establishing a written standard, the approach has been to take the union of all the Kaqchikel vocabularies of the various dialects (England, 2003). Importantly, we cannot freely use this standardized lexicon in the examination room. This means that in practice we have to come down on the side of localization, even if this means using Spanish vocabulary.

The approach we have taken is that when a dialect is missing a lexical item, we use the Spanish term for clarity, but then if we have to repeat or summarize, we can freely mix Spanish and Kaqchikel synonyms, especially with some explanation. It is important to note, though, that we cannot employ this strategy for any lexical item in any context. Otherwise, we risk alienating our patients through pedantry. That being said, we have found a way to introduce nonlocal medical vocabulary in an examination setting without alienating our patients. The strategy is to present the words from a localist perspective. That is, when presenting a nonlocal Kaqchikel alternative to a Spanish word, we always present it as a vocabulary item from another *dialect* of Kaqchikel. Speakers are very much aware that the various dialects are

different, they accept this, and they are interested to know how other people talk. When we present native vocabulary in this way, speakers don't feel like they don't speak Kaqchikel; they just feel like they don't speak the Kaqchikel of town X, but they knew that anyway. The alternative of presenting standardized Kaqchikel without the dialectal caveat very often provokes a reaction of shame or embarrassment because it makes people feel they don't speak their language well.

By approaching language teaching in a medical context from a localist perspective, we have found that we can promote the goals of standardization without alienating our patients. Although we do not speak standard Kaqchikel in our clinics, nor do we introduce nonlocal vocabulary as standard, we are working towards a prerequisite for living standard, namely that speakers become familiar with nonlocal vocabulary. We have found that in practice, it is best to introduce nonlocal vocabulary from a localist perspective. This avoids alienating speakers, while helping speakers learn the standardized vocabulary, even if they do not learn it as such. Moreover, this approach allows us to continue to conduct medical consultations in local variants without undermining the prevailing language maintenance ideology.

Neologisms as Medical Education

A second method that we employ to introduce neologisms derives from our previous discussion about the need for intelligibility in a medical interview. We employ the criterion of intelligibility in contradistinction to the purist agenda of the avoidance of code-switching. Therefore in the context of a medical interview, our experience is that whenever a neologism is motivated largely by a desire to avoid codeswitching (e.g., the use of Maya numerology), this largely generates confusion and, sometimes, mistrust. However, there is a previously unrecognized fertile alternative ground for the generation of neologisms in this and similar social situations. In the case of codeswitching, the use of neologisms is motivated solely by a purist ideology, as the Spanish words that are to be substituted for are words that the speakers who use them generally understand. This agenda has obscured the fact that there is a second population of Spanish words *which are used by Maya speakers without comprehension.* Use of these words is by definition not, therefore, codeswitching but rather mere repetition of sounds. These

incomprehensible words are particularly prominent in interactions with non-indigenous health care providers, who tend to use technical Spanish vocabulary and be ill-disposed to educating their patients on the significance of such words. As an example of this phenomenon, not a single one of the hundreds of patients who have presented in our clinics already with a diagnosis of *iyab'eti'* has had the significance of a diagnosis of *diabetes* explained to them by the diagnosing physician.

Consequently, there is a great demand in the clinical use of Kaqchikel for the development of *educational* neologisms that replace previously incomprehensible Spanish words with descriptive Kaqchikel alternatives. As a result we have favored lengthy modified noun phrases in the development of neologisms as opposed to the single-word forms that have been the norm in previous strategies (Maxwell et al, 1997). These forms often lack the cleverness that has characterized the work of others, but they have the advantage of being both immediately intelligible and medically educational. Table 1 highlights a few of the successful examples that we have developed and field-tested with patients.

Unintelligible Spanish loan word	Neologism	English approximation of neologism
diabetes	rujotolem rukab'il kik'	height of the blood's sugar
artritis	rusipojik baq'	the bone's swelling
infección urinaria	Itzel chuluj	bad urine
vagina	rub'ey ri ne'y	the path of the baby
colesterol	ruq'anal ri kik'	the marrow of the blood
asma	rutzapatajik ri pospo'y	closing-off of the lungs

Linguistic Precedent for Our Neologism Strategy

Although the English translations of many of our neologisms sound cumbersome, there is a robust linguistic precedent for word formation using complex possessed noun phrases. Consider the following words which are well established in the language.

Kaqchikel word	Literal translation	Idiomatic translation
ruq'a' patän	the mecapal's arms	the strings of the mecapal
ruq'a' tinamït	the city's arms	a small village suburb
ruq'a' ka'	the grinding stone's arm	the stone you hold when using a grinding stone
ruwäch che'	the tree's eyes	fruit
ruwäch ixim	the corn's eyes	corn kernels
ruwäch q'ab'aj	the hand's eyes	palm
ruwäch k'uxaj	the heart's eyes	chest
ruwäch jay	the house's eyes	window (patio in some towns)

In each case we have two noun phrases, where the possessed noun brings into focus some aspect of the possessor, from which the idiomatic meaning derives. The majority of our medical neologisms fit this general form, which is a pattern we find throughout the language.

Moreover, there is already established medical vocabulary in the verbal domain based on similar principles. We find many idiomatic verb phrases naming diseases or symptoms through a description of their effect on the body.

Kaqchikel word	Literal translation	Idiomatic translation
surinik wi'aj	spinning of the hair	dizzyness
silonik k'uxaj	movement of the heart	palpitations
mulunik k'uxaj	??literal translation??	nausea
k'aqatik tz'umal	scratching of the skin	dermatitis

By building complex possessive noun phrases that describe a disease's salient impact on the body, our neologisms draw on both of these traditions.

Of course, when people use a word like *ruwäch che'*, they do not think about eyes or trees; they just think about fruit. And *nsurin nuwi'* does not mean 'my head is twisting'; it just means 'dizzyness'. This is because over time many of these complex noun phrases have been semantically bleached of their literal meaning and denote like their morphologically simplex noun phrase counterparts. Crucially, our neologisms do not have this property. This is why they can be used and understood in a medical examination context by a speaker who has never heard them before. The descriptive content that makes this style of neologism immediately intelligible also allows the neologism to contribute to medical

education. In the short term, the effect is that we can replace Spanish words that people do not deeply understand with Kaqchikel words that can actually contribute to informing the patient.

In the long term, since our approach to neologisms has a firm linguistic precedent, the hope is that their passage from noun phrase to lexical item will be facilitated. If we reach this endpoint, the introduction of the neologism is a complete success. If we never do, then we have still successfully communicated to our patients in Kaqchikel while avoiding Spanish medical terminology, which is also a success.

Conclusions and Implications

In this brief paper we have attempted to summarize some of the linguistic and discursive strategies that we have explored in partnership with native speakers to provide medical care in Kaqchikel in a way that is both attentive to the need for intelligibility and simultaneously motivated by a language revitalization agenda. As we have seen, the demands of intelligibility in the medical context impose some particular restrictions on the use of revitalization methods but also lead to new opportunities:

1. One of the commonest strategies in the Mayan language revitalization movement is for its practitioners to avoid codeswitching. In our experience, however, codeswitching is an obligatory part of medical practice in Kaqchikel, as it is an essential element of the discursive strategies employed by our patients. As we discuss above, avoidance of codeswitching generally requires a speaker to come down on the side of language standardization, as lexical items that are missing in one's own dialect must be borrowed from another dialect or invented. The ability to borrow lexical items from another dialect either implies social mobility and frequent travel or a high degree of literacy. Most of our patients, however, are illiterate and poorly traveled with suprisingly little exposure to regional and dialectical Kaqchikel variants.

2. At that same time, the individuals that we encounter in medical interviews are extraordinarily sensitive to the need for revitalization strategies, as our introductory quote illustrates. In particular, they express a keen interest in dialectical variants and learning new words. Indeed, this is a larger cultural phenomenon that will be immediately recognizable to any field language worker who has spent

significant time in the central Guatemalan highlands – countless hours are spent late at night in kitchens recounting past travels and chuckling over collections of words, always, however, with an affirmation of shared identity – *"Man junam ta ri tzij po junam ri chib'äl" (the words are not the same, but it is the same language).*

3. On this basis, we have found it highly productive to introduce new lexical items by emphasizing their locality. The emphasis on dialetical variation eliminates the embarrassment or alienation that can be provoked among adult speakers who are made to feel that their Kaqchikel is inferior to that of another when an emphasis on the avoidance of codeswitching or standardization is employed. Additionally, acceptance of codeswitching allows for easy pairing of unfamiliar Kaqchikel lexical items with familiar Spanish equivalents in a way that is discursively comfortable for most speakers.

4. With respect to neologisms, we have found it both linguistically and medically more productive to focus on replacing Spanish loan words which are not understood. As we outline above, the use of complex noun phrases in Kaqchikel allows for the relatively easy construction of new lexical items that are descriptive, precise and, therefore, medically educational. Additionally, since the complex noun phrase is an extremely natural and productive paradigm for coining lexical items in Kaqchikel, words generated in this way, if carefully constructed, are immediately intelligible to native speakers.

5. It should be noted that our strategy of constructing words in this way and "field-testing" them in medical interviews has the effect of producing word that are both intelligible to patients and acceptable in terms of technical precision to our providers. One of the aspects of neologism formation that has not been well addressed previously has been that words must both be intelligible to listeners and convey the intended meaning. This latter criterion has been been neglected at times by attempts to develop Kaqchikel neologism, which have generally been exclusively the domain of linguists. Our approach, which involves health care providers in the process of word formation, overcomes these limitations.

References

Barrett R. (2008). Linguistic differentiation and Mayan language revitalization in Guatemala. J

Socioling 12:275-305.

Bielenberg B. (1999). Indigenous language codification: cultural effects. In *Revitalizing Indigenous Languages* (eds Reyhner J et al). Flagstaff: Northern Arizona University. pp 103-112.

Closs MP. (1996). Native American Mathematics. Austin: University of Texas Press.

Collins WM. (2005). Codeswitching avoidance as a strategy for Mam (Maya) linguistic revitalization. Int J Am Ling 71:239-276.

Crystal D. (20000. Language death. Cambridge University Press: Cambridge.

England NC. (2002). Maya linguists, linguistics, and the politics of identity. Texas Linguistics Forum 45:33-45.

England NC. (2003). Mayan language revival and revitalization politics: linguists and linguistic ideologies. Amer Anthropol 105:733-743.

Helmberger JL. (2006). Language and ethnicity: multiple literacies in context, language education in Guatemala. Bilingual Res J 30:65-86.

Henderson R (2006). Interview with anonymous, Pa K'in (Santiago Sacatepéquez). Transcribed and translated by Peter Rohloff.

Hinojosa SZ. (2004). Authorizing tradition: vectors of contention in highland Maya midwifery. Soc Sci Med 59:637-651.

Kamana K and Wilson WH. (1996). Hawaiian language programs. In *Stabilizing Indigenous Languages* (ed Cantoni G). Flagstaff: Northern Arizona University. pp 153-156.

Lewis MP. (1994). Social change, identity shift and language shift in K'iche' of Guatemala. Dissertation: UMI 9501841

Maxwell JM et al (1997). Rukemik K'ak'a' taq Tzij. Criterios para la Creación de Neologismos en Kaqchikel. Guatemala: Cholsamaj