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Building the lexicon for awakening languages

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1 Introduction

Just as language endangerment involves a reduction in the domains of use for a language, so does language revitalization usually entail an expansion of the language into new (or previous) social domains. Therefore a major task facing language revitalization efforts is the need to augment the lexicon to accommodate these new domains. Yet little guidance or training is available to communities or the linguists working with them on how this is to be done. This is especially unfortunate because coining new terms and other means of expanding the lexicon are not at all straightforward tasks, either linguistically or socioculturally. The process can be fraught with conflicting language ideologies, and should ideally be informed by the lexeme- and phrase-building processes that already exist in the language. This paper provides essential guidance on how to avoid these pitfalls with successfully expanding the lexicon into new domains. It is written primarily for language revitalization teams and the linguists that work with them.

Expanding a lexicon is not simply a matter of creating new words for new things. In many cases, as will be seen, this would be an inappropriate way to accomplish the task. It must always be kept in mind that *the central goal of revitalization-oriented lexicographic work is to accommodate new uses of the language in a manner commensurate with the wishes and language ideologies of the community*. Occasionally this entails creating new bits of language, but much more often it entails giving new uses to old words instead. Each language already has within it the remarkable potential to accomplish whatever social aims a human mind can put it to. Expanding the lexicon is simply a matter of teaching speakers how to do this, given the linguistic resources at their disposal.

A few terminological points are in order: This paper uses the term NEOLOGISM to refer to any new word, term, or phrase, or new uses of existing words and morphemes. It is important to note that neologisms are not just words, but can be any means of referring to a concept or thing. In Western Apache, place names consist of phrases that physically describe the location in some way, such as *tséká' tú yahilíí'* 'water flows downward on top of a series of flat rocks' (Basso 1996:27). This is not a noun or even a nominalized phrase, but rather a description, yet

this is the canonical method of referring to places. So this paper is not so much about expanding the ‘lexicon’ as expanding the whole set of conventionalized phrases, constructions, and terms that speakers have at their disposal, but for simplicity’s sake I will continue to use the term ‘lexicon’.

I distinguish between two types of neologisms. One type is WORD CREATION, which I define here as the creation of new morphemes through novel combinations of strings of phonemes, or what one often means by ‘making up words’. This is done frequently in product naming, branding, and marketing, and is the origin of names such as *Kodak* and *Verizon*, but is rarely done in language revitalization projects, for reasons I will return to later. A second type of neologism I refer to as a COINAGE, which makes use of morphemes and words already in the language, but in novel ways. The recent English coinage *hashtag* is one such example. It contains two morphemes already present in English at the time of its creation (*hash*, referring to the symbol <#>, and the word *tag*), but combines them in a novel way with a novel meaning.

With these points in mind, this paper proceeds as follows: [paper outline].

2 Issues & Ideologies

The ways in which a language revitalization team chooses to expand the lexicon, and whether those choices will lead to success or failure, depend crucially on the language attitudes and ideologies of both the dedicated language team and the community at large. At the heart of all this is the issue of authenticity – what counts as authentic language according to each member of the language team and the community?

The answer to this question varies tremendously from community to community and person to person. At one extreme is an ideology that says that all new ways of using the language are inauthentic, and is reflected in the prescriptivist ideologies of those who find all linguistic change to be a corruption of the language. In its extreme form, this ideology also prohibits borrowing or code-switching – the language should be pure and unmixed or not used at all. This ideology is a death knell for any revitalization project, for if the language cannot be used in novel ways, it can never expand into new domains. At the other end of the spectrum is an ideology which does not give any special status to the heritage language, so that there is no imperative to adhere to how the language actually is or was. Using words or even the phonology of another language is considered completely legitimate.

Language ideologies regarding authenticity typically lie somewhere between these two extremes. For example, the Mohawk Language Standardization Project states in its recommended writing guidelines that new words “are to be formed by function, activity, or

characteristic”, but that loan words from other languages are acceptable as well (Jacobs, Thompson & Leaf 1993, cited in Grenoble & Whaley 2006:92). This demonstrates a preference for using existing Mohawk words over loanwords, presumably reflective of an ideology that this is more authentic Mohawk than, say, English words pronounced with Mohawk phonology. Hinton & Ahler (1999:62) report a much different ideology for some participants in Karuk revitalization efforts, which one speaker summarizes by saying, “I am interested in communication, not preservation.” This speaker was less concerned with pronunciation and grammatical accuracy than simply using the language whenever possible.

Revitalization teams should think hard on what they consider to be authentic language before embarking on a project to expand the lexicon, and ask themselves whether these ideologies are in line with their broader revitalization goals. This is true regardless of whether revitalization efforts will involve a centralized language planning committee that coins new terms, or adopts a distributed, bottom-up approach instead. If one goal of a revitalization project is to see speakers using the language on the internet, would it be considered inauthentic for a speaker to use the word *Skype* as a verb in a blog post (e.g. *I'm going to Skype with them later*)? If so, the language team should be prepared to coin terms for a large variety of tasks and concepts relating to electronically-mediated communication, or have some plan in place for teaching speakers/learners how to utilize existing linguistic resources to this end. On the other hand, if the revitalization team encourages borrowings for technical terms, will speakers find it strange or inappropriate to hear speech peppered with terms like *Skype*, *gif*, *Facebook*, *newsfeed*, and *Snapchat*? A compromise position is to recommend that speakers make free use of jargon words like these, but integrate them phonologically and structurally into the language. Again, this requires educating new speakers on how this is done in the language. As an example, both Tlingit and Chickasaw have borrowed the word *Skype* as a verb stem that takes normal verbal inflection and fits the phonology of the language, so that the phrase ‘we Skyped him’ in Tlingit becomes *ash wutusikáayp* (Crippen & Twitchell 2013; Hinson 2014).

Revitalization efforts also need to take into account community reactions to the effects of decisions made by language teams. Prominent Māori language activist Tīmoti Kāretu often states that coining new terms via committee is unnecessary for Māori language revitalization, reasoning that one has merely to go ask speakers to find out that they are already using terms for the concept. A bigger concern, in his opinion, is a proliferation of terms that few people use, and that won't be understood by existing speakers of the language. This raises two crucial issues for lexical expansion projects: First, centralized approaches where neologisms are created by a dedicated team always face the problem of dissemination. Coining the terms is just the first step. How will the language team educate new speakers about these terms? Including

them in any dictionary projects is one straightforward step, but other strategies include word-of-the-day/week programs via various media outlets, or asking language instructors to include the new terms in their curricula. Just as important as educating new speakers is informing existing speakers about the new terms, which raises the second issue: mutual comprehensibility between speakers, and in particular between existing and new speakers. Neologisms are often opaque, and only make sense once explained. Spolsky & Boomer (1983:235) report one coinage by a Navajo speaker of the term *saad ahq̄q̄h deidinili*, that translates literally as, ‘one who links conversations together’. It is unlikely that anybody would guess that this refers to a telephone operator without an explanation or sufficiently strong context to inform them. Moreover, when traditional speakers – who are typically older and regarded as most knowledgeable about the language – are confronted with terms that are unfamiliar, confusing, or that they simply don’t know, this has the potential to foster negative attitudes towards new uses of the language, and because the new speakers now command phrases that traditional speakers do not, even challenges their status as an authority on the language. A common reaction is to reject these neologisms as inauthentic, creating linguistic rifts within the community. One of the best ways to address this potential hurdle, aside from fostering a general attitude of open-mindedness among both new and existing speakers alike, is to coin terms that are as faithful to traditional patterns of coinage as possible in both form and content. Then, when traditional speakers encounter the new terms, it will be in grammatical constructions and ways of speaking that are familiar to them, and which they are most comfortable with. Again, the best solution to this problem is to coin terms that are faithful to traditional patterns in the language.

Faithfulness to the patterns of the traditional language goes far beyond the mere assembling of morphemes into a grammatical utterance. It also includes faithfulness to traditional values, practices, and ways of viewing the world (Hinton & Ahlers 1999). For example, learning place names in Western Apache is a crucial part of one’s linguistic and cultural socialization, because each place is associated with a specific moralizing tale about “persons who suffer misfortune as the consequence of actions that violate Apache standards for acceptable social behavior.” (Basso 1984:35–36). A failure to use these place names when they would be called for, or coining some neologism in their stead, would only alienate traditional speakers, and prompts statements such as that by Apache speaker Ronnie Lupe: “Our children are losing the land. It doesn’t go to work on them anymore. They don’t know the stories about what happened at these places. That’s why some get into trouble.” (Basso 1984:21). Under the umbrella of “ways of viewing the world” sit things like traditional metaphors. In Hupa, journeying is an important metaphor for both life and marriage, giving rise to expressions like *minejit na’asiya* ‘center his

walking' (i.e. 'middle-aged, middle of life') and *nayaseL* 'they are walking together' (i.e. 'they are married') (Hinton & Ahlers 1999:65). Hinton & Ahlers note that this metaphor could be exploited for many related terms, such as coining a term meaning 'they walked apart' for 'divorce'. Again, neologisms based on such metaphors will be much more accessible to community members who have been socialized into traditional culture and language, while simultaneously providing cultural insights for new speakers as well.

In sum, for any revitalization project it is vital to keep in mind the language ideologies of community members, their possible reactions to new uses of the language, and the important cultural values and practices that ought to be reflected in the language. I turn now to the different broad strategies that one can take towards expanding the lexicon.

3 General Approaches

Broadly speaking, there are two approaches that revitalization teams can adopt in expanding the lexicon: *CENTRALIZED* and *DECENTRALIZED*. I prefer these terms to the more common terms *top-down* and *bottom-up* because they avoid any implication or imposition of social hierarchy. Centralized approaches are those where a dedicated team of language experts or otherwise duly-appointed individuals make decisions regarding the lexicon and in some way disseminate those decisions to the rest of the speech community. Decentralized approaches encourage new and/or existing speakers to create their own neologisms instead. The role of the language team in decentralized approaches can either be to document and disseminate the terms that community members are using, or to let speakers adopt whichever terminology they prefer as neologisms spread through the community, until speakers standardize on just one or several terms. In this second approach, where the adoption of neologisms is largely emergent, the primary task of the revitalization team is to educate new speakers on the methods of coining new terms that reflect the ideologies of the community (§2), using the kinds of techniques presented here (§4).

Crippen (2013) speaks of the difference between these two approaches in terms of 'fiat' (centralized) versus 'consensus' (decentralized), and points out several drawbacks of centralized approaches. First is that the language team may become viewed as the only authority on what is considered correct for the language. People may be reluctant to use the language if they feel they can't use it correctly. Second is that a firm insistence on standards may actually retard language growth. Crippen talks of the need to "let go" of the language into the community. The primary goal of most revitalization projects, after all, is for speakers to pass on and grow their language on their own. Additional risks for centralized approaches is

that the language team might coin terms where appropriate ones already exist in the community, or that not everyone will like the new terms.

Still, it is important to realize that centralized lexicon expansion is not necessarily the same thing as ‘a firm insistence on standards’. A compromise position, mentioned earlier, is for the language team to collect and report on neologisms in the community rather than dictate them. The difference is essentially one of prescriptivism versus descriptivism. As a more specific method, the language team might encourage weekly contests for community members to coin new terms for specific concepts. The language team could then choose the best neologism based on whether it adheres to both the grammatical conventions in the language and traditional values and ways of seeing the world. In many communities though, the support for language revitalization is not yet broad enough to receive sufficient participation in such a contest.

Decentralized approaches are not without risks either. The most obvious one is that mass second language acquisition tends to affect the grammar of the language, usually discussed in terms of ‘imperfect learning’ of the traditional language. This has been well documented for Dyirbal, where morphological ergativity is no longer present among the language of younger speakers. Again, the most effective way of mitigating against this risk is educating new speakers.

Another matter entirely is when the language has not been spoken in the community for some time, and there remain no native speakers. In this case, the team doing language work is the only source of information on the language. Even then, decentralized approaches are possible if the language team takes as its focus instructing language learners on how to form new terms in linguistically and culturally appropriate ways. A major advantage of this approach is that it relieves the language team of the burden of having to coin hundreds of new terms, allowing them to focus on the task of making information on the grammar and previously-documented lexicon available instead. In this way lexical expansion can be both centralized and decentralized at the same time, through a division of labor between the language time and the community of learners.

Regardless of the strategy a language team adopts, the goals of the revitalization effort should be kept prominently in mind. If the goal is for speakers to learn how to be creative with the language, and adapt it to new uses themselves, then the language team should make its focus providing language learners with the linguistic resources they need to take the language into new domains. Small language teams cannot do everything themselves, but language learners also need somebody to turn to as an authority on the language. This will almost always entail some division of labor between the language team and the community of learners.

Commented [DWH1]: Problem for both vital and awakening languages, e.g. Chitimacha ‘acorn’

Commented [DWH2]: citation

Having stressed several times now the importance of teaching new speakers the appropriate ways of creating neologisms in their language, I now turn to discussing the many specific techniques involved.

4 Specific Techniques

This section outlines a number of specific techniques that languages have for creating new terms and phrases. It must be emphasized at the very start that *languages vary widely in which of these techniques they use. Not every language will use each method, and in some languages the technique may not even be possible or grammatical.* Moreover, even when a language has multiple techniques for forming new terms, there tends to be a preference for one method over another, or for certain methods in certain grammatical contexts. Navajo has a robust enclitic =í that turns verbs into nouns, and another enclitic =ígíí that attaches to the end of phrases and turns the entire phrase into a nominal. These two morphemes are used in a huge number of coinages, some of which are shown below (note that (2) actually shows several neologisms within neologisms).

- (1) ná'oolkit=í
 it_moves_slowly_in_a_circle = NZR
 'clock'
- (2) chidí naa'na'í bee'eldqoh-tsoh bikáá' dah naaznilígíí
 chidí naa'na'=í bee'eldqoh-tsoh bi-káá' dah
 car it_crawls_about = NZR explosion_is_made_with_it-big 3sg.POSS-on up_there
 naaznil = ígíí
 they_sit = NZR
 'military tank'

Navajo does not, however, make extensive use of compounding. In strongly isolating languages, the opposite is often true. Both English and Mandarin use compounds as a primary means of coining new terms, as the following examples from Mandarin show.

- (3) fēi-jī
 fly-machine
 'airplane' (Anderson 1985:46)
- (4) kāi-guān
 open-close
 'switch' (Anderson 1985:46)

- (5) *gāng-bǐ*
steel-pen
'(fountain) pen'

(Anderson 1985:46)

Therefore, when investigating how a language coins new terms, it is important to pay attention to the frequency with which different methods are used, and the syntactic contexts in which they occur. Just as important is to then teach this to language learners as well.

In this section I will first outline some basic concepts in word formation, and then list specific grammatical techniques used in word formation, providing examples of each. These techniques are meant to apply to any open class of words such as nouns, verbs, adjectives, or adverbs. I will also end with a section devoted to suggestions for specific parts of speech. Whenever possible, the examples in this section have been taken from languages of the Gulf South in the United States, and especially Chitimacha.

4.1 *Basic Concepts*

A useful concept to keep in mind when thinking about neologisms is PRODUCTIVITY, which is (roughly) the number of constructions a certain morpheme or pattern can be used to form. Constructions vary tremendously in how productive they are. An incredibly productive suffix in English is *-ize*, and can be used to form all sorts of words like *problematize*, *synthesize*, *romanticize*, and many others. English also has some extremely unproductive (or even non-productive) morphemes, such as the suffix *-ric*, which appears on exactly one word: *bishopric*. This is an important concept in neologisms because one wouldn't want to coin dozens of new words based on a morpheme that only has one or two productive uses. At the same time, there are some cases where this is exactly what you should do. Some ways of forming new words only apply in very narrow circumstances, but are completely productive within those contexts. An example from English is the suffix *-tion*, which may be added to verbs ending in *-ize* but not many other contexts. Despite this limited productivity, it would still be perfectly grammatical and even expected to coin terms ending in *-tion* this way. Iñupiaq likewise has a suffix *-tuq* 'consume, use', which of course can only be affixed to things which are consumed or used, but is quite productive despite this limited range of syntactic contexts.

Another factor to consider in thinking about productivity is the fact that some words that ought to be possible simply don't exist, or are considered downright ungrammatical. Anderson (1985:18) discusses the lack of a word *arrivation* in English, despite the fact that one of the acceptable uses of *-(at)ion* is to create action nominals. For awakening languages being revitalized from archival materials, it is impossible to know what new words would have been acceptable to speakers. For example, Chitimacha has a verb *baapte-* 'split off', and an agent

nominal form *baaptem*, but nothing is documented for the action nominal form of this verb. Since almost all other action nominals in Chitimacha are formed with a final *-i*, one could coin a term *baapti* that means ‘splitting off’. Perhaps this was actually a word speakers used, but never made it into the documentation. Or maybe speakers would have reacted to it like English speakers react to *arrivation*. This should not discourage language teams from coining the term anyway. After all, it was not very long ago that using the word *friend* as a verb was completely stilted and ungrammatical, like *arrivation* (*befriend* would have been used instead). Yet the expansion of the English language into a new domain (namely, the social media website Facebook) quickly made the verb *friend* a common term. One can likewise never know if *baapti* would have caught on among traditional speakers. But given everything we currently know about the Chitimacha language, this is the most reasonable guess we can make about what speakers might have said in the same context.

A final useful concept is the idea of DERIVATION, which might be roughly defined as “the creation of a new word with a new meaning” (Aikhenvald 2007). All languages have some method of derivation, and it is these derivational techniques (among others) that language teams can use in coining new terms. Derivation is often overtly marked by an affix or other morphological process, as in the examples below:

- | | | | | |
|-----|--------------------------|---|------------------------------------|-------------------------------|
| (6) | <i>run</i> | > | <i>run-er</i> | |
| (7) | <i>ḥasun</i> | > | <i>ḥāsan</i> | |
| | be.good | | be.good\APPL | |
| | ‘be good’ | | ‘treat kindly’ (lit. ‘be good to’) | (Arabic; Anderson 1985:35) |
| (8) | <i>juwa</i> ¹ | > | <i>juu-gi</i> | |
| | soon | | soon-AZR | |
| | ‘soon’ | | ‘quick; quickly’ | (Hieber 2014:A26h.11, A03c.2) |

But derivation can also happen with no overt changes at all. This is often called ZERO-DERIVATION, and can be seen in the examples below.

¹ Chitimacha examples in this paper use a practical orthography developed by the Chitimacha Tribe. Notable characters are <q> = /ʔ/, <c> = /tʃ/, <j> = /tʃʰ/, <dz> = /tsʰ/, and <b, d, g> for /p, t, k/. Textual references are to speaker, text number, paragraph and sentence number in Hieber (2014).

- (9) *I run every Tuesday.* (verb) > *I went for a run.* (noun)
- (10) *yakera* > *hiaka yakera*
 beauty garment beauty
 ‘beauty’ (n.) ‘a beautiful dress’ (adj.) (Warao; Romero-Figeroa 1997:49)
- (11) *Daŕ-an-gen.* > *daŕ-gipa mande*
 big-3sg-FUT big-REL man
 ‘It will get big.’ (v.) ‘the big man’ (adj.) (Mande; Burling 1961:27)

For some languages, zero-derivation may be rare or even impossible, and words will always require some type of overt change to switch parts of speech – Iñupiaq is like this. For other languages (usually isolating ones like Indonesian), derivational changes are hardly ever needed.

Derivation frequently changes the part of speech of the word, as in (12) and (13), but need not always do so, as in (14) and (15).

- (12) *gapt-iqi* > *kap gapt-k, [...] pex-iqi*
 seize-NFsg PUNC seize-PTCP fly-NFsg
 ‘[the water] seized [his tail]’ (v.) ‘seizing him, [...] he flew off’ (ptcp.)
 (Chitimacha; Hieber 2014:A10d.3, A01c.1)
- (13) *ulu* > *ulu-qaq-tuq*
 woman’s.knife woman’s.knife-HAVE-3sg.INDIC
 ‘a woman’s knife’ (n.) ‘She has an ulu (woman’s knife).’ (v.)
 (Iñupiaq; Lanz 2010:96)
- (14) *xan-i* > *xan-di-qi*
 go_out-GER go_out-HORIZ-NFsg
 ‘to go out’ (v.) ‘he crawled out’ (v.)
 (Chitimacha; Hieber 2014:A64a.3, A21b.12)
- (15) *pisuk* > *pisug-uraaq*
 walk walk-slowly
 ‘to walk’ (v.) ‘to walk slowly’ (v.) (Lanz 2010:145)

Finally, derivation can apply to single words (16) or entire phrases (17).

- (16) [*nuc-m*]-*pa*
 work-PLACT-NZR
 ‘work’ (n.) (Chitimacha; Hieber 2014:A09e.1)

- (17) *[ney heex paac]-pa*
 earth powder roast-NZR
 'a brick' (lit. 'roasted earth powder') (Chitimacha; Swadesh 1953a:32, 46)

4.2 *General Techniques*

4.2.1 *Create a New Word*

One way to form a neologism is to create an entirely new word from scratch, not based on other words in the language. Most people find this to be the most inauthentic way of creating a new term, but it is actually quite possible for a word to be completely new and yet still authentic in that it adheres to the patterns of the language. Any new word should of course match the sound patterns (phonology) of the language, and not include sounds or combinations of sounds that don't exist. But new words can also take advantage of other processes in the language in playful and creative ways, by using alliteration, assonance, reduplication, haplology (dropping a repeated or similar syllable), metathesis (switching the order of two sounds), plays on words (puns), etc. Each of these utilizes existing resources in the language in a way that, if done correctly, can actually be a fine homage to the patterns of the traditional language, and become a form of linguistic artistry.

For example, one fun coinage for Chitimacha would be the verb *wax-* 'to wax' (intr.). What makes this a fun term is that in the practical orthography developed by the Chitimacha Tribe, the letter <x> represents the sound /ʃ/, so if a Chitimacha speaker were to pronounce the English word *wax* as it was written, it would be /waʃ/. It also happens that *wax* is an acceptable syllable shape for verb stems in Chitimacha, so it sounds like traditional Chitimacha in more ways than one. This stem can then be the basis for the transitive version of the verb, *waxt-* 'to wax something', or a reflexive, *qapx waxt-* 'to wax oneself', and so on. Another example of this same technique might be *text-* 'to text something' (i.e. send a text message via phone), pronounced /teʃt/, which could be backformed to *tex-* 'to text' (intransitive), or made into an affective verb *textaq-* 'to text something to someone' and be used in phrases like *textaakiqi* 'he is texting me'. This little bit of linguistic play creates words that are neither Chitimacha or English in origin, and so are completely new, but respect the patterns of Chitimacha in terms of its orthography, sounds, syllable shape, and integration into the morphology.

4.2.2 *Borrow a Word*

Another contentious strategy is to simply borrow the term one needs from another language. Using this technique depends a great deal on the language attitudes of the community. Moreover, it seems that some languages are simply not highly prone to borrowing. In all the time that Navajo has had contact with Spanish speakers, for example, and despite the

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many cultural items that the Navajo inherited from the Pueblos (e.g. rug weaving) or Spanish (e.g. kinds of food), the language still has less than thirty words borrowed from Spanish. Speakers of Navajo and languages similar in their lack of borrowing clearly expanded their lexicon into new domains as they encountered foods, technologies, and ideas from Europeans and other Native American groups, but generally did so by making use of the linguistic resources already present in their language instead of borrowing those resources from the other language.

On the other hand, some languages have dedicated grammatical devices just for the purpose of handling borrowings. Languages with noun classes, for example, tend to borrow loan words into only one or two noun classes. Mohawk uses a special dummy syllable *wa'* before borrowed words so that they match the syllable structure of the Mohawk verb:

- (18) *wak-ate-wa'-nérviouš*
 1sg.P-MID-DUM-nervous
 'I'm nervous' (Mohawk; Mithun, p.c.)

Revitalization teams should look to see how past borrowings have been handled in their language and what kinds of grammatical devices were used, and model future borrowings on those.

Rather than borrowing words verbatim from other languages, a simple step that helps give borrowed words more legitimacy is to adapt them to the phonology of the heritage language. Thus the word for 'coffee' has been borrowed into Navajo as *gohwééh* (< Sp. *café*) and Chitimacha as *kahpi* (< Fr. *café*). Another strategy is to integrate borrowed words into the grammar of the heritage language whenever possible, like the hypothetical example of Chitimacha *text-* above. A great example of this are backformations, which divide a word into its morphemes based on the structure of the borrowing language rather than the original language. Thus the Arabic word *kitaab* 'book', when borrowed into Swahili, was reanalyzed as the singular prefix *ki-* + a stem *-tabu*. Since the plural of Swahili *ki-* is *vi-*, speakers then began using *vitabu* as the word for 'books'.

4.2.3 Borrow a Meaning

Rather than borrow a word, one can borrow meanings or ways of talking about things instead. This is called a LOAN TRANSLATION or CALQUE. Iñupiaq and Chitimacha language speakers both use a loan translation for the word for 'newspaper', for example:

(19) *tusaayugaa-t maqpiḡaa-t*
 receive.news-pl sheet_of_paper-pl
 ‘newspaper’ (Iñupiaq; Edna MacLean, speaker)

(20) *ni kimti naakxt*
 knowledge paper
 ‘newspaper’ (Chitimacha)

Loan translations are especially useful when they come from related or neighboring languages. Oftentimes languages in the same family or region will coin terms using the same idea but different words. For example, many Native American languages use a phrase like ‘fire water’ for alcohol, or ‘big dog’ for horse. In the U.S. Southeast, many languages use a word meaning ‘child house’ or ‘child container’ for ‘womb’:

(21) *nanx xah-i*
 fetus put_in-NZR
 ‘womb’ (lit. ‘child container’) (Chitimacha; Swadesh 1953a:51)

(22) *hopuetak-hute*
 child-home
 ‘womb’ (lit. ‘child-home’) (Creek; Martin & Mauldin 2000:349)

Neighboring and related languages are thus an excellent place to look for inspiration when expanding the lexicon. Moreover, because neighboring languages often share similar cultures or have been in contact for long periods of time, using these languages to create new terms is much more likely to be culturally and linguistically accurate or authentic.

A final source of loan translations can actually be from the histories of words in other languages. A really useful technique can be to look up the term in an etymological dictionary, and create a loan translation based on the original meaning. This was done for the Chitimacha word *hejici-* ‘to sacrifice something’, which consists of *heji* ‘holy, sacred’ + *quci-* ‘to do, make’. The inspiration for this word came from the history of the English word *sacrifice*, which stems from the Latin *sacer ficere* ‘to make sacred’.

4.2.4 Extend the Meaning of a Word

One of the most common neologisms is to simply expand the meaning of a term to encompass something new. In this technique, no new words are actually coined. I have already shown one example of this with the English word *friend*. It can now be said that the uses of *friend* have expanded to include one more context that it didn’t before. A somewhat common extension is from the word ‘bird’ to ‘airplane’, as happened with the Swahili word *ndege*.

Chitimacha used this technique of semantic extension to expand the meaning of a number of words:

- | | | | | | |
|------|----|--------------------|------------------|---|------------------|
| (23) | a. | <i>xux kut</i> | ‘orange’ (fruit) | > | ‘orange’ (color) |
| | b. | <i>nabin</i> | ‘raw’ | > | ‘green’ |
| | c. | <i>kuuci</i> | ‘bonnet’ | > | ‘woman’s hat’ |
| | d. | <i>dzantem</i> | ‘soft’ | > | ‘light in color’ |
| | e. | <i>heex paacpa</i> | ‘frybread’ | > | ‘bread’ |

4.2.5 Use an Existing Pattern

An easy way to think of new terms is to find a related term in the language that has more than one piece to it, and follow that pattern. For example, Chitimacha has a number of terms that use the word *hana* ‘house, room’, as shown in (24).

- | | | | |
|------|----|-------------------------|-----------------------------------|
| (24) | a. | <i>duskunkatsi hana</i> | ‘blacksmith shop’ (‘metal house’) |
| | b. | <i>nakstihana</i> | ‘store’ (‘sale house’) |

Based on this pattern, the Chitimacha language team coined many new words for various types of locales:

- | | | | |
|------|----|-------------------|---|
| (25) | a. | <i>niikihana</i> | ‘hospital’ (‘sick house’) |
| | b. | <i>nuukmahana</i> | ‘classroom’ (‘learning room’) |
| | c. | <i>yaapahana</i> | ‘police station’ (‘police officer house’) |
| | d. | <i>yaamahana</i> | ‘preschool’ (‘children house’) |
| | e. | <i>guxtihana</i> | ‘restaurant’ (‘food house’) |

This technique is a great way to flesh out the lexicon for specific semantic domains, and the consistency of the pattern makes it both easier for learners to acquire, and easier for them to coin new words with the pattern themselves.

4.2.6 Derive a New Word

Another extremely common way of forming neologisms is to derive the new term from an already-existing word with a related meaning. Languages often have ways of deriving every part of speech from every other part of speech. For most North American languages, however, verbs play a central role in the grammar, so that many words are derived from verb roots. Below are a number of simple derivations of new terms created either by the Chitimacha language team or documented in the speech of traditional speakers:

(26)	Verb > Verb	<i>gaste-</i> ‘be cold’	>	<i>gaspa-</i> ‘refrigerate’
	Verb > Phrasal Verb	<i>gapt-</i> ‘grab hold of’	>	<i>qapx gama-</i> ‘hug’
	Verb > Noun	<i>neemaq-</i> ‘teach’	>	<i>neemaam</i> ‘teacher’
	Verb > Adjective	<i>yaq-</i> ‘grow’	>	<i>yaagi</i> ‘grown, adult’
	Noun > Noun	<i>kima-</i> ‘believe’	>	<i>kimti</i> ‘reason’
	Noun > Verb	<i>nakti</i> ‘a dress’	>	<i>nakti-</i> ‘to dress’
	Noun > Phrasal Verb	<i>qaxinjada</i> ‘old man’	>	<i>kap qaxinjatma-</i> ‘grow old’
	Noun > Adjective	<i>kipi</i> ‘meat, body’	>	<i>kipink</i> ‘physical’

4.2.7 Create a Compound Word

Compounding is a very frequent way of creating new words in English and other more isolating languages, and gives us words like *whiteboard* and *Facebook*. If a language has very little inflectional or derivational morphology, compounding is a great way to coin new terms from preexisting words. When coining compounds, it is important to pay attention to the order of words. English compounds tend to follow an order of Modifier-Modified, where the Modified thing is the more general category, and the Modifier specifies more precisely what type of thing or action it is. So a *whiteboard* is a kind of board, and *Facebook* is a kind of (metaphorical/digital) book.

In this section I will not focus so much on the grammar of compounds than on the types of semantic patterns that form them, since each language will be different in how its compounds are formed. For excellent overviews of compounding and other word-formation processes across languages, see Aikhenvald (2007) and Anderson (1985).

The most straightforward type of compound, frequently used in coining terms for nouns, is the Modifier-Modified pattern mentioned above. So if one wanted to coin a name for an object, they would first select a word for the broader, superordinate category in which that object falls, and then another word which describes it more specifically, as in the following examples from Chitimacha:

(27)	<i>gekapeksi</i> ‘bowl’	<	<i>geka</i> ‘plate’ + <i>pekse-</i> ‘be deep’ = ‘a deep plate’
	<i>guxtihana</i> ‘restaurant’	<	<i>guxti</i> ‘food’ + <i>hana</i> ‘house, building’ = ‘food house’
	<i>hanxaqa</i> ‘door’	<	<i>hana</i> ‘house’ + <i>xaq</i> ‘mouth’ = ‘house mouth’

Compounds can create verbs as well, usually by combining a verb and a noun associated with that action [XX], or two verbs [XX]. Example (28) is a loan translation into Chitimacha from English, while example (29) is from Mandarin (Anderson 1985:50).

- (28) *jaayup*- ‘sunbathe’ < *jaqa* ‘sun’ + *yup*- ‘bathe’ = ‘sunbathe’
 (29) *hū-xi* ‘breathe; breath’ < *hū* ‘exhale’ + *xi* ‘inhale’ = ‘exhale-inhale’

Another way of forming compounds is to use two opposite categories to describe the larger category of which they are members:

- (30) *qatinahdzi* ‘size’ < *qatin* ‘large’ + *nahdzi* ‘small’ = ‘large-small’
 (Chitimacha)
 (31) *chē-mǎ* ‘traffic’ < *chē* ‘vehicle’ + *mǎ* ‘horse’ = ‘vehicle-horse’
 (Mandarin; Anderson 1985:50)

Finally, many languages have ‘compound verbs’ as well (usually called SERIAL VERBS), where speakers combine two (or more) verbs to form a single verbal construction. An example from English is *come see what I drew*, where both *come* and *see* create a single verb sequence. Serial verbs are not especially common in English, but for other languages they can be highly frequent. Pawley (2006) even reports on several Trans New Guinea languages that have as few as 60 to 150 verbs, but combine these verbs in different ways to create thousands of different meanings. Examples using the verb *g*- ‘do’ are shown below.

- (32) a. *onim* ‘on’ + *g*- ‘do’ ‘on do’ (‘switch on (electric power)’)
 b. *kulpl* ‘vibrate_loudly’ + *g*- ‘do’ ‘vibrate_loudly do’ (‘vibrate loudly’)
 (Pawley 2006:12, 13)

4.2.8 Use a Description

One of the easiest ways to talk about a thing is simply to describe something about it. For some languages, a description is all that is needed to talk about a thing. No extra nominalizers, clitics, or special grammatical constructions are necessary. The description is still a recognized term in that it becomes the conventional way of referring to the thing, but is far from a ‘word’ in the traditional sense. Western Apache place names are like this (33), as are some Chitimacha words for locations (34).

- (33) *tʼiis* *bi-tʼááh* *tú* *ʔ-líí*
 cottonwood POSS-below water inward-it.flows
 ‘water flows inward underneath a cottonwood tree’
 (Western Apache; Basso 1996:27)

- (34) a. *duskunkatsi* *getuyna* *hana*
 metal they_usually_hit house
 smithy (lit. ‘house (where) they usually beat metal’)

- b. *dzampuyna*
 they_usually_spear
 ‘a spear’ (lit. ‘they usually spear’) (Chitimacha)

Not all languages can use descriptions in this lexicalized way however. More often, a special clitic of some sort turns the entire phrase into a noun or verb. The Navajo enclitic *-ígií* is like this:

- (35) *łóód na`agházhiígií* ‘the kind of sore that grows around’ (‘ulcer’)
 (Navajo; Spolsky & Boomer 1983:243)

But neologisms based on descriptions can also be made with just a single word and a simple derivation:

- (36) *nuuk-ma-m* < *nuuk-ma-*
 learn-PLACT-A.NZR learn-PLACT-
 ‘learner’ (‘student’) ‘learn’ (Chitimacha)

The following sections outline some common ways that descriptions are used to coin new terms. The majority of the examples in this section come from Sally Rice’s excellent survey of figurative language in the Athabaskan language Dene Sų́líné (Rice 2012), in part because of the breadth of examples provided there, and in part because the Athabaskan languages use descriptions as neologisms with an extremely high frequency, so examples from these languages are especially apposite for this section.

4.2.8.1 Describe the Physical Characteristics

A coinage can be based on a description of the color [XX], shape [XX], or size [XX] of an object.

- (37) *bek`erek`os* ‘it’s red on 3sg’ (‘s/he’s got measles’)
 (Dene Sų́líné; Rice 2012:42)
- (38) *sų́t`ie* ‘it is black’ (‘grayling fish’)
 (Dene Sų́líné; Rice 2012:49)
- (39) *bų́lai* ‘that which is round’ (‘button’, used to refer to the French)
 (Dene Sų́líné; Rice 2012:23)
- (40) *egóthéchéáé* ‘its neck is big’ (‘sucker (fish)’)
 (Dene Sų́líné; Rice 2012:49)

- (41) *kix qatin* 'big dog' ('horse')
(Chitimacha)

Example (39) also illustrates a technique called METONYMY, or using a part to refer to the whole (in this case, using the buttons worn by the French to refer to the entire person).

The coinage may also describe things that are similar to the one being coined.

- (42) *dzehte-* 'trap-like' ('make a lacrosse/stickball play')
(Chitimacha)

- (43) *ciixte-* 'leaf-like' ('be leafy')
(Chitimacha)

- (44) *neka xix gamin* 'long-nosed devil' (mythological creature > 'elephant')
(Chitimacha)

- (45) *ghinaze* 'little worm (pupa, maggot)' ('rice')
(Dene Sų́liné; Rice 2012:22)

- (46) *ets'eze gaiaze* 'little white kidney' ('chickadee')
(Dene Sų́liné; Rice 2012:23)

- (47) *tué* 'of/like whitefish' ('fish')
(Dene Sų́liné; Rice 2012:49)

A coinage may also describe the materials a thing is made of [XX], its distinctive features [XX], or important pieces [XX]. This is an especially good technique for languages with a system of nominal classification, which can describe the object in terms of the classifier. In [XX], the classificatory verb for solid roundish objects is used to refer to the sun.

- (48) *iti chānaha* 'wooden wheel' ('car, cart')
(Choctaw; Byington 2001:405)

- (49) *teŋk'ali* 'clean sock one' ('weasel')
(Dene Sų́liné; Rice 2012:47)

- (50) *jéthchené* 'fishhook-wood' ('fishing pole')
(Dene Sų́liné; Rice 2012:53)

- (51) *xaʔa* 'it (SRO) comes out' ('it's dawn')
(Dene Sų́liné; Rice 2012:62)

4.2.8.2 Describe the Action

A good way to coin either nouns or verbs is to describe the actions or processes relating to the thing, idea, or event, as the following example illustrate:

- (52) *dzintups* ‘crumb-eater’ (‘pigeon’) (Chitimacha)
- (53) *nát’adhi* ‘that which is cut twice’ (‘square’) (Dene Sų́íné; Rice 2012:23)
- (54) *sa ghe?aʔ* ‘the sun, it (SRO) is moving’ (‘the clock is ticking’) (Dene Sų́íné; Rice 2012:63)

One can also describe the sound that a thing or action produces. Example (2) above illustrates this for Navajo, which uses a term meaning ‘big explosion is made with it’ for ‘cannon’. These kinds of neologisms may also be formed from onomatopoeic sounds, as in the following example.

- (55) *waaswaasmank* ‘cricket’ (< *waas waas* ‘noise a cricket makes’) (Chitimacha; Swadesh 1953a:27)

Finally, one can describe the result of the action involved:

- (56) *jaaxaqa* ‘hot mouth’ (‘rice’) (Chitimacha; Swadesh 1953a:65)
- (57) *guān-jǐn* ‘shut-tight’ (‘shut tight’) (Mandarin; Anderson 1985:51)

4.2.8.3 Describe the Purpose or Function

A coinage can also be based on the purpose or function of the object involved:

- (58) *vhakv em pvtakv* ‘law’s foundation’ (‘constitution’) (Creek; Martin & Mauldin 2000:218)
- (59) *helk’édhi / t’elk’idhi* ‘the thing that shoots’ (‘gun, rifle’) (Dene Sų́íné; Rice 2012:27)

4.2.9 Use Associated Words

Neologisms do not always have to be directly about the concept itself. New terms can be based on concepts or things that are closely associated with the word one is trying to coin:

- (60) *Ciqix Panq* ‘leaf month’ (‘November’) (Chitimacha)

(61) *bescho nené* 'big knife country' ('America')

(Dene Sų́íné; Rice 2012:22)

4.2.10 Use a Metaphor

If the traditional language or culture makes use of metaphor, these can be an excellent source of neologisms. Rice (2012:41) describes a metaphor DISEASE IS A DEVOURING ANIMAL that is used to coin new terms for diseases [XX], and a sitting metaphor for marriage [XX]:

- (62) a. *gu sedak* 'worms are eating me' ('cancer')
b. *dekoth sedak* 'phlegm is eating me' ('I have a cold')
c. *shíratth'en sedak* 'heartburn is eating me' ('I have heartburn')
d. *ya sedak* 'lice are eating me' ('I have/am infested with lice')

(Dene Sų́íné; Rice 2012:41)

(63) *ełghañihĩ'as* 'they (DU) sat together' ('they got married')

(Dene Sų́íné; Rice 2012:63)

4.3 Techniques for Specific Parts of Speech

Coining terms for adjectives and adverbs can be tricky, especially if the heritage language does not have these parts of speech. In this case, the most common methods of modifying other words are by using nouns or verbs. Languages without a clear category of adjectives differ as to whether their adjective concepts are more noun-like or verb-like (or sometimes either, depending on the word). In this case it is important to see whether modifiers in the heritage language function more like nouns or verbs before coining new words for them.

4.3.1 Adjectives

Nouns can be used to modify other nouns directly:

- (64) a. *kàrà túgú*
people village
'village people'
b. *wèlè kàsùgù*
day market
'market day' ('Sunday')
c. *Godu tamá*
monkey woman
'monkey woman'

(Lele; Nikolaeva & Spencer 2013:229)

On the other hand, it is often possible to simply use a noun or verbal noun instead of a modifier:

- (65) *we niik-m*
 DET be.sick-A.NZR
 ‘the sick one’ (Chitimacha; Swadesh 1953b:A65b.8)

Adjectival concepts can also be conveyed by using possessives with another noun:

- (66) *mke wa kijana*
 female of youth
 ‘young woman’ (Swahili; source: personal knowledge)

By far the most common approach in North America, however, is to use a verb that means ‘be ADJECTIVE’. In this case, what’s being coined is not an adjective but rather a verb. The verb can then often taken adjectivizing or nominalizing suffixes. Chitimacha has a verb-forming suffix *-te* ‘like’ that forms the basis of many adjectives and verbal nouns:

- (67) *baapte-* ‘split off’ > *baaptem* ‘something split off’
 (Chitimacha)

4.3.2 Adverbs

Like adjectives, adverbs can be formed from possessives, or even oblique phrases involving adpositions:

- (68) *kwa haraka* ‘with speed’ (‘quickly’)
 (Swahili; source: personal knowledge)

In Chitimacha, almost all adverbs are really just other parts of speech being used in adverbial ways. One of the most common ways of forming adverbs in Chitimacha is through the use of demonstrative pronouns:

- (69) a. *da* ‘this (close by)’
 b. *daat* ‘this time’ (‘now’)
 c. *daatenk* ‘after this time’ (‘from now on’)
 d. *daatk* ‘being now’ (‘now’)
 e. *danki* ‘at there (close by)’ (‘nearby’)
 (Chitimacha)

Often adjectives double as adverbs, as with the Chitimacha modifier *juugi*, which can mean either ‘quick’ or ‘quickly’.

5 Conclusion

Expanding the lexicon of an awakening language into new domains is never an easy task. This paper has attempted to provide guidance that will help make this process easier for language revitalization teams and linguists alike. It has examined the many sociopolitical and practical factors that go into the process of lexical expansion, and suggested proactive ways of avoiding potential issues that may even improve the outcome of lexical expansion projects. Through an efficient division of labor between dedicated language activists and the community of speakers at large, the task of expanding the language into new domains does not have to be an insurmountable one.

This paper also provided very practical advice and specific techniques for how to go about coining new terms in one's language, with suggestions on when each strategy might be most appropriate. What should be clear from this discussion is the tremendously rich array of techniques that languages have for creatively expressing new meanings. With an understanding of this wonderfully diverse set of grammatical and conceptual possibilities, expanding the lexicon can go from lexicographic drudgery to linguistic artistry, in a way that honors the conceptual nuance and traditional values embedded in the language.

Abbreviations

1	first person
2	second person
3	third person
NF	non-first person
sg	singular
pl	plural
A	agent
APPL	applicative
AZR	adjectivizer
DUM	dummy material
FUT	future
GER	gerund
HORIZ	horizontal, lying
INDIC	indicative
MID	middle voice
NZR	nominalizer
P	patient
PLACT	pluractional
PTCP	participle
REL	relative
SRO	solid roundish object

References

- Aikhenvald, Alexandra Y. 2007. Typological distinctions in word formation. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. III: Grammatical categories and the lexicon*. 2nd ed. Cambridge: Cambridge University Press.
- Anderson, Stephen R. 1985. Typological distinctions in word formation. *Language typology and syntactic description, Vol. III: Grammatical categories and the lexicon*, 3–56. Cambridge: Cambridge University Press.
- Basso, Keith H. 1984. “Stalking with stories”: Names, places, and moral narratives among the Western Apache. *Text, play, and story: The construction of reconstruction of self and story*. Prospect Heights, Illinois: Waveland Press, Inc.
- Basso, Keith H. 1996. *Wisdom sits in places: Landscape and language among the Western Apache*. Albuquerque: University of New Mexico Press.
- Burling, Robbins. 1961. *A Garo grammar*. (25). Poona: Deccan College.
- Byington, Cyrus. 2001. *Choctaw language dictionary*. Asheville, NC: Global Bible Society.
- Crippen, Dzéiwsh James A. & X'unei Lance Twitchell. 2013. Developing consistency by consensus: Avoiding fiat in language revitalization. *ICLDC 2013*. Honolulu.
- Grenoble, Lenore A. & Lindsay J. Whaley. 2006. *Saving languages: An introduction to language revitalization*. Cambridge: Cambridge University Press.
- Hieber, Daniel W. (ed.). 2014. *Morris Swadesh's Chitimacha texts*. Charenton, LA: Chitimacha Tribe of Louisiana.
- Hinson, Joshua. 2014. Anompa Himitta': Chickasaw neologisms. *SILLA 2014 Winter Meeting*. Minneapolis.
- Hinton, Leanne & Jocelyn Ahlers. 1999. The issue of “authenticity” in California language restoration. *Anthropology & Education Quarterly* 30(1). 56–67.

- Jacobs, Annette Kaia'titahkhe, Nancy Kahawinonkie Thompson & Minnie Kaia:khons Leaf (eds.). 1993. The Mohawk language standardization project. <http://www.edu.gov.on.ca/eng/training/literacy/mohawk/mohawk.html>.
- Lanz, Linda A. 2010. A grammar of Iñupiaq morphosyntax. Rice.
- Martin, Jack B. & Margaret McKane Mauldin. 2000. *A dictionary of Creek/Muskogee*. Lincoln: University of Nebraska Press.
- Nikolaeva, Irina & Andrew Spencer. 2013. Possession and modification: A perspective from Canonical Typology. In Dunstan Brown, Marina Chumakina & Greville G. Corbett (eds.), *Canonical morphology and syntax*, 207–238. Oxford: Oxford University Press.
- Pawley, Andrew. 2006. Where have all the verbs gone? Remarks on the organisation of languages with small, closed verb classes. *11th Biennial Rice University Linguistics Symposium*, 16–18.
- Rice, Sally. 2012. “Our language is very literal”: Figurative expression in Dene Sų́łíné [Athapaskan]. In Anna Idström, Elisabeth Piirainen & Tiber F. M. Falzett (eds.), *Endangered metaphors*, 21–76. (2). Amsterdam: John Benjamins.
- Romero-Figeroa, Andres. 1997. *A reference grammar of Warao*. Munich: LINCOM Europa.
- Spolsky, Bernard & Lorraine Boomer. 1983. The modernization of Navajo. In Juan Cobarrubias & Joshua A. Fishman (eds.), *Progress in language planning: International perspectives*, 235–252. Berlin: Walter de Gruyter.
- Swadesh, Morris. 1953a. Chitimacha-English dictionary (Copy 2). *Chitimacha grammar, texts and vocabulary*. (Ms.497.B63c G6.5). Philadelphia, PA: American Philosophical Society.
- Swadesh, Morris. 1953b. Chitimacha texts. Philadelphia, PA.