

Technology in Yaminin Maiduk (Mt. Maidu) Language Revitalization:

Low, Mid, and High Tech Initiatives

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*In memory of my dear friend and colleague, Farrell Cunningham Jatam (1976 – 2013).*

*Out of respect for the departed,  
uttering his name is to be refrained from for the period of one year.*

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## **Maidu History and Introduction**

For a brief overview of Mt. Maidu history, one must travel to Northern California, the Western slope of the magnificent Sierra Nevada mountain range (photographer Ansel Adams' "range of light"). Just east of the volcanic peak of Mt. Lassen, lies Yamanin Maiduk Kodo (Mt. Maidu country). Right now, in springtime, shooting stars are blooming amidst wild lupine and buttercup, before the coming summer heat quickly fades them all, the earth warming after winter rains. It's a beautiful time in the Northern Sierras, temperate, as in all four seasons. Maidu people were land-based hunter-gatherers who employed a sophisticated method of sustainable harvesting practices (Cunningham, 2007). The Maidu language group, of Penutian stock, consists of three distinct dialects: Mt. Maidu (or Northeastern), Konkow (or Northwestern), and Nisenan (Valley, or Southern) Maidu (Hinton, 1994).

The Maidu, and other mountain cultures, missed the first wave of California mission colonization, because of their protected location in the shelter of those very mountains. However, their culture was later nearly completely destroyed (or pushed deep underground into secrecy, and a fiercely protected private status) by colonizer-introduced diseases, and the related genocide imposed from gold rush

miners, and the settlers that followed on their trail. Further displacement was caused by the situation in California of numerous treaties with the U.S. federal government that were never ratified, resulting in many tribal groups (including Maidu) losing any land-based territory rights, or federal tribal recognition (personal communication, Farrell Cunningham, October 26, 2011). Fully 20% of Native Americans in the U.S. live in California; however, because 80% of California's Indian tribes are *not* federally recognized, the State only receives 2% of available federal monies (instead of a proportionate 20% to match the actual number of individuals). Some tribal groups, including Tsi Akim Maidu of the Taylorsville Rancheria, are now seeking federal recognition (an arduous and not necessarily guaranteed successful endeavor), and a return of some of their traditional territories as well.

This mass dispersal of the people, subsequent land loss, and related acts of genocide resulted in their language nearly disappearing. By current estimates, there are 5 speakers over the age of 80, living remotely, who are not currently involved in language preservation, documentation, or revitalization practices, and 1 speaker who is 36 years of age and is very involved in revitalization efforts. In addition, there is one known fluent speaker of Konkow Maidu (self-taught through university linguistic studies), and one fairly fluent speaker of the Nisenan dialect, also self-taught, with some instruction from elders who still remembered their language (personal communication, Farrell Cunningham, March 24, 2012). Before contact, it is important to emphasize, the Maidu language was entirely an *oral tradition*, one that was particularly poetic and interdependent with musicality:

*Moki' ka'do yapen'imaat sol'dom okau'pintitsoia* (His world created

with indeed singing caused to sound pretty) - from a Maidu tale.

The great Maidu world of Northern California revolved around singing — singing the world into being, singing spirit and presence into the day, singing joy and happiness, singing to meet and greet others. Singing to be allowed into the roundhouse. No verb form was used more often than “sol” — sing (Yehling, 2011).

After contact, a *non-standardized* orthography sprang up, spurred in part by the work of two linguists who have primarily documented Maidu to date: Roland Dixon (1912) and William Shipley (1964, 1965). However, among the Maidu people, writing their language was not widely adopted. Therefore, out of respect for the Maidu language as a deeply meaningful oral tradition, applying technology to language revitalization and learning will require specific attention to both preserving this orality and the richly poetic sounds and syntax the singing and performative uses of the language once employed, while also beginning to reach those new language users – who have never been fluent, or, in most cases, never spoken at all – without overwhelming their current technology skills, and simultaneously developing new ones, in a hope to preserve the truly beautiful-sounding Mt. Maidu language for future generations to come.

### **Current Communities of Practice and Their Technological Reach**

The most active group of speakers of Mt. Maidu are in the Grass Valley-Nevada City-San Juan Ridge area of the Sierra foothills, technically not located within traditional Mt. Maidu homelands. However, fluent Maidu speaker Farrell

Cunningham teaches 4 classes a week there in Grass Valley, with about 40+ students ranging from beginner to fairly advanced, who are beginning to string together natural sentences. Cunningham utilizes TPR type learning methods with his students (Asher, 1977), creating skits and other simple performances as a way for his students to practice natural speaking in a variety of situations, and in full sentences (personal communication, Farrell Cunningham, March 24, 2012).

Covering current events (such as Animals Occupy, and basketball's March Madness) as well as traditional Maidu material (a Creation sequence highlighting some of coyote's antics), the skits embody a way to create "a positive, collaborative, and supportive classroom climate in which Native American children could develop increasingly complex skills in speaking, reading, and writing in their tribal language" (Cantoni, 1999), which has begun to happen in Cunningham's classes as students take written notes on the new sounds they are learning in Maidu. This, in addition to the prior work done by Dixon and Shipley, is beginning to shape the advent of *written technology* as a feature of the Maidu language, which some proponents, including Cunningham, do not particularly embrace.

(N)ative people's attitudes and beliefs toward documenting their languages...do not seem to be toward technology, *per se*, but...(s)ome native speakers have objected to having their language written down in the...belief that writing weakens a language meant for speaking (Bennett, 2003).

Similarly, Cunningham feels, in regards to words being committed to written form, that when "it becomes one thing, it loses the ability to become another thing"

(personal communication, January 10, 2012), a possible facet of *written speech* that is generally underappreciated by researchers who do not themselves come from oral traditions (or have a strong background in oral poetry, such as this writer).

However, as part of an ANA (Administration for Native Americans) language survey grant, several interesting details were revealed about the Mt. Maidu community's language learning preferences. Technology usage and availability in Mt. Maidu country depends on many factors, including traversing great distances in remote areas, potential lack of DSL, wireless, or cell phone service in some of those areas, and diverse situations of personal hardware capacity, with likely most people having some sort of computer and/or cell phone (personal communication, Donna Clark, March 29, 2012). Furthermore, although most Maidu residents who lived on or near the Rancheria in Susanville, California, felt that their desired learning formats were through family programs, daycare/preschool, and afterschool programs, and that most of the community was *not* interested in learning their language via the internet - nor, interestingly, through Master-Apprentice methods; but Leanne Hinton, who consulted on the project, thought that might be from a misunderstanding of what the term means (Susanville Indian Rancheria, 2009). Equally interesting, and *particularly valuable* to this remotely located community, however, was the survey result showing that *for those Maidu people living out of the area, there was high interest* in internet- and computer-based programs (Susanville Indian Rancheria, 2009). For the first set of survey results mentioned, language learning methods dependent on an oral tradition alone would be suitable (but probably better augmented with materials in a designated written form), but in

regards to the second set of responses – for those living even more remotely than the Rancheria itself – the possibilities for engaging low, mid, and high-tech initiatives in language learning grows exponentially.

## **Literature Review of Technology in Language**

According to recent literature, there are three different levels of engaging with technology: low, mid, and high. Interestingly, they are not necessarily the self-evident categories one might think they are.

The multitude of language projects that involve Indigenous communities are categorized by levels of technology and presence of the Indigenous language. These include a) low-tech initiatives, which are based on one sensory mode, b) mid-tech initiatives, which comprise of two sensory modes...and c) high-tech initiatives...which input and output are key factors (Galla, 2009).

Low-tech initiatives employ only one sensory mode at a time (as with printed books, audio books or radio programs with no call-in, movies, videos, and audio books or other recordings), whereas mid-tech initiatives “are bisensory, allowing the learner to receive the Indigenous language through sight and hearing and/or require the use of a keyboard and mouse, and access to the internet” (Galla, 2009), as in videos, movies, and audio/digital books. High-tech language learning involves “asynchronous communication, synchronous communication or multimodal interactivity between the user and the technology” (Galla, 2009), such as email, blogs, online chat, telephone, audio video conferencing, computer games, and commercial language learning software (Galla, 2009). Many of these forms of language technology would quite probably be well-received within the Maidu community, as for example in the case of digital books, print books, Powerpoint



language lessons, talking dictionaries, audio video conferencing, telephone, radio, computer games, and online chats.

As researchers found with the Blackfoot Lullaby project, language learning through traditional songs and lullabies has many beneficial linguistic, cognitive and cultural properties (Miyashita and Shoe, 2009). For example, as the authors cite,

The linguistic properties that can be found in songs are also used in regular speech. Native speakers acquire these properties naturally despite the grammatical complexity...it is a painstaking task for language learners who do not speak it natively....However, one tends to successfully remember phrases when memorized with a melody (Miyashita and Shoe, 2009).

The authors go on to describe the advantages of employing songs in language education, as singing involves processes where “melodic information is usually processed in the right cerebral hemisphere and rhythmic information in the left; thus singing enhances cognitive activity” (Miyashita and Shoe, 2009) by utilizing both parts of the brain simultaneously. For current Maidu descendants seeking to also attend to preserving the tradition of learning their language as an oral tradition, methods such as these could support that goal. At the same time, the more deeply embedded linguistic information available through analysis of traditional song patterns could also be of interest to language learners as they evolve in their processes (Miyashita and Shoe, 2009).

In a similar vein, a community seeking “to preserve its language orally” (Taff, 1997) is using a telephone audio-conference feature to practice learning their

language with fluent speakers who live afar. Inspiring the thought that our oldest technology as humans is the mind, which in turn shapes the tongue to speak, this community of Deh Xinag (Ingalik Athabascan) speakers is quick to note:

Our most important resource is our speakers. Without them, we certainly could not be conducting (this) kind of learning experience where we can ask, “How do I say?” Also invaluable is the telephone system that links us together...We see that we are developing materials as we go along by...recording these sentences in our minds and on our tongues as well as on paper. We have discussed possible ways to document all of our Deg Xinag conversations in audio and writing for future users (Taff, 2009).

Similarly, not only is it this writer’s personal experience of learning Maidu (and researching language preservation and revitalization within the community) that the telephone can be one of the simplest - yet most effective - forms of technology to embrace, but this form of audio-conferencing described by Taff might also be an extremely viable method of language lessons for remotely located tribal members. Furthermore, as the class participants stated, “we realized we did more than conduct a language class; we created a situation in which we speak Deg Xinag. This, as much as “learning” the language nuts and bolts, seems to be a vital component of strategy for Maidu language revitalization, however it can be caused to occur: creating a situation in which to keep speaking Maidu.

Another method that might support the desire of certain Maidu tribe members to preserve their language orally, as well as to engage their youth in

important cultural revitalization efforts, is exemplified in Bennett's citation of research that "indicates that when adolescent youth from disadvantaged communities...were trained to audio-record the everyday language they were using in an interactive task, their language skills improved" (Bennett, 2003). Furthermore, the Maidu community in Susanville has submitted just such a grant application to ANA, including specifications to designate local youth as "technicians" to be trained to record surviving elder speakers (personal communication, Donna Clark, January 5, 2012). Another project that could inspire interest in Mt. Maidu country is "'Wheels for the Mind,' a bilingual dictionary research project conducted...on the Yurok Indian Reservation in Northwestern California" (Bennett, 2003). In this cooperative project, students were involved in

writing a dictionary of plants on computers. In this community, the oral language tradition predominates, and when students wrote down the Yurok language definitions for plants, it was the first time that some of the Yuork words had been written...This cooperative dictionary project combined cooperation with peers, as well as with elders and other community members...The significance of the research is that new technology can be useful within culturally compatible learning contexts (Bennett, 2003).

For different reasons, Bennett cites another California language community that is using technology to supplement and support their oral tradition. She describes that

(b)ecause Hupa is still a spoken language, the Hupa language class maintained an oral focus, with technology being a tool rather than an

end to instruction. In addition, classroom tools include...aids such as marker boards, paper, pencils, and puppets. The goals of the classes were documentation and to produce younger speakers through a continuing process of interaction with elders...(t)he Hoopa Valley Tribe's radio station...offered weekly bingo games, cultural information about the history of the Hoopa, and reviews and previews of vocabulary in the community language class (Bennett, 2003).

Like Hupa, the oral traditions so important to Maidu language and culture can be re-cultivated and maintained through documentation and learning projects like these.

As always, in choosing technologies to use in language revitalization work, one must remain sensitive to the "traumatic nature of loss of the language" (Bennett, 2003) when approaching elders or surviving speakers about documentation and collaboration requests. Likewise, it behooves language advocates to choose approaches that will bridge heritage considerations with realistic understandings of a community's access to technology (Greenall and Loizides, 2001), thus creating holistic solutions that really work for the community within its spiritual, personal, and technological capacities.

### **Communities of Practice: Multimedia Technology In a Language Learning Context**

As part of this inquiry into multimedia technology for Indigenous language learning, I prepared a number of materials for the Mt. Maidu community, of low-, mid-, and high-tech initiatives, respectively. Farrell Cunningham, my ongoing Maidu contact and instructor, helped construct the story, working off my suggestion that

we write about a fox (the idea of which was spurred by my missing of those homelands and their native Red Fox population, recently revitalized from near extinction themselves). Because my technology skills are limited – albeit improved through the process of creating said materials – I had wanted to keep things simple. (Nonetheless, I ended up spending ample amounts of time sorting out linguistic questions that didn’t need to be answered in order to “make a book,” but which I as a scholar needed to understand in order to feel competent of my language usage!) I compiled photos from the Creative Commons on the Internet (myself thereby utilizing numerous technologies previously unknown to me), and put together *Hawim Yamaidi (Fox in the Shade)*. The book initially had an English translation as well as a pseudo-gloss explicating Maidu syntactical structure, which, in tune with the sung nature thereof, is quite poetic. However, it was left out of the print version of *Hawim Yamaidi*, for reasons related to designing a clean page. In the digital book, which includes audio of the text, the gloss is included (as well as an English translation). The book, created in Microsoft Publisher, was published on a printer in the Education Studies office, highlighting the ease with which others in the Maidu community could create similar storybooks, or language lesson books, or more detailed (and illustrated?) traditional tales. In the near future, Cunningham – himself a talented artist – plans to complete hand-drawn illustrations for the book, lending an even more authentic note to its contents straight out of a Mt. Maidu forest home. The book and lesson are both geared to beginning language learners, but could be used by either adults or children successfully.

To create a PowerPoint language lesson in Maidu, I used some of the same Creative Commons photos selected for the storybook, and assembled audio recordings of questions posed in the text of the lesson. In addition, I created hyperlinks to correct answers and pronunciations, in a game of matching different trees and animals from the story with their names. An additional language lesson explicating Maidu phonology and pronunciation, with emphasis on glottal stops and imploded labials, is also in progress.

Now that these Mt. Maidu language materials comprise four parts of one complete language lesson - a storybook for pleasure, and for beginning to visualize or sound out the language; a digital book that plays the sound of the language for the listener; a language lesson focused on vocabulary, and one on phonology – they are ready for distribution to the community. The template for printing the storybook, a zip file of the digital book, and a zip file of the PowerPoint lessons will be loaded onto a CD and copied, to be given first to Mr. Cunningham to use with his Grass Valley students, and then to a wider group of Maidu language activists.

Cunningham's class has already taken a part of the story, and turned it into yet another technology, that of performance. Performing the story involves more than one person, conversational exchange, and the TPR (Asher, 1977) of hearing, seeing, speaking and moving with the words while acting out the story line of the fox family. If the "script" the class has been using for their performances can be adapted into a self-published book like *Hawim Yamaidi*, the community will then have 5 items in their package of beginning language materials.

It is hoped that these materials can be made available online, via Maidu member groups, so that community members who do wish to access such materials via the Internet may do so. Copies of the materials will be provided to the Maidu Summit's nine member groups, again on a CD for easy copying and re-distribution. These diverse groups include the Greenville Rancheria, Roundhouse Council Indian Education Center, Mountain Maidu Preservation Association, Susanville Indian Rancheria, Maiduk We'ye, Tasmam Koyom Cultural Foundation, Tsi-Akim Maidu, United Maidu Nation, and Maidu Cultural & Development Group. In addition to Cunningham, staff at the Maidu Rancherias, and the Maidu Summit member organizations, the language lesson CD can be made available to those living remotely, or those who might not have Internet access at home.

Another immediate goal to support greater communities of practice will be for Tsi-Akim Maidu and SIR to post Maidu audio recordings from the California Language Archive on their websites. These audio files are rich in content, and old-time Maidu accents, with more deeply glottalized and imploded pronunciations than today's speakers usually carry, as a point of comparison for today's learners.

After telling Donna Clark, Language Coordinator at SIR, about Miromaa language tools (Miromaa, 2012) and their free software license available to Indigenous groups, within only a few weeks, she informed me she had already applied for and received a license for the program. With the help of the Miromaa software, the ability to create a recorded Maidu dictionary is closer to becoming a reality, as well as the option to provide online access for language documentation,

and learning tools featuring speech, text, and accompanying visuals for words and phrases.

What about future possibilities for other uses of technology in Maidu language revitalization? A major project that is ongoing is my work with Cunningham on developing a more standardized Maidu orthography. The two main orthographies currently in circulation (if not in use) are that of Roland Dixon (1912) from his compiled *Maidu Texts*, and William Shipley's *Maidu Grammar* (1964) and *Maidu Texts and Dictionary* (1963). Cunningham uses yet a third orthography that is somewhat a cross between Dixon's and Shipley's, but his usage, based primarily (and admittedly) in oral teaching, is not entirely a full accounting of actual sound distinctions. Mt. Maidu speech features highly glottalized **k',t',c' (ts), and p'** sounds (in addition to unglottalized versions of the same letters), and an imploded **d & b**, in addition to a glottal stop that is quite pronounced in many common words. Cunningham was not marking glottalized sounds and stops - and we have discussed how that speech characteristic is disappearing more in each generation, something his grandmother also said to him 20 years ago (personal communication, November 2, 2011). I therefore thought it especially important, historically and linguistically, to note those particular sounds by putting special marks or characters in the orthography. The other major goal in this newest orthography is to synthesize the best of Dixon, Shipley, Cunningham, and my suggested changes, *to make an orthography that is readable and easily understandable to a layperson*, which in some ways, neither Shipley's nor Dixon's are. To that end, Cunningham's orthography has vowel designations that free up other letters (like **y**, which Shipley uses as a vowel)



to do different phonological jobs. With these simplifications, and a few other fine-tunings – although Cunningham insists, wisely, that there will never be “one single orthography” (personal communication, November 9, 2011) – there will hopefully be another (new) temporary Maidu orthography that helps more people to learn the language anew. Cunningham has also expressed that he’s “excited to see what you come up with” (personal communication, March 29, 2012) in regards to my own attempts to synthesize the currently existing orthographies. As much as I have grown to appreciate and support Cunningham’s conviction that Mt. Maidu, ideally, was never meant to be written down – it is a living, ongoing speech of song – yet I’ve also remained firm in my feeling that for Maidu to survive and re-establish a firm stronghold in the next generation of speakers, the language *is* likely going to have to shift to a written form, in addition to its beautifully resonant and rich oral one. *This* is one eminently valuable use of technology, in the interest of preserving an oral tradition, and the history and customs it embodies.

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