

INDIGENOUS USE OF SCRIPTS AS A RESPONSE TO COLONIALISM

by

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Writing systems are a form of language that have traditionally been controlled by colonizing forces. In Africa, the South Pacific and even in Native reservations in the United States the legacy of colonialism has been that literacy is taught in the colonizing language and using the Latin script. Unbeknownst to or despite the efforts of the colonizers, some marginalized people developed scripts of their own that are original and not based on an introduced script from missionaries or directly linked to the Latin orthography of colonizers. This Thesis is a case-study of three of these scripts from very different parts of the world in an attempt to synthesize a call to action for future script research and gauge the effect of these scripts in fostering “Ethnolinguistic Vitality” or in-group solidarity.

This Thesis synthesizes primary and secondary research on N’ko (from West Africa), Cherokee (North America) and Avoiuli (Oceania). It specifically gauges the Linguistic Landscape (public visibility of scripts), apparent literacy statistics from each area and their probable trajectory into the future. Preliminary results suggest that having a natively-derived script can increase subjective vitality among in-group

members and may motivate students to become literate in their mother tongue alongside or in place of colonial-language education.

I end with a call to action for further research in this understudied aspect of language revitalization, and position scripts as a potential boon in an era of globalization where more and more information is written online.

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Introduction: Why Scripts?

Globalization poses many problems for marginalized people groups. Whether colonialism has affected a group through their education system, through external culture or simply the constant pressure of assimilating dominant forces it disintegrates the power of a group to remain cohesive and erodes culture and language over time. Education has been, in many places, the bastion of the colonizer- and by teaching subject populations to read and write in the dominant tongue while discouraging their own mother language the erosion of the subject's culture can happen rapidly- without time to react.

If a script is developed by the subject population and implemented in native-oriented education, does it have any notable benefits for a group resisting assimilation? If it is in Education, public writing and the digital realm can a script aid in preserving language and distinctiveness and staving off the march of globalism? In this piece, I will be examining three very different scripts as case-studies on these questions to try to answer or respond to them. Then, I will look at the scripts' potential trajectory into the future and what benefits they might have for fostering native-language literacy going forward. Through an amalgamation of qualitative assessment and literacy statistics I hope to explore how these specific scripts affect their speech communities and provide a basis for future research in this specific and oft-neglected field.

Chapter One: Circumstances of Creation

The scripts that this work is composed on share few similarities in structure, with symbols that appear to be similar across scripts having different phonetic realizations when transliterated to Latin. Take for example Cherokee ‘E’ [gə̃] and the African script Vai’s ‘E’ [to]. Clearly, symbols do not always arise from the pure ingenuity of the script creators; they are borrowed vehicles that the rest of the script can be built around. But what motivates the push to independent literacy in a colonized community? Konrad Tuscherer observes that we have a “fervent belief” in the West that literacy can “transform man and society.”¹; that literacy is the end-all for demarcating the line between ‘civilization’ and ‘barbarism’. Can these scripts be thought of as a direct percolation of this mindset from colonizer to colonized? Are they a natural outcome of colonialism or somehow a unique reaction, only coming into being in very specific circumstances? In this piece, I hope to explore through qualitative assessment and a synthesis of the available research what benefit, if any, an indigenously created script has for the ethnolinguistic vitality of a culture group. I will also attempt to assess, based on available statistics and historical information, what benefit an indigenous script has in fostering first-language and community vitality, and how that ties in to revitalization efforts for a community threatened by language loss or colonial domination.

In the case of the Cherokee syllabary, Ellen Cushman proposes that its creation was a direct reaction by Sequoyah to the social pressures of encroaching Europeans on

¹Tuscherer, Konrad, and P.E.H. Hair. "Cherokee and West Africa: Examining the Origins of the Vai Script." *History in Africa* 29 (2002): 427. *JSTOR*. Web. 6 May 2016.

Cherokee society.² In an anecdote, Sequoyah and his companions camped with a group of white settlers who showed them a printed book.³ (27) The remarkable ‘power’ of writing is said to have fascinated Sequoyah, in line with Tuscherer’s assertion of the tendency for westerners to place writing on a pedestal, he sought a system “equal to the method of reading of whites”⁴ and indeed sought to create a system that could ‘raise up’ the Cherokee. The mysticism of literacy is especially poignant in a time period where Cherokee land was rapidly being whittled away by treaties written in English and signed by Cherokee people using their English names.

D a	R e	T i	Ꭰ o	Ꭱ u	i v
Ꭲ ga Ꭳ ka	Ꭴ ge	Ꭵ gi	Ꭶ go	Ꭷ gu	Ꭸ gv
Ꭹ ha	Ꭺ he	Ꭻ hi	Ꭼ ho	Ꭽ hu	Ꭾ hv
Ꭿ la	Ꮀ le	Ꮁ li	Ꮂ lo	Ꮃ lu	Ꮄ lv
Ꮅ ma	Ꮆ me	Ꮇ mi	Ꮈ mo	Ꮉ mu	
Ꮊ na Ꮋ hna	Ꮌ ne	Ꮍ ni	Ꮎ no	Ꮏ nu	Ꮐ nv
Ꮑ qua	Ꮒ que	Ꮓ qui	Ꮔ quo	Ꮕ quu	Ꮖ quv
Ꮗ sa Ꮘ s	Ꮙ se	Ꮚ si	Ꮛ so	Ꮜ su	Ꮝ sv
Ꮞ da Ꮟ ta	Ꮠ de Ꮡ te	Ꮢ di Ꮣ ti	Ꮤ do	Ꮥ du	Ꮦ dv
Ꮧ dla Ꮨ tla	Ꮩ tle	Ꮫ tli	Ꮬ tlo	Ꮭ tlu	Ꮮ tiv
Ꮮ tsa	Ꮯ tse	Ꮰ tsi	Ꮱ tso	Ꮲ tsu	Ꮳ tsv
Ꮴ wa	Ꮵ we	Ꮶ wi	Ꮷ wo	Ꮸ wu	Ꮹ wv
Ꮺ ya	Ꮻ ye	Ꮼ yi	Ꮽ yo	Ꮾ yu	Ꮿ yv

Figure 1. The Cherokee Syllabary; "Sequoyan"

From the admittedly sparse accounts of the time, Sequoyah’s personal effort in creating a compact and multifunctional script for his people seems to follow the observed patterns of script development that usually occur over hundreds of years. Consider Egyptian hieroglyphics which followed the rebus principle: developing a system of ideograms (where each symbol represents a word or abstract thought) into a more logographic system and finally into a purely phonetic system of demotic script.

²Cushman, Ellen. *The Cherokee Syllabary: Writing the People's Perseverance*. Norman: U of Oklahoma, 2011. 22. Print.

³ Cushman. *The Cherokee Syllabary*. 27.

⁴ Cushman. *The Cherokee Syllabary*. 28.

The hieroglyph *fri* ‘to lift up’ is exemplified by a seated male figure lifting up a horned viper (*fr*).⁵ Sequoyah began with a pictographic system, but upon realizing the cumbersomeness of creating thousands of symbols for every possible Cherokee word tried to work towards a logographic and finally a phonetic system.⁶ After a decade of work Sequoyah succeeded in creating a system with a symbol for every possible syllable in the Cherokee language, constrained as it was by CV/V syllable rules.⁷

What is notable is Sequoyah was explicitly not creating a system based on the Latin Alphabet, he did not want to make something which mimicked English writing; he wanted to make a uniquely Cherokee system of writing.⁸ Upon introducing his system with his daughter to the tribal council in 1822, the system spread rapidly and most Cherokee were literate within months of its introduction. With the adoption of a Cherokee-language printing press, even the violent removals of the mid-19th century were not enough to stop the widespread publication of printed Cherokee works in Sequoyah’s syllabary.⁹

Despite the historical violence experienced by the Cherokee community, they have managed to maintain strong cultural cohesion and a robust linguistic landscape. Cherokee has remained one of only twenty native languages that has retained speakers across generations¹⁰ and both the Cherokee Nation in Oklahoma and the Eastern Band of Cherokee in their ancestral homeland of North Carolina have implemented immersion programs in Cherokee language and literature to help combat language

⁵Fischer, Steven Roger. *A History of Writing*. Reaktion, 2001. 9. Google Books. Web.

⁶ Cushman. *The Cherokee Syllabary*. 36.

⁷ Cushman. *The Cherokee Syllabary*. 33.

⁸ Cushman. *The Cherokee Syllabary*. 37.

⁹Bender, Margaret. *Signs of Cherokee Culture: Sequoyah’s Syllabary in Eastern Cherokee Life*. University of North Carolina Press, 2002. 26. Print.

¹⁰Peter, Lizette & Hirata-Edds, Tracy. “Learning to Read and Write Cherokee: Toward a Theory of Literacy Revitalization.” *Bilingual Research Journal*. 207. Tandfonline Web. 10 November 2016.

loss.¹¹¹² Still, encroachment from the dominant culture is pervasive and of the ~300,000 registered Cherokee across three reservations, only 15,000 use Cherokee as a first language.¹³ Considering the storied history of Cherokee literacy, does having their own syllabary stave off assimilation? Does it contribute to the Cherokee people remaining distinct in the face of crushing colonial domination, or is it simply a footnote in their collective ethnolinguistic corpus?

N’ko (Maninka for “I say”) is a script developed for the Mandé languages of western Africa by Souleymane Kanté of Kankan, Guinea. N’ko, as opposed to Cherokee, has its roots much later in the history of European colonialism. Dianne Oyler states that N’ko made its first appearance in public writing on the 14th of April, 1949 in Bingerville, Côte d’Ivoire.¹⁴ The exact circumstances in which it was developed are not well recorded, and have become a sort of cultural epic among those who knew Kanté and use his script. Current collective memory from the N’ko-literate community holds that Kanté developed the script as a direct response to journalist Kamal Marwa’s 1944 claim that Africans were inherently inferior because they had never developed a writing system.¹⁵ The script, as remembered by Kanté’s family and friends, was meant to be a light leading the Maninka (and later Mandé speakers in general) out of the “ignorance and illiteracy”¹⁶ of postcolonial Africa. Even now, this sentiment is echoed by the symbol for N’ko: a lighted lantern.

¹¹Peter & Hirata-Edds. “Learning to Read and Write Cherokee” 208.

¹²Bender. *Signs of Cherokee Culture*. 8.

¹³Ibid.

¹⁴Oyler, Dianne White. “The N’ko Alphabet as a Vehicle of Indigenist Historiography.” *History in Africa* 24 (1997): 239. JSTOR. Web. 6 May 2016.

¹⁵ Oyler. “The N’ko Alphabet”. 242.

¹⁶ Ibid.

N'ko is a pure alphabet, with symbols for both vowels and consonants, as opposed to the Arabic Abjad which has a major presence in the majority-Muslim Mandé community.¹⁷ In fact, Kanté first used Arabic script to transcribe his native Maninka in 1945 but found the consonantal system lacking. In 1948, he attempted the same with Latin script but came away discouraged that the script was again inadequate at transcribing Maninka in an unambiguous, easily readable manner. In both cases, the sticking point was the fact that Maninka and Mandé languages in general are tonal and these tones are indispensable for indicating both lexical and grammatical distinctions. By 1949, Kanté had developed N'ko: a script that assigned a distinct letter for each consonant and vowel sound in Maninka, and included diacritics which could distinguish tone and vowel length. Without missing vowels (Arabic) or complicated digraphs (Latin) to impair literacy, N'ko was adopted as a script on a large scale and without assistance from the Colonial or Postcolonial governments of Guinea, Côte d'Ivoire or Mali.¹⁸

¹⁷ Oyler. "The N'ko Alphabet" 243.

¹⁸ Amselle, Jean-Loup. "Le N'ko au Mali" *Cahiers d'études africaines* 36.144 (1996) 823. Persée. Web. 10 February 2017.



Figure 2. The N'ko alphabet. Letters are joined from right to left.

While the current scale of N'ko literacy is hard to gauge (most N'ko literature being handwritten), Kanté developed his script as a direct grassroots opposition to the colonial establishment, and its widespread nature is apparent by the variety of N'ko associations found throughout West Africa. Kanté's students founded ICRA-N'KO in Conakry Guinea, an NGO promoting community literacy through the script. ICRA-N'KO, by their own statistics, has amassed a sizeable group of villages that have become literate in N'ko through informal education.¹⁹ Within the last thirty years more NGOs have sprung up including MDA-N'ko in Bamako, Mali; *Association pour la Lutte contre l'Ignorance* in Abidjan, Côte d'Ivoire and others, all modeled on Kanté's original vision of grassroots education and functional literacy.²⁰ Thus, N'ko has spread to every corner of the Mandé speaking world without colonial or even postcolonial government oversight in as few as fifty years.

It may be difficult to measure the extent of the community that has been created around the N'ko alphabet. Even so, ethnographic work by researchers like Dianne Oyler seems to show that for many Mandé using N'ko has become a way for them to signal their allegiance to Mandé identity- a way to show cultural solidarity in a very diverse

¹⁹ Wyrod, Christopher T. "The Light on the Horizon: N'ko Literacy and Formal Schooling in Guinea." *Thesis Submitted to George Washington University*. (2003) 82. *webmande.net* Web. 20 April 2017.

²⁰ *Ibid.*

ethnolinguistic region. In one interview that Oyler conducted in Kankan, Kanté's hometown, subjects stated that their main motivation to learn the script was "pride in their culture."²¹ A weak premise perhaps, from an empirical point of view, but it links to something greater: that, given the ability to do as they would, colonized people will create their own education and it can be successful. Even when separated from a colonial establishment, given time and community support a script like N'ko can not only survive but flourish.

Avoiuli (from Raga avoi- "talk about" and uli "draw/paint")²² is a script that was only recently developed in the 1990s by Chief Viraleo Boborenvanua of the Raga ethnic group on Pentecost Island, Vanuatu. Avoiuli is only one part of a much larger indigenist movement founded and propagated by Chief Boborenvanua known as the Turaga Nation- dedicated to Raga empowerment and the preservation of precolonial lifeways in northern Pentecost.²³ Avoiuli is an alphabet, with characters corresponding to A through Z in the basic English Latin script. Each letter is based on a traditional Raga sandroing, a form of mnemonic art making glyphs that loop in a complex manner and can join together in cursive style. Although mainly used for the Raga language, Avoiuli can also be used to transcribe Bislama, the creole language that acts as a lingua franca in Vanuatu. Avoiuli and the Raga indigenist movement suffer from a critical lack of academic reporting- with the blog of the schoolteacher Andrew Gray acting as one of the only resources in English on the Turaga movement and Avoiuli script. As such, Avoiuli will have to take a back seat to the other scripts in this piece- although the

²¹ Oyler. "The N'ko Alphabet." 239.

²² Gray, Andrew. "The Languages of Pentecost Island." *pentecostisland.net*, 2017. Web.

²³ Garae, Len. "Chief Vireleo explains the Tuvatu Currency." *Vanuatu Daily Post*. Vanuatu Daily Post, 3 Oct. 2014. Web. 8 May 2017.

Turaga movement itself may act as a model for an organized ethnolinguistic vitality program in a small, rural community.

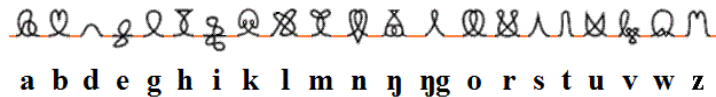


Figure 3. Avoiuli alphabet.

Chief Boborenvanua has been an active promoter of Raga identity, after creating and implementing Avoiuli in communities in Northern Pentecost he has developed a local banking chain (Tangbunia) that uses the traditional Raga exchange economy. In Tangbunia, all monies are tallied in livatu: the tusk of a fully grown boar which acted as currency before the advent of Vanuatu's more globalized economy.²⁴ Of course, all of the books for Tangbunia are kept in Raga using Avoiuli. Chief Boborenvanua has been perceived as an agitator by more urbanized Vanuatans, and he as well as eight of his retainers were imprisoned in 2016 for arriving to a meeting with the Vanuatu Supreme Court in traditional regalia instead of suits. Even so, Chief Boborenvanua has been ceaselessly working to create a strong linguistic landscape in the Raga homeland, implementing Avoiuli on signage wherever possible and in public buildings like the Tangbunia banks.²⁵

From the available materials, is it possible to assess the ethnolinguistic vitality of the Raga people and the potential benefits of the Avoiuli script on that vitality? I would say yes, even though there is little academic work on the recent political changes on Pentecost. Chief Boborenvanua has become a public figure in Vanuatu and has a

²⁴ Garae. "Chief Viraleo explains the Tuvatu Currency." *Vanuatu Daily Post*.

²⁵ McGarry, Dan. "A chance for reconciliation." *Vanuatu Daily Post*. *Vanuatu Daily Post*, 22 Oct. 2016. Web. 5 May 2017.

wide variety of journalism written about his projects and combativeness with the postcolonial Vanuatu government. In addition, there is some indication that Raga has remained vital even when other local languages in Vanuatu have been subsumed into either Bislama or other local Austronesian languages with larger speaker bases. An example of this would be Sowa in the center of Pentecost Island, which lost its last native speaker as recently as 2000, and Ske which has about three hundred remaining speakers and is being quickly assimilated to Bislama and Apma/Sa speaking peoples.²⁶²⁷ Compared to Apma, the language with the most speakers on Pentecost, Raga seems to be very vital and is less influenced by Bislama because of its relative distance from the capital.

These three scripts are exceedingly different in their composition and history, as well as the ethnic groups which have developed and used them. Even so, they share common threads: they were developed by a Native person in a community directly influenced by colonial power, they were developed with the specific culture and language of the creator in mind and they were introduced at a grassroots level separate from the Euro-colonial educational establishment. All of these scripts have sprung up and spread within their respective communities rapidly, but they are inward-facing expressions of culture and are generally either not supported by the colonial educational establishment or are only recognized after long periods of conflict within those establishments. Chief Boborenvanua implemented Avoiuli as a script by Raga for Raga to be used in Raga villages, as Souleymane Kanté did for N'ko in Kankan and Sequoyah for the Cherokee. In these cases, literacy seems to spring from the ground up.

²⁶ Ethnologue. "Apma, A Language of Vanuatu." *Ethnologue*. 2014. Web.

²⁷ Ethnologue. "Sa, A Language of Vanuatu." *Ethnologue*. 2014. Web.

Chapter Two: Ethnolinguistic Vitality and Script Choice

Ethnolinguistic Vitality is a concept within linguistics and communication studies, introduced in 1977 by Giles, Bourhis and Taylor but steadily gaining traction since, with 144 new publications mentioning it in 2009.²⁸ The concept has a few concrete tenets, such as that a culture with more “Cultural Distinctiveness” (loosely defined by M. Ehala as social restrictions that increase the difficulty of assimilation)²⁹ increases the vitality of their language and ethnicity, making them more resistant to assimilation towards a more dominant ethnolinguistic group. Another tenet is that the perceived strength differential between two groups can be quantified as the sum total of all of the benefits and detriments being a member of an ethnolinguistic group provides. Does being a part of the group increase access to education? What about to employment? Healthcare? What about the social advantages, community consciousness, history, literature and the like? When we distill all of this great vortex of culture down to a single conceptual variable, we are left with Cultural Mass. To borrow a variable of Ehala’s, this Mass can be symbolized by (M).³⁰

Ethnolinguistic vitality, then, can be usefully thought of as a mathematical model- where the variables represent different pressures on the differential between a given subordinate group and a dominant one. I use the terminology ‘subordinate and dominant’ to describe the concept in the context of colonialism, rather than minority/majority groups. This is because the normal distinction between

²⁸ Ehala, Martin “Tradition and Innovation in the Ethnolinguistic Vitality theory.” *Journal of Multilingual and Multicultural Development* 32.2 (2011): 101. *Wiley Online Library*. Web.

²⁹ Ehala, Martin “Empirical Evaluation of a Mathematical Model for Ethnolinguistic Vitality: The Case of Võro.” *Journal of Multilingual and Multicultural Development* 28.6 (2007) 40. *Wiley Online Library*. Web.

³⁰ Ehala. “Empirical Evaluation” 39.

minority/majority assimilation does not apply in cases like African colonialism; Mande people are not a minority in West Africa but during colonialism they were subordinate to colonial authority. In a case like African colonialism, the pressures to assimilate are not necessarily to an immediately present majority group but to the colonial metropole. Ehala presents the mathematical model for vitality as $[V=U(M1-M2)/R]$ where U is the utility of belonging to the subordinate group (M1) and R is the intergroup distance between the subordinate and dominant group, that is, the “Cultural Distinctiveness” of the subordinate group.³¹

These variables, R and U are what we will examine in the context of scripts. Does having a natively-derived script increase the utility of being a member of the subordinate group? Does it increase the intergroup distance between a group without means, without an educational establishment, and the colonial metropole- with all of the funds, cultural capital and social power afforded to a colonizing force? Or do groups which have developed natively derived scripts simply have higher vitality (in Ehala’s model, $V \geq 0$) in the first place, allowing them the collective cultural consciousness to develop their own, native-language-tailored writing systems. By qualitatively examining Cherokee, N’ko, Vai and Avoiuli scripts through the circumstances of their origin, their utility in the communities they were made for and the cultural motivations for using these scripts I hope to answer these questions. If applied in revitalization, I hope to give some modicum of direction on whether developing and teaching a natively-derived, natively-oriented script has any advantage to communities combating language loss or if they are phenomena unrelated to one another.

³¹Ehala. “Empirical Evaluation” 39.

Of course, quantifying these theoretical variables is by no means a task apparent. As with many aspects of human cognition, ‘cultural distinctiveness’ and ‘utility’ do not boil down into an easy number which can be comfortably inserted into the formula for Ethnolinguistic Vitality, although Ehala attempts to synthesize this through qualitative survey. Rather, they are sums of qualitative assessments. Current models state that if a given culture has an ‘R’ ≥ 1 , it has ‘cultural distinctiveness’ and therefore a better chance of resisting assimilation. But, to empirically quantify R we are in essence using a qualitative interview process and then transforming data from those interviews into an ‘empirical’ number which can then be inserted into the mathematic model. Instead of constraining myself by such empirical assessments (the methodology of which would be beyond the possible scope of this piece as an undergraduate thesis) I will examine a number of qualitative factors and synthesize available literature and ethnography to show that a given group feels distinct, and how that distinctiveness is expressed in relation to their script.

Because this is not a quantitative assessment of the populations using these scripts, I will be using other markers of vitality to demonstrate whether a script can be said to be ‘vital’ or not. These markers include Linguistic Landscape (the presence of a language/writing system in public spaces), rates of literacy in the script and language (theoretically, an indicator of the ‘M1’ in Ehala’s model- the utility of belonging to a group) and determinable future trends in the use of the script and the language tied to it. At the very least, these factors will give us a picture of how a given script sits in the ethnic landscape and whether it has any identifiable effect on the ethnolinguistic vitality of the group as a whole.

Chapter Three: Linguistic Landscape as an Indicator of Vitality

The concept of a “linguistic landscape”, as it was introduced by Landry and Bourhis (1997) comprises a variety of factors related to Ethnolinguistic Vitality and how established a given language can be in the physical world that its speakers move through.³² Essentially, the “linguistic landscape” is the degree to which a given language is present in the signs, place names and other visible forms of language in a community. If the linguistic landscape for a given language is weak, one could expect there to be few signs and place names in the language in favor of a more dominant language variety. If it is strong, one would expect the visible markers of this vitality to be alongside or even used in place of a more dominant national or standardized variety.³³ In this piece, although we lack any quantitative tools for determining the strength of a given linguistic landscape, quantitative work by Landry and Bourhis demonstrates the correlate between high public visibility of a script and high subjective ethnolinguistic vitality among the users of said script. In their study on Quebecois high-schoolers, they demonstrated that Linguistic Landscape had the largest impact on *perceived* vitality of the Francophone community, but a smaller impact on actual language use.³⁴ As with all arenas in Ethnology, this is a subjective perception of the group’s *own* vitality- it is impossible even through models like Ehala’s to acquire quote-unquote “objective” measures of cultural vitality because ultimately you are indexing the group’s self-perception. Landry & Bourhis based their empirical assessment on qualitative assessments of vitality polled from their subjects. Thus, if a script is present

³²Landry, Rodrigue and Bourhis, Richard Y. “Linguistic landscape and ethnolinguistic vitality: An empirical study.” *Journal of Language and Social Psychology* 16.1 (1997) 23.

³³ Ibid.

³⁴ Landry & Bourhis. “Linguistic Landscape.” 43.

in the linguistic landscape, it can be inferred as an indicator that the in-group identity of the ethnicity- their subjective *self-perception* of their culture- is strong, even in a language like Cherokee where the language itself is in decline.

Some of the research on linguistic landscape does suggest that it can be beneficial for fostering cultural distinctiveness- our 'R' if we're thinking in terms of Ehala's model of vitality. For one, the landscape delineates the area a language is spoken- thus a robust landscape displays resistance to assimilating forces, if a language is a minority.³⁵ For Cherokee, a language that is under direct danger of extinction, simply displaying the script can act as a signal of Cherokee culture and identity.³⁶ In Eastern Cherokee life, use of the script is meant to show direct pride in one's language and one would likely not use it to describe 'unsavory' things. As an example, Margaret Bender notes in *Signs of Cherokee Culture* that a crude phrasebook representing how to 'talk trash' in Cherokee is not written in the syllabary because it shows aspects of the culture that are outside how the community wishes to represent itself.³⁷ Because of the defensive position that Eastern Cherokee are in with their language, it is more conducive to the distinctiveness of the culture for the script to be restricted- to be used as a signal for allegiance to Cherokee culture- and therefore not used in curios for tourists. For some, having the language *present* in the community is enough to represent a healthy landscape even if the proportion of native speakers is still very low in comparison to a community with a healthy proportion of L1 speakers- like N'ko.

Cherokee itself may have relatively weak vitality, due to centuries of colonial pressure and forced relocations. Being embedded in Anglo-American culture as it is,

³⁵ Landry & Bourhis. "Linguistic Landscape." 43.

³⁶ Bender. *Signs of Cherokee Culture*. 82.

³⁷ Ibid.

and surrounded by the increasingly utilitarian English language the utility of remaining in the Cherokee in-group has become lessened with the language's decline. Even so, the Sequoyan linguistic landscape of the Eastern Cherokee and the Cherokee Nation (including the estranged United Keetoowah Band which is within the Nation) seems to be relatively strong. In the Eastern Cherokee community, Bender gives the example of the syllabary-written "Tsa-la-gi", the Cherokee endonym, as a representation of community alignment and traditional mores when used as a graphic symbol. Although fluency in the language is low, using "Tsa-la-gi" as a motif in craftwork garnered the work better scores in local competitions because it aligned the craftworker with Cherokee culture directly; "at the iconic level, it makes the product 'look Cherokee'."³⁸ This iconography then conforms directly with the ideas of 'distinctiveness' laid out in Ehala, because the syllabary has become an integral part of Cherokee cultural mass. As a visible symbol of 'Cherokee' as a concept, even if the syllabary is not used by a majority of the culture group they can still recognize it as demonstrating the 'Cherokee-ness' of a location or artwork. The syllabary is marking a location as 'Cherokee' rather than general use- it is an index for the Cherokee culture as a whole.³⁹ This all works to make Cherokee culture more distinct from the dominant culture surrounding it and hedges, however successfully, against assimilating pressures simply by its presence in the Eastern Cherokee linguistic landscape.

In the Cherokee Nation of Oklahoma, the largest Cherokee tribe, the use of the syllabary is again a significant part of the linguistic landscape and is presented both as an icon (as in the Eastern Band) and as the primary tool for resisting language erosion.

³⁸ Bender. *Signs of Cherokee Culture*. 85.

³⁹ Bender. *Signs of Cherokee Culture*. 2.

During the period 1906-1971, when the official Cherokee Nation was decommissioned and without leadership the syllabary was still used to educate Cherokee people- even with government programs to discourage Cherokee-language education.⁴⁰ It was not until 1991 that the syllabary was legally encoded into the linguistic landscape of the Cherokee Nation- that is, formally promoted in public writing- and Cherokee was recognized and protected by the tribal government as a cultural resource.⁴¹ The language, in addition to being taught in immersion schools throughout the reservation, is prominent on signage and businesses, making the visibility of specifically Cherokee culture in eastern Oklahoma impossible to ignore.⁴²



Figure 4. Bilingual Stop Sign in Tahlequah, OK with transliteration.

Although the legacy of the harsh colonial education of the 20th century is rapid attrition of Cherokee speakers, tribal protection of Cherokee and its writing system has made Cherokee identity much more visually apparent to those living in the area. If we go off of the model of immersion schools as a way to protect indigenous language, then the further use of Cherokee as the primary visible language should have a compounding

⁴⁰ Cushman. *The Cherokee Syllabary*. 178.

⁴¹ Cushman. *The Cherokee Syllabary*. 189.

⁴² *Stop Sign in Tahlequah, OK*. Digital image. *Pinterest*. Pinterest, Inc. , 2017. Web. 15 May 2017.

effect. The actual effect of making a wider Cherokee environment outside of the classroom would be very difficult to gauge, but if the classroom model is extrapolated out then having a strong linguistic landscape should aid in making the Cherokee Nation as a whole a ‘classroom’ for the Cherokee language.

Cherokee has had a Unicode font from as early as 1996, and had a five-year development period before its release showing Cherokee’s transition to digital media began almost as quickly as the technology was available to do so.⁴³ This boon came quickly after the Cherokee Nation codified language revitalization into its tribal policy in 1991⁴⁴ meaning pedagogical materials were digitally available for use by the Cherokee Nation’s immersion school by the time it opened in 2001.⁴⁵ The transition to digital media has allowed the Cherokee nation a much greater breadth in terms of the presence of Cherokee symbolism (through the script) online. There is a Cherokee-language Wikipedia with over 700 finished content pages and 10,000 users,⁴⁶ something N’ko with its much larger speaker base has not yet established. The immersion school in the Cherokee Nation has also developed its own pedagogical materials which the printable Unicode script made readily reproducible and distributable on a large scale, and digital see-and-say software to learn and practice the language and script as well as online education in Cherokee language, which was previously inaccessible to Cherokees (and others) living outside the three chartered tribes.

Cherokee is present, even for non-literate members of the ethnicity, in nearly every sphere of public life in both the Eastern Band and the Cherokee Nation. It adorns

⁴³"The Unicode Consortium Members." *Unicode.org*. Unicode, INC., 2017. Web. 10 May 2017.

⁴⁴ Cushman. *The Cherokee Syllabary*. 188.

⁴⁵ *Ibid.*

⁴⁶"Cherokee Wikipedia." *Wikipedia.org*. Wikimedia, 2017. Web.

schools, billboards, street signs and public spaces even though very few passersby can presumably read it. Where it lacks is private life- of the eighty-seven children enrolled in a Cherokee Nation immersion class none of their parents were conversant in the language.⁴⁷ Even so, the cultural impetus seems to be to impose revitalization efforts in a top-down manner, to try to reverse the devastating cultural assimilation of the 20th century. That the Cherokee are cognizant of and are in fact actively trying to facilitate the spread of their language is promising for revitalization efforts of other native languages. It shows that positive linguistic landscapes in Cherokee, when combined with grassroots revitalization programs, can be effective in pulling a culture back from the brink. The Cherokee have the Syllabary as an additional asset: a more instantly recognizable icon or index of their culture, and one that has a particular function for language revitalization itself. But, it is not the be-all in creating positive linguistic landscapes. Rather, it is just a powerful tool.

The linguistic landscape of the N'ko script, like Cherokee, is influenced by the unofficial roots of the script and the grassroots proliferation of it (although Cherokee has recently gained more official support). As mentioned in the introduction, N'ko was spread initially directly by its founder Souleymane Kanté who personally introduced the script to cities and villages in Côte d'Ivoire, Guinea and Mali.⁴⁸ Since his death in the 1980s and the end of Sékou Touré's regime, several NGOs in Guinea and surrounding countries have sprung up to promote the script among local communities. N'ko's landscape is diffuse, to be sure. Despite the work of ICRA-N'KO and many other NGOs N'ko does not have officially-supported public visibility in any of the countries it

⁴⁷ Cushman. *The Cherokee Syllabary*. 193.

⁴⁸ Oylr. "The N'ko Alphabet." 240.

is used in, unlike the Cherokee script which is officially funded and supported by the Cherokee Nation since 1991.⁴⁹⁵⁰ Statistics from Kankan, Guinea in 1994 suggest that N’ko literacy was roughly equivalent with Arabic scriptural literacy at the time, with about ~8.5% of the population reporting functional literacy in N’ko.⁵¹ This is significant, considering that madrasahs had been established in Guinea starting in the 11th century while N’ko had only existed as a script for fifty years, and even more significant when one considers that literacy for the entire city of Kankan has hovered around ~20-30% for the last twenty-five years, showing that half to one-third of all literate people were in fact using N’ko as one, not necessarily the main, means of written communication.



Figure 5. Bilingual sign for N’ko school in Mali.

One of N’ko’s most robust landscapes is in fact online, with several websites sponsored by various N’ko NGOs presenting fonts, message boards in N’ko and N’ko literature. Sites like kanjamadi.com (ICRA-N’KO’s official site) and kouroussaba.com

⁴⁹ Wyrod. “The Light on the Horizon.” 89.
⁵⁰ Cushman. *The Cherokee Syllabary*. 188.
⁵¹ Wyrod. “The Light on the Horizon.” 29.

(the site of New York-based N’ko scholar Ibrahima Traore) have large sections entirely in N’ko and ways for N’ko learners to communicate in forums.⁵²⁵³ Outside of the internet, the landscape of N’ko is hard to gauge. N’ko-teaching institutions and bookstores obviously employ the script but there is not the extent of public billboards and businesses that display N’ko as in the Cherokee nation. Public language outside of specific Maninka-oriented spaces and certain towns like Kankan is overwhelmingly colonially-based, either in French or in a latin-based rendition of a local variety. Even so, from anecdotal accounts of Maninka speakers N’ko’s conversion into UNICODE has been a major boon to its widespreadness. Even if a person educated in N’ko is not exposed to N’ko billboards, newspapers or books they can still text in the script- or send e-mails.⁵⁴ N’ko’s UNICODE variant has become widespread enough that major corporations are taking note, according to a 2014 article by Guinean newspaper *Guinée Matin*:⁵⁵

“At this level, there are electronic corpora for African languages, automatic spell-checkers, automatic translators, and Windows 8.1 of which Guinea has had the honor of supervising the technical work. In addition, applications for Android systems like Twitter [have been supported] and the internet browser Mozilla Firefox, made by the Americans. There is also the N’ko [supported software] that the Indians are about to launch for Android phones.” (all translations my own unless otherwise noted)

In this case, the article’s author is discussing a technical conference hosted in Guinea and the progression of the N’ko alphabet into the general technological mainstream.

⁵²“Kanjamadi.” *Kanjamadi.org* ICRA-N’ko, 2017. Web. 25 April 2017.

⁵³ Traore, Ibrahim. “Kurusaba.” *Kouroussaba.net* Kourousaba, 2017. Web. 25 April 2017.

⁵⁴ Rosenberg, Tina. “Everyone Speaks Text Message” *The New York Times*. NYtimes.com, 9 Dec. 2011. Web. 15 March 2017.

⁵⁵ Sylla, Yacine. “Langues: Sory Condé invite les autorités à intégrer le N’ko dans le cursus scolaire et universitaire.” *Guinée Matin*, 30 Dec. 2014. Guineematin.com Web. 25 Apr. 2017.

With multiple corporations making N’ko-supported software and others funding N’ko support for their software with Guinean oversight (Microsoft included) the digital landscape for N’ko is perhaps more vital than the French-dominated linguistic landscape found on street signs in Mali and Guinea would belie. Indeed, as N’ko has historically had difficulty being spread as a printed medium due to reliance on copying handwritten texts and then duplicating them for dissemination.⁵⁶ The emergence of N’ko as a digital font has allowed it to be rapidly spread in ways that simply weren’t viable even twenty years ago when the only major N’ko publishing firm for the whole of Africa was in Cairo, and could not keep up with demand from Conakry, let alone Abidjan and Bamako.⁵⁷

One example of how linguistic landscapes are applied as a way of signaling identity in N’ko’s part of the world is in the construction of ‘warscapes’. Northern Mali has had significant political unrest in the past, with the most recent being the crisis of 2012-13. Fiona McLaughlin posits that public writing is used as a powerful tool of identity marking in conflicts between armed groups, “claiming” a city based on the proliferation of their script in public writing.⁵⁸ In McLaughlin’s example, use of Tamasheq (Berber) language in both Tifinagh (the ancestral script of the Berber languages) and ajami (Arabic script) signals opposition to the Malian state and identification with the Tuareg/Tamasheq indigenist movement.⁵⁹ Interestingly, those aligned *with* the Malian state favored the national language French as the method of public writing and not, for example, Bamanankan: a Mandé language and the primary

⁵⁶ Oyler. “The N’ko Alphabet” 252.

⁵⁷ Ibid.

⁵⁸ McLaughlin, Fiona. “Linguistic warscapes of Northern Mali.” *Linguistic Landscapes* 1.3 (2015) *John Benjamins* Web. 213. 20 March 2017.

⁵⁹ McLaughlin. “Linguistic warscapes” 225.

language of south and central Mali where the Malian central government is strongest.⁶⁰ An explanation could be that French is identified with the Malian central government and Bamanankan (and N’ko with it, although Bamanankan is also written in Latin characters) despite being the dominant language, is more identified with Mandé identity than a united Malian state. In any case, Bamanankan is entirely absent from the warscape either in N’ko or otherwise; French being favored in the pro-government parts of the conflicted area.⁶¹ This does not necessarily mean that N’ko is directly identified with Bamana identity, but its absence in warscapes promoting the Malian state suggests the state is not itself necessarily identified with Mandé-ness and N’ko by proxy. That nationalism is reserved for the markers of colonial power- the French language most prominently.

For the Berber Islamists and separatists in Northern Mali the signification of the Tifinagh script mimics in many ways the signification of the Cherokee syllabary. Even if a given group of Tuareg does not use Tifinagh to regularly write their language (in fact, they may not use Tuareg as a literary language at all) the Tifinagh letter *yaz* acts as an emblem of Tuareg culture. It marks resistance to the Mali central government and support for the Tuareg irredentist state *Azawad*. This is analogous to the way that the letters *tsa-la-gi* in Cherokee emblemize Cherokee-ness for the craftworkers of the Eastern Cherokee- even if the language itself is not being written publicly.⁶²⁶³ If we return to the idea of creating ‘warscapes’ through public language, then maybe N’ko is too uniquely Mandé for it to represent Mali as a whole. If the goal of the Malian

⁶⁰ McLaughlin. “Linguistic warscapes” 235.

⁶¹ Ibid.

⁶² McLaughlin. “Linguistic warscapes” 226-7.

⁶³ Bender. *Signs of Cherokee Culture*. 2-3.

government is to envision Mali as a multi-ethnic nation-state and not a Mandé nation specifically then French perhaps represents vague Malian nationality. While Tuareg may see the war as an inter-ethnic conflict specifically and a reclamation of historically Berber land, the Malian government is restoring order to a conflicted part of their nation-state.⁶⁴ Therefore, although the reality on the ground is that of inter-ethnic conflict: N'ko as a symbol of Mandé-ness is not needed to demonstrate the linguistic and cultural landscape. The Malian nation-state and even the French language itself represent Mandé-ness by virtue of their proximal relation to Bamanankan domination of the wider ethnic landscape in Mali.

N'ko itself, as suggested above, is *not* used often in public writing outside of very specific parts of its range (Kankan being one) and therefore has a landscape limited to the intimate realm. As previously noted, with the introduction of a Unicode font for N'ko it has become popular and common online but because of a general lack of government support for N'ko NGOs it is not usually *physically* present in the environment of Malian Mandé communities- French dominates in the sphere of public writing. By “physically” present I refer to the presence of the language in public writing and signage, as Landry and Bourhis defined in their 1997 article. I came to this conclusion from photos of metropolitan areas in Guinea, along with studies on the distribution of N'ko script in Kankan, the Ur-region for N'ko which shows a clear dominance of French in public writing (in Guinea).⁶⁵ Landry and Bourhis had a much more quantitative method of research, quantifying ethnolinguistic vitality.

⁶⁴ McLaughlin. “Linguistic warsapes” 227-8.

⁶⁵Yerende, Efstathia. "Public signage and adult literacy practices in the City of Kankan (Guinea)" Paper presented at the annual meeting of the Comparative and International Education Society Annual Conference, Sheraton Centre Toronto, Toronto, Ontario, Canada, 10 Mar. 2014. Web. 2 May 2017.

This French domination is, of course, save for the few organizations that teach literacy in the script. In Guinea, the longstanding Maninka contributions to the spread of N’ko might be thought to mean that it is more present than in perhaps Mali or Côte d’Ivoire, at least in Maninka communities. But, unfortunately the Guinean government has been unreliable in its support. In a post from Tierno S. Bah, a prominent Guinean intellectual with an active role in the late Sekou Touré’s regime, it is clarified that in fact N’ko was not supported by the Guinean government as a part of wider pro-Maninka culture initiatives. Bah says, “N’ko has not fared well under any of the three Maninka presidents of Guinea.”⁶⁶ Least of all, notes Bah, Alpha Condé who ran on an explicitly pro-N’ko platform, won, and then failed to deliver any concrete funding resolutions for education in the script.⁶⁷ If there was textual evidence of support for N’ko during Touré’s presidency it is either not public, unreachable due to failures in organization during the transition or destroyed- as many documents from the regime were.⁶⁸ So, one must assume that the vast majority of funding and support for N’ko has come from the communities in question, and not from any conspicuous wielders of power in the region.

All of this is to say that N’ko, despite grassroots strength, is not often used in any official public capacity in the areas in which it is present. This makes it difficult to define in the context of Landry & Bourhis’ observations on the link between a linguistic landscape and ethnolinguistic vitality. To be sure, the Mandé languages appear vital- they are the main languages of communication in their respective areas. But, the

⁶⁶ Bah, Tierno S. “The N’ko Alphabet, Then and Now.” Web blog post. *webGuinée*. webGuinée, April 2017. 2-3. Web. 2 May 2017.

⁶⁷ Ibid.

⁶⁸ Ibid.

linguistic landscape on the ground for N’ko-literates is weak. Mandé is foregone in public writing in favor of French, and N’ko is rare outside of private correspondence and the internet. N’ko must be presented in opposition to western Education for it to have a foothold, as the only accepted education in Mali, Guinea and the rest of West Africa continues to be French-language.

As noted above, scholarly research on Raga culture in general is sorely lacking, much less an analysis of Raga linguistic landscapes since the rise of the Turaga movement in north Pentecost. However, from the photo resources available and anecdotal accounts from those like Andrew Gray the Avoiuli landscape appears to be robust within the Raga-speaking area of Pentecost. Photos show banners of the Turaga movement’s seal: complete with Avoiuli script along the bottom, as well as stone markers engraved with the script and many information signs written in the cursive script.⁶⁹ In addition, there are online resources which depict the check-system of the Tangbunia bank established by Avoiuli creator Boborenvanua, which includes bank notes of varying value including the script alongside latin English script labeling the “Destiny Reserve System” arm of Tangbunia.⁷⁰

⁶⁹Ager, Simon. "Raga (Hano)." *Omniglot*. Kualo, 2017. Web. 5 May 2017.

⁷⁰Garae, Len. “Release of Paper Notes Specimen of Vanuatu Indigenous Currencies.” *Vanuatu Daily Post*. Vanuatu Daily Post, 17 Sep. 2014. Web. 10 April 2017.



Figure 6. Five Tuvatu banknote from Tangbunia. Note *sandroing* and boar tusk imagery.

Andrew Gray and the chief himself claim that the books of Tangbunia are all kept in Avoiuli, and the Turaga movement runs both a university (the Melanesian Institute of Science, Philosophy, Humanity and Technology) and a “kastom” (traditional) school in Lavatamenggamu which teach exclusively in Raga and Bislama as well as the Avoiuli script.^{71 72}

In fact, despite a generally hostile environment for Boborenvanua’s movement in Port Vila, Raga writing (in Avoiuli) seems to be very strong in the context of the Raga nation itself. From the little information we can divine from available photographic and news sources, the Turaga nation has made itself a national presence within Vanuatu. It has repeatedly made it to the Vanuatu Daily Post with both positive and negative pieces on their writing system, monetary system and particularly Chief Viraleo himself who has been a vocal opponent of the government in Port Vila and anti-establishment in terms of the economic system (favoring his own Tuvatu/Tangbunia system of currency).⁷³ In addition, Avoiuli is visually very similar to

⁷¹ Gray. “Languages of Pentecost Island”

⁷² Garae, Len. "Chief Vireleo explains the Tuvatu Currency." *Vanuatu Daily Post*. Vanuatu Daily Post, 3 Oct. 2014. Web. 8 May 2017.

⁷³ Ibid.

traditional *sandroing* (sand-drawing) which is often considered the original form of writing among the Raga and other Melanesians.⁷⁴

While *sandroing* is primarily a mnemonic device to remember oral histories or lineages, Avoiuli is a direct alphabet- with sounds corresponding directly to glyphs. Even so, Avoiuli preserves the hallmark features of *sandroing* including symmetrical writing (Avoiuli can be written right to left, left to right or in boustrophedon order without changing glyphs), and joined letters which are meant to be written in one stroke.⁷⁵ In this way Avoiuli not only creates a linguistic landscape for Raga to be visually present in the communities of North Pentecost, but directly invokes traditional cultural themes to both establish itself in the community and expound on the Turaga movement's stated goal of creating an alternative to Western Education through *kastom* or local tradition. In the same way that the Cherokee script might be symbolically used to demonstrate Cherokee identity, the connection to *sandroing* emblemizes the ethnolinguistic solidarity of the Raga people, and creates a linguistic landscape pursuant to that solidarity.

In a way, Avoiuli and the Raga people more broadly are finding rapid success in a field that N'ko has struggled to break into: creating an entirely natively-based literacy system. Because of the small size of the Raga group and its relative isolation Chief Boborenvanua has been able to offer an alternative to Western education that works though native symbology to reach the same end-goal: literacy. N'ko, which has to deal with multiple international borders, millions of potential speakers and a much less

⁷⁴Rio, Knut. "DISCUSSIONS AROUND A SAND-DRAWING: CREATIONS OF AGENCY AND SOCIETY IN MELANESIA." *Journal of the Royal Anthropological Institute* 11.3 (2005): 401. *JSTOR*. Web. 6 May 2016.

⁷⁵ Gray. "Languages of Pentecost Island"

centralized education system has attempted to create this nonwestern mode of education in turn with only halting success. The internet has created an inroad to spreading N'ko over its vast potential audience, and N'ko formal schools have become an option that was previously unavailable⁷⁶ but the concentrated, top-down nature of the Raga community has allowed them the ability to enforce this new education system over the breadth of their territory in a relatively short period of time (consider that Avoiuli was invented in the 1990s while N'Ko has been actively spread since the mid 1950s.) Avoiuli demonstrates that a small, ethnolinguistically vital community can create methods to enforce that vitality and, through a strong linguistic landscape replete with local symbology, maintain that vitality in the face of globalization within their country as a whole. By creating an environment where everything is related back to 'Raga-ness' from finance, to education, to public writing the Raga are raising their 'R', their cultural distinctiveness,⁷⁷ and more actively resisting assimilation from outside forces.

Avoiuli, unlike N'ko and Cherokee has no identifiable online presence and no conversion to UNICODE. This is understandable considering the rurality of North Pentecost and the relative poverty and lack of services in general in Penama province. Although North Pentecost is the most developed Area Council in the province, and has the highest population⁷⁸ and an unpaved airstrip, internet is nearly unknown and electricity is sparse. Thus, even if Avoiuli had the potential for becoming a wider script outside of the Raga territory it is unlikely that it would be spread beyond Pentecost unless one of the pupils from Lavtamenggamu explicitly brought it there, and this

⁷⁶ Wyrod. "The Light on the Horizon" 26.

⁷⁷ Ehala. "Empirical Evaluation of a model" 40.

⁷⁸ Vanuatu. Vanuatu Meteorological and Geohazards Department. National Advisory Board on Climate Change and Disaster Risk Reduction. *VCAP Penama Province Area Profile*. Vanuatu Meteorological and Geohazards Department, 2016. Web. 2 May 2017.

would conflict with the Turaga nation's stated slogan of *Blak toktok, Blak wok* or the idea that indigenous (Raga) language and culture should be put first, above colonizing languages and customs that aren't *kastom*.⁷⁹ Avoiuli's vitality is restricted in this way, whereas N'ko despite its difficulties in obtaining consistent funding and support from power has the potential to spread and its position as a quasi-koiné allows it to move into spaces of Mandé cultures that were not part of the Maninka homeland. For comparison, the Raga-centrism of the Turaga movement has seemed to preclude Avoiuli being used for other languages of Pentecost including the neighboring Apma language and the Sa language of south Pentecost. From the admittedly sparse information available on the Turaga movement, it does not seem like this is a plan for the future, either.

⁷⁹ Gray "Languages of Pentecost Island."

Chapter Four: Applications in Literacy

Because literacy statistics are taken in bulk it can be difficult to pinpoint the effect a specific script has on literacy rates in a given community, and even more-so given that the scripts described in this piece are in direct competition with Western-oriented (Latin orthography or European-language) education and, in the case of N'ko, Arabic-oriented education as well. Even so, by cross-referencing different literacy statistics from local organizations and international organizations like UNESCO and incorporating local perceptions of the script we can make an educated guess at the impact of a script on a community's literacy.

In the case of Avoiuli, the Vanuatu government is not forthcoming about the literacy rates of individual provinces. However, from general census data we can see that despite ~98% literacy rates in urban areas (Port Vila, the capital) rural literacy in Vanuatu still hovers around 80% for most areas, but with only about 70% of people remaining in education after 13 years old.⁸⁰ In Penama province, the province including Pentecost island (and thus the whole Raga and Avoiuli/Turaga community) enrollment rates for secondary schools have actually declined in recent years, suggesting either that young adults are staying home to work or pursuing education through non-official enterprises. This is not known to be directly linked to Turaga, but it is worthwhile to keep in mind that Turaga movement schools are not considered formal sites of education by the Vanuatu ministry of education.⁸¹ In the case of international literacy initiatives, UNESCO's VANLEP initiative is set up specifically in opposition to

⁸⁰Vanuatu. Vanuatu Ministry of Finance and Economic Management. Vanuatu National Statistics Office. *2009 National Population and Housing Census*. Vanuatu Ministry of Finance and Economic Management. 2009. Web. 2 May 2017.

⁸¹Vanuatu. Ministry of Education and Training. Policy and Planning Unit. *Annual Statistical Digest*. Port Vila: Vanuatu Ministry of Education and Training, 2015. Web.

unofficial (read: indigenous) education in Vanuatu, specifically emphasizing the three official languages of English, French and Bislama.⁸²

By virtue of its emphasis on *Raga* education and Literacy, Turaga literacy initiatives are already in direct opposition to domestic and international education initiatives and are defined as undesirable by both UNESCO and Vanuatu's own Ministry of Education. This is a major pitfall of researching the effect of indigenously fostered education at all- most statistics only consider western-oriented educational efforts to be education in the first place. Even so, by considering the population of the Raga nation (~5000) and the number of secondary students as a proportion of the population of Penama province (~2200 out of 38,000) as well as the fact that there is only one main Turaga secondary school -at Lavatmangemu- those enrolled in the *kastom* school cannot exceed more than a few hundred at the very most.⁸³ The restricted nature of the Raga language (and the small numbers of people being educated in the script) means that Avoiuli will probably remain a Raga-centric script. With this in mind, the fact that people are willing to pay apparently "substantial"⁸⁴ tuition fees to place their children in Turaga-run schools along with a fairly strong linguistic landscape in North Pentecost (especially in Lavatmangemu) show that -within its context- Avoiuli represents a strong notion of cultural distinctiveness among Raga ('R') and likely promotes Raga resistance to assimilation. Although Avoiuli uses symbols in common with other Ni-Vanuatu cultures, particularly *sandroing*, and its simple sound-to-letter association makes it workable with most local Austronesian languages the Raga-centric nature of the Turaga movement means that it has not been applied outside of North

⁸²"Vanuatu Literacy Programme (VANLEP)" UNESCO. UNESCO, 2016. Web

⁸³ Gray. "Languages of Pentecost Island"

⁸⁴ Ibid.

Pentecost. Indeed, if the lack of comment from Chief Boborenvanua about expanding beyond Raga's cultural demesne is any indication perhaps it is not meant to be applied.

Because N'ko is not directly governmentally supported (despite the Guinean government being explicitly pro-N'ko)⁸⁵ and is spread over such a large, multinational area it may be exceedingly difficult to accurately determine the extent of N'ko literacy in West Africa. For instance, ICRA-N'ko out of Conakry, Guinea has run several formal schools starting in the 1990s with the first being l'école N'ko-français in Touyin-Oulen, Guinea.⁸⁶ Since then, N'ko education in formal schools has become widespread with multiple NGOs in different countries offering formal schooling in the script and literary language.⁸⁷ This is alongside extensive informal N'ko schooling for adults, which may or may not be easily trackable, and reading circles at N'ko bookstores; all leading to promote the script in Mandé-speaking areas. A major difference between formal schooling in N'ko and, for instance, the formal Avoiuli school at Lavtamenggamu is the fact that the recent push for formal N'ko schooling is in an effort to bring N'ko pedagogy into line with national standards for schooling in a given country in question.⁸⁸ In comparison, the Turaga movement schools are explicitly opposing the national and international standards set forth by the Vanuatu Ministry of Education and UNESCO. Rather than an alternative to public schooling, N'ko formal schools are presenting themselves as identical (to the same standard) as public schooling but with a natively-oriented goal. In addition, despite being driven by NGOs

⁸⁵Oyler, Dianne White. "A Cultural Revolution in Africa: Literacy in the Republic of Guinea since Independence." *The International Journal of African Historical Studies* 34.3 (2001) JSTOR. 586. Web. 2 May 2017.

⁸⁶Wyrod. "The Light on the Horizon" 90.

⁸⁷Ibid.

⁸⁸Wyrod. "The Light on the Horizon" 91.

N'ko has at least nominal government support: the funding of formal N'ko schooling being a campaign promise of Guinea's current president, Alpha Condé for certain Maninka-dominated districts in the country (including Kankan).⁸⁹

Taken with the current renaissance of N'ko in the online realm (see above in 'linguistic landscapes') the impact of N'ko on first-language literacy in Guinea should be readily apparent despite a lack of concrete statistics on specifically N'ko literacy. However, as it stands, reported literacy rates for Guinea are around 40% according to the CIA world factbook⁹⁰ with similar rates in Côte d'Ivoire (~50%) and Mali (~35%) These statistics are unreliable, and vary wildly with some 2016 estimates putting literacy in Guinea at closer to 60%⁹¹ and statistics from the same CIA factbook then putting literacy as low as 30% in 2015.⁹² Even the CIA itself agrees there is no international standard for what constitutes literacy, making their presentation of the statistics as empirical questionable in itself.⁹³ Nevertheless, for Guinea literacy is defined as "over the age of 15 and can read and write" with no indication of which language is intended. We could assume French, because it is the sole official language of Guinea but we come to the problem, then, of N'ko literate people able to write in their native language being unrecognized in the Guinean education system. This is also a problem in the lens of Maninka irredentism, as Oyler points out many Maninka see themselves as the rightful inheritors of the Mali Empire. Once Maninka speakers broke away from president Touré's National Language Program N'ko "acquired a life of its

⁸⁹ Bah. "The N'ko Alphabet, Then and Now." 2.

⁹⁰"The World Factbook, Field Listing: Literacy." Central Intelligence Agency. United States Government, 2017. Web.

⁹¹ Ibid.

⁹² Ibid.

⁹³ Ibid.

own outside of government control.” And focused on explicitly Mandé literacy rather than being participant in the wider decolonization effort in Guinea.⁹⁴ Because education rates are recently much higher in Guinea than they were historically, (moving from 108 students per 1000 out of primary school in 1997 to 37 per 1000 in 2012)⁹⁵ and because of a mostly young population it would make sense that literacy would increase very quickly over a period of six years (the 40% figure being from 2010) But, the conflicting reports make it extremely difficult to determine exactly *how* Guineans are becoming literate and how literacy itself is defined in Guinea.

If a child is attending an N’ko formal school and has poor grades in French but is fluent in N’ko, is that child defined as literate? In Guinea, French is the sole official language. This directly conflicts with the governments’ official policy of supporting maternal language education.⁹⁶ Literacy in Maninka/N’ko may not allow one to be defined as literate at all if one’s French skills are below the national standard, even if one is attending a formal school. Then, in formal N’ko schools like the one in Touyin-Oulen French is being taught alongside N’ko⁹⁷ with N’ko even being used to transcribe the French language in an ironic twist. As mentioned above, ICRA-N’ko claimed to have brought 8.5% of people to functional N’ko literacy in Kankan by 1994 which, taken with contemporary literacy statistics means that around one-third of literate people in Kankan used N’ko. If N’ko is growing at the same rate as ‘general’ (read: French) literacy in Kankan (unlikely, based on a lack of N’ko funding) then it should be reflected in the landscape. If anywhere has a noticeable linguistic landscape for N’ko it

⁹⁴ Oyler. “A Cultural Revolution in Africa” 586.

⁹⁵ "Guinea Education Stats." NationMaster. NationMaster.com, 2017. Web. 10 May 2017.

⁹⁶ Oyler. “A Cultural Revolution in Africa” 586.

⁹⁷ Wyrod. “The Light on the Horizon” 90.

is in Kankan, Kanté's home city. This landscape is, however, restricted to specific spheres of Maninka society. Those globally oriented might use French in their landscape, but speak Maninka (as in the case of hairdressers) but those more oriented to the local landscape incorporate N'ko, with traditional medicine practitioners being a major example of this.⁹⁸

Clearly, the close association between Mandé identity and N'ko, its faithful ability to transcribe Mandé tones and sound distinctions and the lengths to which the inheritors of Kanté's legacy have gone to provide literary materials for Mandé has allowed the script to be successful where other indigenous initiatives of decolonization have fallen short. That alone, that N'ko has been able to exist in the colonially-oriented educational systems of west Africa, demonstrates a high degree of distinctiveness among Mandé people and may help to explain the script's spread. As Oyler points out, Mandé and Maninka especially are a group that have the cultural history of Empire, the Mali Empire, and N'ko's success demonstrates that the collective cultural experiences of Mandé groups are similar enough to come together and support a decentralized, grassroots Koiné blossom into an international literary standard for their mother tongues.⁹⁹ At the risk of sounding glib, the Mandé have used N'ko as a medium to reclaim their historical and now transnational collective identity. A "vehicle of indigenist historiography" indeed.¹⁰⁰

⁹⁸ Yerende, "Public signage and adult literacy practices in the City of Kankan."

⁹⁹ Oyler. "A Cultural Revolution in Africa" 587.

¹⁰⁰Wyrod, Christopher T. "A social orthography of identity: The N'ko literacy movement in West Africa." *International Journal of the Sociology of Language*. 2008.192 (2008) *DeGruyter*. Web. 5 May 2017.

To bring this commentary back to a finer point, N’ko literacy is hard to gauge outside of the statistics given by N’ko-promoting NGOs. But, it seems from recent innovations in the script allowing digital use and an expansion of N’ko schools have increased the general number of N’ko-literate people. This is a dual literacy, though, and N’ko is used (at least in Kankan) alongside French instead of as a replacement for it. Because N’ko allows for literacy in a student’s L1 language, it could be assumed that literacy in general would increase in tandem with N’ko’s spread but the rapid development of the West African countries where N’ko is used has resulted in an increase in literacy in general from which statistics N’ko cannot be extracted. Add in the problematic colonial definitions of ‘literacy’ used by statistic-gathering agencies like the CIA, and the only clean direct statistics on N’ko literacy are from the NGOs themselves who have a vested interest in over-reporting the extent of N’ko education.

The case of the Cherokee syllabary and initiatives in literacy must be addressed from a different angle than the other two scripts. Unless a child is enrolled in a Cherokee immersion program, it is unlikely that he or she will have Cherokee as their first language due to progressive language loss and direct outcomes of the Indian removal and re-education programs of the 19th and 20th centuries. Therefore, while English literacy rates in the Cherokee Nation capital of Tahlequah, OK are actually above the national average (a 2003 estimate giving a ~11% adult illiteracy rate, compared to a ~14% illiteracy rate for the nation in general)¹⁰¹ the population who is fluent in both the Cherokee language and writing system is small and challenged by the overwhelming pressure to assimilate to dominant United States culture. Compared to a

¹⁰¹"Indirect estimate of percent lacking Basic prose literacy skills and corresponding credible intervals in Cherokee County: Oklahoma 2003." *National Center for Education Statistics*. United States Government, 2017. Web. 10 May 2017.

group like the Raga, who are still in their original cultural context (were not removed) and are generally tied to their pre-contact life-ways there is much more utility to assimilating in Tahlequah, OK than there is in Loltong, Vanuatu where the primary social stratum is still Raga and Raga is still the dominant language. There are variances between the three Cherokee reservations, but in the Cherokee Nation and the Eastern Band the number of people with some level of fluency in Cherokee is around 10%: ~1,000 of the 10,000 strong Eastern Band and around 10,000 of the ~120,000 member Cherokee nation in Oklahoma. The United Keetoowah band, which bridges Arkansas and Oklahoma, claims a 60% rate of Cherokee speakers among its roughly 7500 members, making it the highest concentration of Cherokee speakers by far among the three reservations.¹⁰² The rates of literacy in the language are rather unclear in these same areas, notwithstanding the differences in the definitions of a Cherokee ‘speaker’ between the reservations.

Historically, shortly after the Cherokee Syllabary was introduced literacy rates in the script were apparently extremely high. Although there are unsubstantiated claims that literacy among the Cherokee surpassed that of the white settlers around them (In the 1820s, prior to the Indian Removals of the Jackson administration)¹⁰³ contemporary accounts state that the “majority of the Cherokee people were literate [in Sequoyan] within months.”¹⁰⁴ and that the script was immediately employed in public media including a newspaper: *The Cherokee Phoenix* and other printed media such as a New

¹⁰² Ethnologue. “Cherokee, A Language of the United States.” *Ethnologue*. 2017. Web.

¹⁰³ Wilford, John N. “Carvings From Cherokee Script’s Dawn” *The New York Times*. NYtimes.com, 22 Jun. 2009. Web. 6 May 2017.

¹⁰⁴ Bender. *Signs of Cherokee Culture*. 25.

Testament translation.¹⁰⁵ At least for when the community was entirely Cherokee speakers, the script was a major and remarkably quick-acting promoter of Cherokee literacy.

As the community became more diffuse in the 20th century, and with the advent of enforced colonialist programs in the Cherokee Nation particularly, the utility of having already a printed corpus in their mother tongue from which to draw educational materials became incalculable. In the mid 19th century, there were three printing presses operating in Cherokee of which just one- the Park Hill Press- produced nearly fourteen *million* pages of literature between 1835 and 1860.¹⁰⁶ By the early 1900s, the failure of the US government to uphold treaties and the opening of surplus land to settling white boomers and squatters¹⁰⁷ had forced the dissolution of the western Cherokee Nation and with it support for printed material in the Sequoyan Syllabary. From contemporary accounts, and a general process of language loss within the Cherokee community printed material became extremely rare, and mostly handwritten manuscripts were what preserved the tradition.¹⁰⁸ In this case, the syllabary was preserved entirely as an internal tradition- maintaining a level of literacy that allowed the script to be passed on outside of educational institutions which discouraged the use of native language and culture- its script included.

This points to a historical vitality which has existed among the Cherokee for long enough that the script has been subsumed as part of the culture. In the case of a script like N'ko the teacher must make the case that N'ko is a superior way to

¹⁰⁵ Ibid.

¹⁰⁶ Cushman. *The Cherokee Syllabary*. 137.

¹⁰⁷ Cushman. *The Cherokee Syllabary*. 148.

¹⁰⁸ Cushman. *The Cherokee Syllabary*. 150.

communicate Mandé than the dominant modes of transcription and then proceed to teach it. N’ko has needed a massive amount of nongovernmental support and thousands of man-hours to make it known among Mandé people. For the Cherokee, Sequoyan is not only the ‘right’ way to write the language- it is the original and ‘standard’ way. While Pickering’s latin orthography for Cherokee was developed early, in 1819, it did not gain traction. A quote from the very early history of Sequoyan (1827) elucidates the nigh-universal adoption of the syllabary, “If books are printed in Guess’s [sic] characters, they will be read; if in any other, they will lie useless.”¹⁰⁹ When the script was transitioning to printed form, sentiments were similar: as the owner of the Park Hill press noted in the 1840s “I do not know what is to be gained by the experiment of printing Cherokee in Pickering’s [latin] alphabet with the syllables divided...so much so do I regard the syllabic method of writing, where it is practicable, as superior to the other...”¹¹⁰ The script was not just a motivation to become literate, it was *the* way to become literate if one was Cherokee, in the same way that we do not question the Latin Alphabet and wonder aloud why English-speakers aren’t reading in Cyrillic.

For the modern Cherokee, the script is an emblem of their culture’s perseverance to be sure, as highlighted in the linguistic landscape. But, does the script itself motivate literacy in the mother tongue? Surprisingly, the correlation may not be one-to-one. Bender notes discrepancies between “literate” Cherokee pronunciation and the pronunciation used by those who are L1 speakers of the language: “I’ll say *ha:ntsoꝣgoʔi*, okay...And some people say *danahtsoꝣgoʔi* [written pronunciation] but most of them say *ha:ntsoꝣgoʔi*. Properly, the way it’s written sounds correct: *danahtsoꝣgoʔi* . But

¹⁰⁹ Cushman, Ellen. “The Cherokee Syllabary: A writing system in its own right” *Written Communication* 28.3 (2011) SAGE. 636. Web. 15 April 2017.

¹¹⁰ Cushman. The Cherokee Syllabary. 134.

when you say that people don't know what you're saying..."¹¹¹ Written Cherokee has attained a prestige form separate from the spoken form, and as such is thought of (at least by Bender's informants) as the 'right' or professional way to communicate, away from the "slang" pronunciations like *ha:ntsosgo?i*.¹¹² Thus, those who speak Cherokee colloquially might be motivated to learn the "correct" pronunciations from the syllabary, to have a 'proper' demeanor in the same way a writer in English would not write the same way they spoke.¹¹³ From another angle, the syllabary is not a motivation to become literate in Cherokee but an inseparable part of becoming fluent in the language in the first place; one would not become conversational in English but completely ignore the wealth of English writing.

It's difficult to quantify whether literacy and the motivations for it are directly impacted by having or not having a functional writing system (beyond settler-introduced orthographies). In the case of Cherokee, however, having a true literary tradition by the time the Cherokee Nation was dissolved in 1906 allowed- through covert education- the language to continue on. Despite significant language loss since the re-formation of the Oklahoma Cherokee Nation in 1976, mostly due to failure to transmit the language from parent to child (a consequence of longstanding discouragement of the Cherokee language in public), the script and language are recognized by Cherokee people as worth preserving in and of themselves. In a survey from the Cherokee Nation as it was beginning its revitalization program, even though as few as 1% of Cherokee have mastery of the language 95% of those surveyed agreed that the vitality of the language is a direct measure of Cherokee heritage and culture and must be preserved.¹¹⁴ If not a direct motivator of

¹¹¹ Bender. Signs of Cherokee Culture. 111.

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Cushman. The Cherokee Syllabary. 190.

literacy, Cherokee language and the script that is so inexorably intertwined with it *are* a measure of the general vitality of the Cherokee people. When the language wanes, assimilation waxes.

Chapter Five: Maintaining Vitality in the Digital Age

As mentioned, Cherokee and N’ko both have thriving linguistic landscapes in the digital realm due to their scripts being integrated into Unicode- making it simple to create and use literature in the language as well as for pedagogical materials. But are these landscapes enough to ensure a language’s continuation into the 21st century? In this section, we will investigate what problems inherent in globalization may be avertable through education and which are more difficult, if not impossible to address. We will also investigate the trajectory of these scripts (including Avoiuli, which has no online presence) in the foreseeable future, and what trends if any are mimicked here by known trends in minority-language vitality as a consequence of globalization.

As an analogy to particularly Cherokee, I will synthesize some of the research on the effect of the internet on indigenous language promotion specifically. In this section, I will not examine explicit links between the script in question and language revitalization as a whole. Hawaiian is another indigenous language which, like Cherokee, has some degree of official protection and promotion within its native range.¹¹⁵ In effect, this means that Hawaiian has the capacity to have an online presence that might be disproportionate to the number of actual speakers, but that creates a linguistic landscape and, perhaps more importantly, it allows those who identify as Hawaiian culturally to participate in the promotion of that identity without actually having proficiency in the language. Mark Warschauer, a researcher on the intersection of language identity and technology, states that “...What many young people are

¹¹⁵ Romaine, Suzanne. “10: The Impact of Language Policy on Endangered Languages.” *Democracy and Human Rights in Multicultural Societies*. Ashgate. 2007. Google Books. 219. Web.

exploring on-line is not a fantasy identity but their true sense of self.”¹¹⁶ Those who identify as Hawaiian may not have a space to practice their language in their daily offline lives, but the internet allows these communities to be created over distance. One Hawaiian student notes, on the advantages of Internet over printed text:

“...even if you don't speak the language, you want to press down and go further because something is happening on that page... the people in the class wanting to put their stuff on there, that's part of their expression, it's part of their mana, so it makes the page even much more interesting and inviting.”¹¹⁷

This ties into considerations of literacy too, while a base level of literacy is required to use a computer- the end-media does not have to be entirely text-based and thus could foster further literacy or interest, particularly in the pedagogic field.

Cherokee, particularly through the Cherokee Nation's Language Technology Program, are aggressively expanding into digital spaces as a natural elaboration of keeping up with mobile technologies.¹¹⁸ Because indigenous models (and language) can take precedence in digital materials, despite a lack of speakers the Cherokee can construct spaces where Sequoyan takes center stage. As an example, Cherokee artist Roy Boney Jr. makes the Cherokee language in Sequoyan the primary language on his personal website. He then uses that Cherokee-centric website to distribute his own animations where Cherokee is the primary language, and Cherokee characters are the

¹¹⁶ Warschauer, Mark. “Technology and Indigenous Language Revitalization: Analyzing the Experience of Hawai'i.” *Canadian Modern Language Review* 55.1 (1998) SAGE 5.

¹¹⁷ Ibid.

¹¹⁸ Kemper, Kevin R. “15: Cultural Hybridity, Resilience and the Communication of Contemporary Cherokee Culture through Mobile Technologies.” *Indigenous People and Mobile Technologies*. Routledge, 2015. *Google books*. 249. Web. 8 May 2017.

protagonists.¹¹⁹ In a pre-internet society, incredible resources would be needed to make and distribute animations that are entirely Cherokee, and they would not be presented in a Cherokee-centric space. Boney is able to construct all of this single-handedly entirely due to the framework of the internet. It is an overt way to utilize colonialist tools for an indigenist end, to quote Kevin Kemper; “The intentional insertion of Cherokee syllabary and language into the mobile dialogue flips colonialism on its head, if Cherokee culture and other Indigenous cultures have to be infected with Euro-American culture, then Euro-American culture can expect cross-contamination...”¹²⁰ Despite nearly 82% of the internet being in English, it still provides the framework for minority languages to create exclusive spaces for their culture, although the gatekeeper of English literacy and computer equipment can be a significant hurdle for unsupported languages, those with official support like Cherokee have an ‘in’ to making their own spaces.¹²¹ It is important to clarify, insertion of Cherokee into these spaces is not an accident, and providing Cherokee support is not something that is a given from technology companies. For every individual concession, the Cherokee have had to push independently- for Unicode, for instance, only the Cherokee Nation is a part of the Unicode consortium and thus they are the ones deciding which symbols are part of the ‘standard’ Unicode orthography. In the case of Gmail, the Cherokee Nation had to independently petition Google to add Cherokee as a language option, the same is true for other social media like Facebook and Twitter.¹²² Cherokee’s visibility in mobile technologies is a combination of the Cherokee Nation’s proactive language

¹¹⁹ Kemper. “Cultural Hybridity.” 248.

¹²⁰ Ibid.

¹²¹ Warschauer. “Technology and Indigenous Language Revitalization.” 5.

¹²² Kemper. “Cultural Hybridity.” 249.

revitalization programs and also its resources as a large and relatively wealthy indigenous nation, in the cases of smaller indigenous languages it is much more difficult to push into the tech realm.

In a country like Vanuatu, which is decentralized (much of the local power is in the hands of Area Councils rather than the central government)¹²³ and has low internet penetration (~18% as of 2015) it is unlikely that major technological changes have a significant effect on the distribution or effect of an indigenous script like Avoiuli. When we further consider that in Penama province, where Pentecost Island and the Raga community resides, internet penetration is even lower with only 168 recorded ip addresses for the whole state- all in the Raga town of Loltong¹²⁴ it seems patently absurd that a community with less than 1% access to Internet would consider distributing information on their script through that medium. Even so, information does make it out- as is evidenced by Andrew Gray's work in the area and Chief Boborenvanua's multiple appearances in the Vanuatu Daily Post but for the Turaga movement itself there is no one digital mouthpiece for Avoiuli, Tangbunia or any of the policies that Turaga has been implementing in North Pentecost. I will move away from this area because of the general lack of information on the future of Avoiuli, but the current approach seems to be business-as-usual for Turaga loyalists- transcribing and distributing the script by hand and at the school at Lavtamenggamu. Because of the size of the Raga community, this may be enough for now- but as Pentecost becomes more and more infrastructurally linked to Port Vila and the rest of the world Turaga could be

¹²³Vanuatu. VCAP area profile.

¹²⁴"Penama Province Internet Usage Statistics." *Myip.ms: Hosting Info, Websites and IP database*. Myip.ms, 2017. Web. 10 May 2017.

expected to either orient themselves to the sea change or quickly fall out of style as the overwhelmingly English globalist force of the Internet works itself into their society.

We have already discussed the recent entry of N’ko into the digital realm, and the relative wealth of resources in N’ko since the script was incorporated into Unicode. But, how is the future outlook of N’ko affected by increasing digitization and the rise of Africa as one of the quickest-developing internet markets?¹²⁵ In the three countries in which N’ko is advocated, Mali, Guinea and Côte d’Ivoire, rates of internet penetration vary considerably. In Guinea, arguably the center of the N’ko universe and the origin of both Kanté himself and ICRA-N’ko, the largest N’ko NGO internet penetration is extremely low- lower even than the rate for Africa in general at about 2% of the twelve-million-strong population.¹²⁶ Mali fares considerably better, with around 12% of the population having internet access and Côte d’Ivoire better still, with around 22% penetration.¹²⁷ When we review the history of internet access in these nations, the trend is clear: very low penetration is being progressively bucked by the introduction of cell phones. Côte d’Ivoire had internet penetration as low as Guinea’s as recently as 2011, and the number of internet users has increased tenfold in the past five years due to increasing availability and affordability of cell phones. As of January 2017, 70% of web traffic is generated by mobile phones in Côte d’Ivoire.¹²⁸ Therefore, N’ko’s range represents a massive and rapidly growing digital market waiting to be exploited. In Guinea alone the expansion of cell-phone availability could add hundreds of thousands

¹²⁵"Distribution of web traffic in selected African countries as of January 2017, by device." *Statista.com*. Statista, 2017. Web. 3 May 2017.

¹²⁶"Internet Usage Statistics for Africa." *Internetworldstats.com*. Miniwatts Marketing Group, 2017. Web. 5 May 2017.

¹²⁷ Ibid.

¹²⁸"Distribution of web traffic in selected African countries as of January 2017, by device." *Statista.com*

of N'ko-literate to the internet marketplace in the next few years- a process already underway in Côte d'Ivoire.

From the mentioned New York Times article, N'ko is being used by at least some immigrants to text and post online as well as to write news sources and more official correspondence.¹²⁹ Eaton, a New York based technology company has included N'ko in their software for composing many different languages on traditional cell phone number-pads.

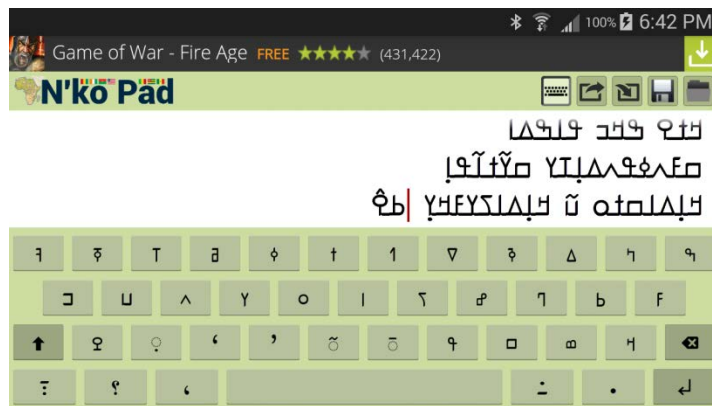


Figure 7. Screen capture of N'ko pad, a texting app for the Android Operating System.

This is important for those who cannot afford expensive smart-phones which are beyond the scope available to many West Africans, especially the majority of the population which lives outside of major cities with internet cafes.¹³⁰ N'ko's presence in the digital arena is not going away, and will only continue to grow as cell-phones, and the internet access that comes with them, become a ubiquitous technology for even the most rural Mandé.

¹²⁹ Rosenberg. "Everyone speaks text message." 4.

¹³⁰ Ibid.

For a community with the broad and diffuse range that N’ko has, and a strong speech community who simply lacks the means to utilize their script- it is theoretically a perfect storm for N’ko to make significant inroads to becoming a dominant written language variety in the region. Several of the problems which might plague the other scripts we examined, English domination of the digital marketplace for one and a lack of infrastructure for internet; have solutions in how N’ko is being applied. As with Cherokee, N’ko users can make N’ko-centric spaces on the internet, and they have with ICRA-N’ko’s site Kanjamadi, Kouroussaba.net and others.

As for the lack of infrastructure: because West Africa is contiguous as opposed to Pentecost Island infrastructure like cell towers can be more easily installed and the larger population both motivates infrastructure implementation (for profit motives) and provides a speech community large enough to sustain the language once the infrastructure to utilize it comes into play. Barring direct negative government intervention against N’ko education, all of the signs point to N’ko becoming the popular way to communicate in Mandé as the digital age progresses and more people get access to texting and e-mail technology.

The pressures facing each of these scripts in the digital age vary considerably. While Avoiuli must defend its community as a whole from a remote globalism, the Cherokee are embedded in a colonial landscape and must work within global technologies like the internet to create Cherokee-centric spaces despite language loss. While the internet allows marginalized languages a platform, it also forces them to compete in an arena which is dominated by English media.

For something like N'ko, simply using the internet as a tool to connect people who already speak the same language could be instrumental in the script's spread and in the spread of Mandé-language literacy in general, but they will still be entering the arena late and must contend with the Anglocentric system that the Internet is based around.

Chapter Six: Applications in Language Revitalization

If a script is promoted and utilized in a culture group, if it's part of the landscape that people move through and is promoted as an inseparable part of literacy in that community, could it aid in language revitalization? Tentatively, and before diving into secondary research on this topic, it seems like the answer is- unsatisfactorily- maybe, depending on the advancement of language loss in the community and the depth of the cultural roots that a given script has in that community.

From the three scripts we have investigated, only one is tied to a language that is immediately using revitalization efforts to staunch rapid language loss. Cherokee is considered “definitively endangered” according to UNESCO’s scale of language vitality, which is third on the scale: above “severely” and “critically” endangered.¹³¹ This indicates that Cherokee is not spoken by the youngest generation, but retains speakers in older generations and even some middle-aged people. Cherokee revitalization efforts are thus aimed at educating the youngest members of the tribe. This mainly includes the afore-mentioned immersion schools in the Eastern Band and Cherokee Nation reservations, but is also reflected in the official support of Sequoyan signs and public information, as well as official paperwork in tribal politics.¹³²¹³³ Sequoyan, as explored, is seen of as integral to the structure of Cherokee education because of its long history as the tool by which Cherokee people became literate and began producing their own works. Even so, in the case of the Cherokee Nation schools,

¹³¹UNESCO ad Hoc Expert Group on Endangered Languages. “Language Vitality and Endangerment” *submitted to the International Expert Meeting on UNESCO Programme Safeguarding of Endangered Languages*. UNESCO, 2003. 7. Web.

¹³²Peter & Hirata-Edds. “Learning to Read and Write Cherokee” 207.

¹³³Bender. *Signs of Cherokee Culture* 20.

literacy assessments for the syllabary begin to falter around the first grade as children become more acclimatized to using primarily English outside of school.¹³⁴

For those learning Cherokee as a second language, the syllabary can pose a significant obstacle to entry. For instance, a native Cherokee speaker could phonetically sound out a word and easily determine what a Cherokee word would be written down- but to a second-language speaker, the lack of distinctions in aspiration, glottal stops or tone might make it more difficult to synthesize workable constructions without referring to a latin orthography as a “crutch”.¹³⁵¹³⁶ Cherokee is an agglutinating language, and several sound changes since the syllabary’s introduction have left some suffixes behind the curve- first and third person forms for some verbs are indistinguishable for instance.¹³⁷ Add to this that the immersion schools are a relatively recent introduction to the educational landscape in both the Eastern Band and Cherokee Nation, and you have a population that have mostly learned the Syllabary as adults and may be able to read it but not write or vice versa.¹³⁸ In this case Sequoyan becomes more an index of Cherokee culture and less a method to write with- consider the way artists will mark their pottery or weaving with syllabary but may not be strictly literate in the script itself.¹³⁹ Sequoyan may have weight among the community as a powerful symbol of Cherokee solidarity, but if it is functionally preventing people from becoming literate in the mother tongue- is that solidarity enough?

¹³⁴Peter & Hirata-Edds. “Learning to Read and Write Cherokee” 214

¹³⁵Peter & Hirata-Edds. “Learning to Read and Write Cherokee” 216.

¹³⁶Bender. Signs of Cherokee Culture 150.

¹³⁷Ibid.

¹³⁸Bender. Signs of Cherokee Culture 158.

¹³⁹Bender. Signs of Cherokee Culture 157.

From some local native impressions here in the Pacific Northwest, having a script is seen as a luxury which can have significant utility in revitalization as an organizing force for the community, but also prevents new learners from acquiring reading and writing skills in the language as quickly. Having a writing system that works in all digital media is important, and with Cherokee Unicode support is a relatively recent boon. As such, a latin orthography might have more utility for a language which does not have a historical script- utility in aiding literacy and in functional usefulness in everyday life. If one has a latin orthography to begin with, one can use it in all media that supports latin script- that is, nearly every possible media form. In the case of a heritage script like Cherokee, there is obvious utility in the script as an organizer for Cherokee consciousness and a marker of their culture but, as one native worker in revitalization noted “Signs are nice, but ultimately we need speakers.”

Keeping with the line of accessibility being the deciding factor with endangered languages, it bears repeating that for Cherokee at least there are very few in the childbearing generation who speak the language.¹⁴⁰ For many languages in the Pacific Northwest, they are much closer to being moribund (the only speakers in the oldest generation) or revived from a dormant state (for Yurok, which is being taught in schools, there are no fluent native speakers left). The practicality of third-party scripts for languages like these is dubious, with the obvious example being the writing system of Unifon developed by economist Dr. John R. Malone in the 1950s. Unifon is an adaptable script meant to represent sounds with one-to-one character to sound correspondence. Unifon was then adapted and proposed for many West-coast Native

¹⁴⁰UNESCO. “Language Vitality and Endangerment” 7.

languages in the 1970s and 80s by Humboldt State researcher John Parsons.¹⁴¹ Unifon has characters for each sound in Yurok, but described them with Anglocentric explanations: the velar fricative [x] was interpreted as “gargle h” in the pronunciation guide.¹⁴² A native acquaintance likened this to students asking them for phonetic spellings, i.e. removing all of the non-English sounds and explaining pronunciation in English terms. If a writing system is to be practical for transcribing native language, it cannot be Anglocentric. Unifon also had major problems becoming standardized and transferred to digital media, leaving speakers unable to communicate in the writing system given to them and reverting to simpler latin-based orthographies that could easily be used in digital writing. The current Yurok orthography that is promoted on the Yurok Language Project’s website (the functional arm of the UC Berkely and tribal revitalization effort) is universal and requires no special characters other than a basic English keyboard. The use of digraphs means that native sounds can be represented in latin script without resorting to English-based pronunciation.¹⁴³

Yurok and Cherokee have very different communities of speakers, to be sure. But the main point, that having a natively derived script does not necessarily help in revitalization holds true. Sequoyan can be plastered on every storefront, on every sign in Tahlequah Oklahoma but if it prevents a student of Cherokee from attaining literacy as quickly as they would have from a latin-based orthography then it is a serious consideration whether it is “worth it” for a community dedicated to language revitalization. Sequoyan, of course, has a much deeper history than something like

¹⁴¹Trull, Georgiana. ed. *Yurok Natural Resources Dictionary* Bilingual Emphasis Program, Humboldt State University. 1986. *calstate.edu*. Web.

¹⁴²Trull. *Yurok Natural Resources Dictionary* 12.

¹⁴³Garrett, Andrew. "Yurok Language Project." *The University of California*. Regents of the University of California, 2017. Web. 2 May 2017.

Unifon and the unifying symbolic power of Sequoyan public writing should not be ignored- nor should Sequoyan necessarily be retired (not that non-Cherokee should have any say in Sequoyan's use in the first place). Sequoyan also is the gatekeeper to Cherokee literature, and is as much a requisite for accessing that knowledge as Latin is for mediaeval literature; its utility in creating distinctiveness for the Cherokee identity is massive. But, for a language community that does not have an indigenously-created writing system and is just now able to organize revitalization efforts, a natively-created script may be shortsighted. In an environment where every learner is a precious resource, any obstacle to learning the language as quickly as possible and- more important- to utilizing that language in an interpersonal context is an obstacle to the revitalization effort itself.

Conclusion: Scripts as Case-Studies for Indigenous-Language Vitality

Despite a relative lack of primary research on the interaction between script choice and ethnolinguistic vitality, the review of these three scripts has allowed us an educated guess on the implementation of native-oriented literacy in very different circumstances. Cherokee demonstrates the application of a natively-derived script in an embedded colonial context and in the context of culture and language revitalization within that community. Of the three scripts reviewed, Cherokee has by far the most primary research on it but it is also research in the progression of language loss that shapes how Cherokee is used by those in the three tribes now. The script has been shown to be a salient part of Cherokee identity with a variety of indexical uses as a marker of Cherokee culture, it is also a state-supported index of that culture- despite relatively low amounts of speakers it is present in landscapes and art throughout the communities and conclusively represents a physical expression of ‘Cherokee-ness’. As a tool in reversing language loss, the script may not have as much utility. Although it can help L1 Cherokee speakers acquire literacy skills quickly, a 180 year-old orthography means that for L2 learners speech and writing are not one-to-one. In addition, a large number of sometimes ambiguous characters can add a layer of difficulty to English-speaking learners who are already struggling with the complex polysynthetic grammar of Cherokee. Even so, Cherokee and its script are inseparable entities and the script acts as a major point of cultural pride for Cherokee people.

The digital revolution has allowed Cherokee resources for revitalization and the use of its script in entirely Cherokee-oriented spaces- and the Cherokee Nation has been proactive in supporting digital formats for its script. In tandem with the immersion

schools in Cherokee Nation and the Eastern Band, the scripts use into the near future is not in doubt and indeed may motivate some Cherokee to reach at least beginner proficiency in their language. What is more troubling is the progression of language loss into the future. What good is a sign if no-one can read it?

N'ko, in contrast to Cherokee, is not necessarily embedded in a colonial society but still has to contend with colonial education as the dominant “proper” method of education in its area. Despite nominal government support in Guinea, N'ko has had to spread entirely as a grassroots organization and only recently (ca. 1990s) has begun to establish formal schools in its speech communities. N'ko presents a rapid means of acquiring literacy and communication between diffuse people groups in a part of the world with little infrastructure and few avenues of L1 education. N'ko can, from some anecdotal reports, be a motivation to become literate on cultural pride alone- but more than that it represents a bucking of local education trends in which French is the only language of education and local languages are unwritten. The recent and rapid introduction of cellphones- and internet access through them- have allowed N'ko a sizeable online presence and the ease of communicating by text with N'ko characters means that for a huge proportion of west African Mandé not only is literacy within reach but the possibility to communicate with other Mandé across West Africa and the world without having to go through the Francocentric educational institution is now in sight for even the most rural Mandé. If growth projections for Africa are stable, then N'ko will likely become an even more popular mode of communication as more and more young Africans become connected to one another through text.

Avoiuli is in many ways the most ‘clean’ case study of the three, because it represents the literacy and education efforts of one small, specific community that is extremely isolated even compared to the Guinean bush. Language loss is not a pressing issue for the Raga, indeed the main representation of colonial power is through education and the Raga have attempted to divest from this with the implementation of their own Raga-centric schools. The implementation of internet communication is even slower than Africa (which, to be sure, has accelerated in the past decade), with a dearth of cellular infrastructure on Pentecost and few computers available. The Raga are vital in their context, and Avoiuli may be a representation of this vitality by virtue of its opposition to non-Raga education but the lack of information about Pentecost in general makes it difficult to even qualitatively determine the impact of Avoiuli. It is tied to pan-Ni-Vanuatu symbols like *sandroing* but as of writing has not been advocated for languages other than Raga and Bislama, and there seems to be no push for digital compatibility of the script in the near future. Avoiuli will remain strong if the Raga culture group remains vital, and in that case the strength of the Turaga movement in rejecting colonial education as well as the isolation of the Raga community seem to be promising factors for the continuation of Avoiuli into the future. What happens to the Raga when they become more digitally connected to a globalized economy remains to be seen, but if the Turaga movement fails to modernize then the pressures of Port Vila’s globalized culture could make it difficult to maintain Raga cultural distinctiveness.

Overall, the research I have aggregated seems to show that the impact a script has is linked to essentially every other factor pertaining to ethnolinguistic vitality in a community. If a language has low vitality but strong political will behind it (as with

Cherokee) the script may act as both a system of writing and a visible marker of vitality. If there is high ingroup vitality but relative isolation from colonizing forces (Raga) the script may have difficulty being applied broadly and remain isolated with its culture group. In the case of a large, diffuse speaking population like N'ko it may be difficult to organize literacy initiatives, but if technology comes along that makes the writing system widely available for use then it can spread quickly from the already-vital speaking groups. These qualitative intuitions would require more ground-level work to confirm, and in the case of scripts outside of the western cultural sphere the research is sparse but a potential methodology could simply be surveying Mandé speakers on whether they text in French, their native language and in which script they are typing. A model like Landry and Bourhis' survey interviews could work, as a method of gathering mass data, but I question the efficacy of quantifying in numerical indexes people's individual intuitions on their own culture. These initial findings do suggest that in promoting native language literacy, having a script is a powerful tool but quantitative surveys would need to be performed on a community-by-community basis to confirm this.

Bibliography

- 5 Tuvatu Bank Note. Digital image. Wikipedia.org. Wikimedia, 2017. Web. 5 May 2017.
- Ager, Simon. "Raga (Hano)." *Omniglot*. Kualo, 2017. Web. 5 May 2017.
- Amselle, Jean-Loup. "Le N'ko au Mali" *Cahiers d'études africaines* 36.144 (1996) 823-5. *Persée*. Web. 10 February 2017.
- Bah, Tierno S. "The N'ko Alphabet, Then and Now." Web blog post. *webGuinée*. webGuinée, April 2017. 2-4. Web. 2 May 2017.
- Bender, Margaret. *Signs of Cherokee Culture: Sequoyah's Syllabary in Eastern Cherokee Life*. University of North Carolina Press, 2002. 2-8, 25, 82-85, 111, 150-158. Print.
- Bertho, Stephane. N'ko alphabet. Digital image. *De L'Aleph a L'@*. Stephane Bertho, 2016. Web. 1 Nov. 2016.
- "Cherokee Wikipedia." Wikipedia.org. Wikimedia, 2017. Web.
- "Côte d'Ivoire Internet Users." *Internet Live Stats*. World Wide Web Consortium, 2017. Web.
- Curtis, Abraham. "Africa Had Its Own Writing Systems!" *New African* 509 (2011): 82-87. *ProQuest*. Web. 6 May 2016.
- Cushman, Ellen. *The Cherokee Syllabary: Writing the People's Perseverance*. Norman: U of Oklahoma, 2011. 22-28, 33-36, 137-193. Print.
- Cushman, Ellen. "The Cherokee Syllabary: A writing system in its own right" *Written Communication* 28.3 (2011) SAGE.636. Web. 15 April 2017.
- "Distribution of web traffic in selected African countries as of January 2017, by device." *Statista.com*. Statista, 2017. Web. 3 May 2017.
- Ehala, Martin "Tradition and Innovation in the Ethnolinguistic Vitality theory." *Journal of Multilingual and Multicultural Development* 32.2 (2011): 101-110 *Wiley Online Library*. Web.
- Ehala, Martin "Empirical Evaluation of a Mathematical Model for Ethnolinguistic Vitality: The Case of Võro." *Journal of Multilingual and Multicultural Development* 28.6 (2007): 39-40. *Wiley Online Library*. Web.
- Ethnologue. "Apma, A Language of Vanuatu." *Ethnologue*. 2014. Web.
- Ethnologue. "Cherokee, A Language of the United States." *Ethnologue*. 2017. Web.

- Ethnologue. "Sa, A Language of Vanuatu." *Ethnologue*. 2014. Web.
- Fischer, Steven Roger. *A History of Writing*. Reaktion, 2001. 9. Google Books. Web.
- Garae, Len. "Chief Vireleo explains the Tuvatu Currency." *Vanuatu Daily Post*. Vanuatu Daily Post, 3 Oct. 2014. Web. 8 May 2017.
- Garae, Len. "Release of Paper Notes Specimen of Vanuatu Indigenous Currencies." *Vanuatu Daily Post*. Vanuatu Daily Post, 17 Sep. 2014. Web. 10 April 2017.
- Garrett, Andrew. "Yurok Language Project." The University of California. Regents of the University of California, 2017. Web. 2 May 2017.
- Giles, Howard. Bourhis, Richard Y. and Taylor D.M. "Towards a theory of language in ethnic group relations." in *Language, Ethnicity and Intergroup Relations*. 13.1 (1977) 307-348
- Gray, Andrew. "The Languages of Pentecost Island." *pentecostisland.net*, 2017. Web.
- "Guinea Education Stats." NationMaster. NationMaster.com, 2017. Web. 10 May 2017.
- "Guinea Internet Users." *Internet Live Stats*. World Wide Web Consortium, 2017. Web.
- "Indirect estimate of percent lacking Basic prose literacy skills and corresponding credible intervals in Cherokee County: Oklahoma 2003." National Center for Education Statistics. United States Government, 2017. Web. 10 May 2017.
- Internet Usage Statistics for Africa." *Internetworldstats.com*. Miniwatts Marketing Group, 2017. Web. 5 May 2017.
- James, Ian. Digital image. *Skyknowledge.com*. Ian James, 21 Jan. 2016. Web. 1 Nov. 2016
- Jowitt, Anita. *A Kind of Mending- Restorative Justice in the Pacific Islands*. Canberra: Pandanus, 2003. *Ebrary Academic Complete*. Web. 6 May 2016.
- "Kanjamadi." *Kanjamadi.org* ICRA-N'ko, 2017. Web. 25 April 2017.
- Kemper, Kevin R. "15: Cultural Hybridity, Resilience and the Communication of Contemporary Cherokee Culture through Mobile Technologies." *Indigenous People and Mobile Technologies*. Routledge, 2015. 248-250. *Google books*. Web. 8 May 2017.
- Landry, Rodrigue and Bourhis, Richard Y. "Linguistic landscape and ethnolinguistic vitality: An empirical study." *Journal of Language and Social Psychology* 16.1 (1997) 23-49.
- "The World Factbook, Field Listing: Literacy." Central Intelligence Agency. United States Government, 2017. Web.

- “Mali Internet Users.” *Internet Live Stats*. World Wide Web Consortium, 2017. Web.
- McGarry, Dan. “A chance for reconciliation.” *Vanuatu Daily Post*. Vanuatu Daily Post, 22 Oct. 2016. Web. 5 May 2017.
- McLaughlin, Fiona. “Linguistic warscapes of Northern Mali.” *Linguistic Landscapes* 1.3 (2015): 212-235. *John Benjamins* Web. 20 March 2017.
- N'ko Pad. Digital image. Google Play Store. Google, INC., 2017. Web. 10 May 2017.
- Oyler, Dianne White. “A Cultural Revolution in Africa: Literacy in the Republic of Guinea since Independence.” *The International Journal of African Historical Studies* 34.3 (2001) *JSTOR*. 586-7. Web. 2 May 2017.
- Oyler, Dianne White. “The N'ko Alphabet as a Vehicle of Indigenist Historiography.” *History in Africa* 24 (1997): 242-52. *JSTOR*. Web. 6 May 2016.
- Oyler, Dianne White. “For ‘all those who say N’ko’ : N’ko literacy and Mandé cultural nationalism in the republic of Guinea.” *A Dissertation Submitted to the University of Florida* (1995). Web. 20 March 2017.
- “Penama Province Internet Usage Statistics.” *Myip.ms: Hosting Info, Websites and IP database*. Myip.ms, 2017. Web. 10 May 2017.
- Peter, Lizette & Hirata-Edds, Tracy. “Learning to Read and Write Cherokee: Toward a Theory of Literacy Revitalization.” *Bilingual Research Journal*. 2007. *Tandfonline* Web. 10 November 2016.
- Rio, Knut. “DISCUSSIONS AROUND A SAND-DRAWING: CREATIONS OF AGENCY AND SOCIETY IN MELANESIA.” *Journal of the Royal Anthropological Institute* 11.3 (2005): 401-23. *JSTOR*. Web. 6 May 2016.
- Romaine, Suzanne. “10: The Impact of Language Policy on Endangered Languages.” *Democracy and Human Rights in Multicultural Societies*. Ashgate. 2007. Google Books. 219. Web.
- Rosenberg, Tina. “Everyone Speaks Text Message” *The New York Times*. NYtimes.com, 9 Dec. 2011. Web. 15 March 2017.
- Scribner, Sylvia, and Michael Cole. *The Psychology of Literacy*. Cambridge: Harvard UP, 1981. Print.
- Shoemaker, Nancy. “Signs of Cherokee Culture: Sequoyah's Syllabary in Eastern Cherokee Life.” *Ethnohistory* 51.3 (2004): 669. *JSTOR*. Web. 6 May 2016.
- Stop Sign in Tahlequah, OK*. Digital image. *Pinterest*. Pinterest, Inc. , 2017. Web. 15 May 2017.

- Sylla, Yacine. "Langues: Sory Condé invite les autorités à intégrer le N'ko dans le cursus scolaire et universitaire." *Guinée Matin*, 30 Dec. 2014. Guineematin.com Web. 25 Apr. 2017.
- Table of Cherokee Syllabary. Digital image. *Turtle Island Muslims*. NativeWeb, 2014. Web. 1 Nov. 2016.
- "The Unicode Consortium Members." Unicode.org. Unicode, INC., 2017. Web. 10 May 2017.
- Traore, Ibrahim. "Kurusaba." *Kouroussaba.net* Kourousaba, 2017. Web. 25 April 2017.
- Trull, Georgiana. ed. *Yurok Natural Resources Dictionary Bilingual Emphasis Program*, Humboldt State University. 1986. *calstate.edu*2-12. Web.
- Tuscherer, Konrad, and P.E.H. Hair. "Cherokee and West Africa: Examining the Origins of the Vai Script." *History in Africa* 29 (2002): 427. *JSTOR*. Web. 6 May 2016.
- UNESCO ad Hoc Expert Group on Endangered Languages. "Language Vitality and Endangerment" *submitted to the International Expert Meeting on UNESCO Programme Safeguarding of Endangered Languages*. UNESCO, 2003. 5. Web.
- Unseth Et Al., Peter. "The Sociolinguistics of Script Choice." *International Journal of the Sociology of Language* 192 (2008)*Academic OneFile*. Web. 6 May 2016.
- "Vanuatu Internet Users." *Internet Live Stats*. World Wide Web Consortium, 2017. Web.
- "Vanuatu: Statistics." *UNICEF*. UNICEF, 2017. Web.
- "Vanuatu Literacy Programme (VANLEP)" *UNESCO*. UNESCO, 2016. Web.
- Vanuatu. Vanuatu Meteorological and Geohazards Department. National Advisory Board on Climate Change and Disaster Risk Reduction. *VCAP Penama Province Area Profile*. Vanuatu Meteorological and Geohazards Department, 2016. Web. 95. 2 May 2017.
- Vanuatu. Ministry of Education and Training. Policy and Planning Unit. *Annual Statistical Digest*. Port Vila: Vanuatu Ministry of Education and Training, 2015. Web. 2 May 2017.
- Vanuatu. Vanuatu Ministry of Finance and Economic Management. Vanuatu National Statistics Office. *2009 National Population and Housing Census*. Vanuatu Ministry of Finance and Economic Management. 2009. Web. 2 May 2017.

- Walsh, D.S. "Some Misconceptions Remedied for Raga, an Oceanic Language." *Journal of the Polynesian Society* 114.2 (2005): 157-63. *JSTOR*. Web. 6 May 2016.
- Warschauer, Mark. "Technology and Indigenous Language Revitalization: Analyzing the Experience of Hawai'i." *Canadian Modern Language Review* 55.1 (1998): 5. *JSTOR*. Web. 5 May 2017.
- Wilford, John N. "Carvings From Cherokee Script's Dawn" *The New York Times*. *NYtimes.com*, 22 Jun. 2009. Web. 6 May 2017.
- Wyrod, Christopher T. "A social orthography of identity: The N'ko literacy movement in West Africa." *International Journal of the Sociology of Language*. 2008.192 (2008): 92. *DeGruyter*. Web. 5 May 2017.
- Wyrod, Christopher T. "The Light on the Horizon: N'ko Literacy and Formal Schooling in Guinea." *Thesis Submitted to George Washington University*. (2003) 26-29. 89-91. *webmande.net* Web. 20 April 2017.
- Yerende, Efsthathia. "Public signage and adult literacy practices in the City of Kankan (Guinea)" *Paper presented at the annual meeting of the Comparative and International Education Society Annual Conference, Sheraton Centre Toronto, Toronto, Ontario, Canada*, 10 Mar. 2014. Web. 2 May 2017.
- Zagala, Stephen. "Vanuatu Sand Drawing." *Museum International* 56.1-2 (2004): 32-35. *Wiley Online Library*. Web. 6 May 2016.