An Overview of Language Revitalization as a Field of Linguistic Science

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1. Introduction

Language revitalization as a scientific term has been discussed, defined, and redefined on many occasions, as by Paulston et al. (1993), who introduce additional terms such as language revival, or Hinton (2015), who discusses at length the term and the measures of its success. I will take language revitalization to refer to the wide range of actions taken to preserve or maintain endangered or declining languages and to bolster their presence in the world. Work in language revitalization has often been concerned with increasing the number of speakers of a target language and ensuring that it is possible for children to grow up learning the target language as their native language. As it has developed, the field has identified many important concerns relevant to revitalization beyond the quantity of speakers and the creation of native speakers. Pine & Turin (2017) offer a birds-eye view of language revitalization as a scientific field, describing the history of language revitalization, some of its motivations, and some of the activities which comprise language revitalization.

The purpose of this document is to provide a broad overview of language revitalization in order to help contextualize other documents on this website. In section 2, I will outline some conceptualizations of language revitalization, discuss the causes of language endangerment, and some of the methods which are used to revitalizae languages. In section 3, I will outline the Haudenosaunee language context, discussing the history of Haudenosaunee language endangerment and the state of Haudenosaunee language revitalization, as documented in the scientific literature.

2. Language revitalization

2.1 Section overview

I will first describe the positive act of language revitalization in more detail. I will describe two conceptualizations of language revitalization, which together encompass two major streams of academic thought on the priorities of language revitalization. I will also discuss the connection between language revitalization and cultural revitalization, as these are two activities which have been associated and conflated in the literature.

As language revitalization concerns endangered or declining languages, it is also necessary to discuss the meaning and causes of endangerment. I will describe some conceptualizations of language harm, endangerment, or decline, as well as the causes and agents of language endangerment.

I will next discuss some of the concrete actions which comprise language revitalization. I will

discuss some findings on the efficacy of the methods described, and situate them with respect to the previously established priorities of language revitalization.

2.2 Language revitalization conceptualizations & priorities

2.2.1 Sub-section introduction

As stated previously, language revitalization refers to the actions taken to preserve and bolster endangered or declining languages. Language revitalization has been conceptualized many different ways in academic discourse, with each different conceptualization emphasizing different aspects of language and different methods of language revitalization. I will discuss two different conceptualizations of language revitalization in this section, which together represent two major currents of thought in language revitalization. The first conceptualization I will discuss is Fishman's (1991) Reversing Language Shift (RLS), and the second conceptualization I will discuss is Grenoble & Whaley's (2021) Language Vitality Network Model (LVNM). These two conceptualizations share more commonalities than they have differences, but they do place different emphasis on concrete concepts of language revitalization, such as the aforementioned “native speakers.” I will also discuss cultural revitalization and its connection to language revitalization.

I will later discuss various practical methods of language revitalization, such as bilingual and immersion language education, language documentation, and expansion of language domains, among others. I will situate these methods with respect to both Fishman's Reversing Language Shift and Grenoble & Whaley's Language Vitality Network Model, and discuss their apparent efficacy in language revitalization. Although I will discuss the position of adult immersion learning in RLS and LVNM in this sub-section, discussion of its efficacy will be reserved for section 4 of this document.

2.2.2 Fishman's (1991) Reversing Language Shift

I will begin with RLS, as formulated by Fishman (1991). Fishman (1991) introduced the Graded Intergenerational Disruption Scale (GIDS), which is an eight stage scale for assessing language decline. The primary, though not sole, focus of Fishman (1991) and the GIDS is the degree to which intergenerational transmission of language is disrupted. Intergenerational transmission refers to the process by which children acquire a language and become native speakers of it. This process is dependent on many factors, including the choices of adult speakers, the language proficiency of child-raising adults, and cultural, governmental, or economic factors which affect the decisions parents make. Fishman posits that the establishment and maintenance of intergenerational transmission is the vital component without which RLS is impossible to achieve.

The second most prominent focus of Fishman's (1991) RLS is diglossia and the means by which it can be transcended. Diglossia refers to a sociolinguistic situation where two languages co-exist in a society, and one language, the higher language, is afforded a greater social status than the other language, the lower language. The higher language is associated typically with greater economic opportunity, bureaucratic functions, and similar privileges. Languages requiring revitalization are typically the languages of minority cultures existing inside a hegemonic state, for reasons that will become apparent when I discuss language harm and endangerment.

Fishman's (1991) RLS is organized by the distinct stages of the GIDS, with different RLS activities emphasized at different stages. He divides RLS into two sides. First, the weak side, which takes place in stages 5-8 of the GIDS, where intergenerational transmission is most disrupted, and diglossia is not established, as the target language is not prominent enough to be a lower language. Second, the strong side, which takes place in stage 1-4, where intergenerational transmission is less disrupted, or re-established, and the target language exists in diglossia as a lower language to the language of its hegemon.

In the weak side of RLS, Fishman's (1991) focus on intergenerational transmission is particularly emphasized. He recognizes value in many RLS activities which create second language speakers, such as adult or child education, but also views them with skepticism because they cannot alone produce native speakers and re-establish intergenerational transmission. Fishman instead advocates for "home-family-neighbourhood-community reinforcement," which consists of increasing the degree of socialization and prominence of the target language in informal family and community-centred domains, and "formal linguistic socialization," which consists of target language use in formal domains, such as literary traditions, legal functions, or traditional ceremonies. Fishman posits that it is these activities and domains which are best able to ensure intergenerational transmission, as they allow for intergenerational socialization, and so the transmission of language from elder speakers to younger speakers.

In the strong side of RLS, Fishman (1991) focuses on the means by which diglossia can be transcended and the target language can be put into an equal relationship with the language of its hegemon, or become capable of independently providing matching opportunity and status. Accordingly, at this stage Fishman advocates for the establishment of formal schooling under control of the target language's community, and for the spreading of the target language into workplaces outside the community, into mass media, and into governmental operation. These actions spread the target language into the domains otherwise typically exclusive to the higher language under diglossia, and so counteract diglossia. As he advocates these actions, Fishman emphasizes that all actions on the strong

side of RLS should seek to link back to and reinforce the actions on the weak side of RLS, which build local connection and increase the target language's social presence. Fishman also asserts that the strong side of RLS should only be focused on after intergenerational transmission and community language presence has been re-established, as otherwise RLS risks wasted effort and co-optation by the hegemon.

To summarize Fishman's (1991) RLS, it involves a strong focus on intergenerational transmission and the relationship between a minority language community and the hegemonic state it is embedded in. RLS is organized into distinct stages, each of which should be completed before the next stage is begun, with a central emphasis on the work of creating local community socialization in the target language. Fishman's emphasis on intergenerational transmission is matched by similar emphasis in both language revitalization research and language revitalization activities. Much work describing strategies for language revitalization assume intergenerational transmission as the primary goal or most necessary part of revitalization (McIvor & Anisman 2018, O'Grady & Hattori 2016, Lewis & Simons 2010, among others). Many language revitalization activities focus on establishing intergenerational transmission, including the remarkably successful language nests of Māori language revitalization (Green & Maracle 2018, Edwards & Newcombe 2005, Berardi-Wiltshire et al. 2020).

However, the appropriateness of Fishman's (1991) emphasis on intergenerational transmission has been contested. Romaine (2006) suggests that his focus on intergenerational transmission arises due to “the special status traditionally accorded within linguistic theory to native speakers,” and so represents a particular academic bias. Romaine suggests that the immediate goal of restoring intergenerational transmission may be unrealistic for many language communities, noting that language use can increase without intergenerational transmission, and that very few language revitalization efforts have followed Fishman's exact stages. Shah & Brenzinger (2018) advance the importance of teaching in language revitalization, as “teaching is the main or even only way to pass on ancestral languages when intergenerational language transmission no longer takes place,” aligning with Romaine's (2006) recognition of language use increase without intergenerational transmission. Pérez Báez et al. (2019) surveyed a large number of language revitalization efforts around the world, and found that majority of programs did not focus on intergenerational transmission. Pérez Báez et al. advance the importance of intergenerational transmission, but also recognize that many of the programs surveyed operate in situations which render it very difficult to actually work towards re-establishing intergenerational transmission.

2.2.3 Grenoble & Whaley's (2021) Language Vitality Network Model

I will now discuss the Language Vitality Network Model (LVNM) of Grenoble & Whaley (2021). The LVNM was developed in order to account for various newer findings in language revitalization research and to account for critiques of previous models of language revitalization. The primary critiques which Grenoble & Whaley explicitly cite are that scales such as GIDS provide minimal guidance on what actions can be taken to protect a declining language, and that models like RLS assume that the language habits in speech communities and individual speakers are static, not accounting for the factors which influence a person's day-to-day language use or cause a person to cease using a language they are a fluent speaker of.

Grenoble & Whaley's (2021) LVNM represents language as a series of language practices embedded in general social practices. The act of grocery shopping is an example of a social practice, and it can involve several language practices, such as reading labels, speaking to customers and employees, creating and reading grocery lists. Specific instances of a social practice will vary as to what language practices are involved, such that a single grocery shopper might read English labels and an Arabic grocery list. Language practices may vary in many respects, including formality and politeness of speech, but in the interest of relating the model to language revitalization, Grenoble & Whaley focus primarily on variation in terms of what language is used when multiple languages are available.

Grenoble & Whaley's (2021) LVNM focuses on language practices and the real use of a language in specific contexts. This allows for the identification of different priorities in language revitalization than Fishman's (1991) RLS. Intergenerational transmission and quantity of native speakers are not as central to the LVNM, as native speakers and second language speakers of a target language are both able to choose a target language for use in a specific language practice. The LVNM emphasizes increasing the presence of a target language in social domains, which is not necessarily tied directly to the proficiency of speakers in the target language. For example, Grenoble & Whaley describe groups of Kalaallisut speakers in Greenland switching to Danish to accommodate the presence of a single Danish speaker in settings where they otherwise use Kalaallisut; this occurs without respect to the proficiency of the Kalaallisut speakers. The LVNM is able to recognize both linguistic and extralinguistic factors blocking a target language from use in a specific language practice.

Grenoble & Whaley's (2021) LVNM is not as singularly focused on intergenerational transmission, and does not hinge exclusively on the proficiency of target language speakers. Because of this, it is able to recognize a much greater range of activities as contributing to language revitalization, and it is able to identify a much greater range of obstacles to language revitalization. Gomashie (2019), summarizing Kanyen'keha revitalization efforts, describes effective teaching of Kanyen'keha to

children in Kahnawa:ke, but notes that young Kanyen'keha speakers in Kahnawa:ke do not speak Kanyen'keha in public, out of respect to their immediate adult elders who do not speak Kanyen'keha. The LVNM is able to predict this phenomenon, unlike RLS, which would view the creation of young speakers as a success on its own.

2.2.4 Cultural revitalization & sub-section summary

I will next discuss the connection between language revitalization and cultural revitalization. Cultural revitalization refers to revitalization efforts aimed at cultural activities, knowledge, and ceremonies, rather than language specifically, though language is often considered a component of culture. Fishman (1991) and Grenoble & Whaley (2021) both suggest that language revitalization efforts should target traditional cultural activities, such as ceremonies or gatherings, as such activities constitute socially important sites for the establishment of intergenerational communication and transmission, or for the introduction of a target language into language practices. This suggests implicitly that language revitalization and cultural revitalization should be performed in tandem, and a great amount of research does assume that these activities are closely related (Shea et al. 2019, Tatsch 2004, Yazzie-Mints 2011, among others).

Beyond that language revitalization and cultural revitalization are connected in theory and practice, works analyzing the success of Hawaiian and Maori language revitalization suggest that the success of efforts aimed at those languages is a result of previous successful revitalization of Hawaiian and Maori culture, arguing that cultural revitalization is a prerequisite for language revitalization (Smith 2003, Cowell 2012). Smith argues that successful Maori cultural revitalization ensured that Maori people believed in the importance of Maori language revitalization to the degree necessary to ensure effective and well-participated-in revitalization efforts. Cowell argues that successful Hawaii language revitalization stems from that Hawaiian cultural identity is valued and participated in by a large portion of the population of Hawaii, including many non-ethnic Hawaiians, ensuring that language revitalization efforts have a large base of support.

In this section I have described two conceptualizations language revitalization: Fishman's (1991) RLS and Grenoble & Whaley's (2021) LVNM. RLS emphasizes native speakers and intergenerational transmission, focusing on language as an object carried by native speakers, while LVNM emphasizes language practices performed by speakers of various kinds, focusing on language as a network of fluid practices. RLS emphasizes the establishment of intergenerational transmission as a priority of language revitalization, while LVNM instead prioritizes increasing the presence of a target language in language practices. I also discussed the connection between language revitalization and

cultural revitalization; language revitalization is often imagined as necessarily performed in tandem with cultural revitalization, while some works argue that cultural revitalization is instead a prerequisite to successful language revitalization.

2.3 Language endangerment, harm and decline

2.3.1 Sub-section introduction & background

The most typical targets for language revitalization are endangered or declining languages. As such it is necessary to discuss what it means for a language to be endangered or declining, and the factors which cause language endangerment or decline. In this section, I will first discuss the degree to which languages across the globe are endangered, and the measures which linguists have used as a basis for this claim. I will then discuss how language endangerment has been framed by linguists and the languages communities of endangered languages. Finally, I will describe some of the various causes and agents of language harm, including discussion of the direct actions of colonial states and academic linguists, the indirect effects of economics, language policies and other systematic factors, and the effects of various language ideologies present inside and outside of a minority language community.

Krauss (1992) is widely cited as causing recognition by linguists of a global crisis of language endangerment. Krauss compares language endangerment to the endangerment of biological species, and asserts that 90% of languages in the world are endangered, and that 50% of them may already be moribund, situated on a course towards certain extinction without intervention. Simons & Lewis (2013) reassess Krauss' (1992) claims using newer data and analysis techniques and find instead that 29% of languages are in decline, and 19% of them are moribund. In addition to their more optimistic global analysis, Simons & Lewis's analysis include geographic breakdowns of language loss, allowing them to identify specific regions where language endangerment is much farther progressed. They assert that 79% of languages in North America and 74% of languages in Australia are extinct or moribund, and suggest that Krauss' dire estimate was due to the disproportionate number of North American languages in his data. More recently, David et al. (2022), using methods similar to those of Simons & Lewis, find that 42% of the languages of the world are endangered.

Krauss (1992) creates his estimate of the language endangerment crisis primarily by considering whether or not children are still learning each language, but also estimates endangerment by noting which languages exist in states where hegemonic languages exert strong pressure on people to assimilate away from minority languages. Simons & Lewis (2013) and Eberhard et al. (2022) both generate their estimates by evaluating languages according the EGIDS, an updated version of Fishman's (1991) GIDS which originates in Lewis & Simons (2010). All these measurements reflect

Fishman's emphasis on intergenerational transmission and the creation of native speakers over any other metric.

While EGIDS is a useful tool for assessing language endangerment or language vitality in global and regional terms, Pine & Turin (2017) note that EGIDS is often an inappropriate metric for the evaluation of language revitalization. They assert that its focus on intergenerational transmission does not match the goals of many language revitalization programs, and prevents it from recognizing the many benefits of language revitalization outside of direct creation of native speakers. Obiero (2010) discusses this school of critique in more detail, and discusses several other measures of language endangerment and vitality which interface with factors other than intergenerational transmission, including: literacy rates, number of speakers including second-language speakers, the presence of the language in education programs, the degree of social and economic prestige associated with the language or held by its speakers, the degree to which a language is documented, among others. Neither Pine & Turin nor Obiero endorse a specific diagnostic tool over EGIDS, but they do emphasize the importance of accurately diagnosing a target language's vitality in effective language revitalization. Turik & Pine suggest that diagnostics should be informed by the goals and priorities of the target language's community, while Obiero insists on the importance of developing an effective universal diagnostic tool.

Krauss (1992) describes language endangerment using an analogy to biological science and the endangerment of animal species, and so refers to languages with no remaining speakers as “extinct.” However, Leonard (2008) asserts that description of languages as extinct is often both inappropriate and untrue, as extinction implies an irretrievable loss, which is rarely for case even for languages with no remaining native speakers. Leonard supports this by describing the revival of the Miami language, which had no native speakers for 30 years, but has re-emerged into use in its language community due to revitalization efforts supported by extensive documentation. Leonard proposes that most languages typically called extinct are instead “sleeping,” and that so long as a language is documented, it is not irretrievably lost even when it lacks any native speakers, while true extinction of a language would require both that it has no speakers and documentation. Such distinctions are important to recognize, as false declarations of a language as extinct may create ideological barriers to language revitalization efforts. Leonard's move away from the biological metaphor for language endangerment is echoed in later work (Grenoble & Whaley 2021, Nakagawa & Kouritzin 2021, De Costa 2021, among others).

Regardless of the precise definitions and diagnostics of language endangerment, there is a global crisis of language endangerment. I will now turn my focus to the causes of language endangerment. I will discuss direct contributions by colonial states and racist linguists, primarily in the

form of genocidal actions, less direct contributions by those same actors in the form of institutionalized monolingual dominance, and ideological factors which contribute to language endangerment without such distinct origins. These categories bear resemblance to those laid out by Austin & Sallabank (2011), who additionally include a category of natural catastrophes as a cause of language endangerment. I do not propose that natural catastrophes do not contribute to language endangerment, but I will not discuss them in detail, as I believe it more productive for this document to focus on human-caused language endangerment.

2.3.2. Direct actions of language harm

That colonial projects have contributed greatly to language endangerment is well-recognized and discussed by many many papers and authors (Gomashie 2019, Khawaja 2021, Simons & Lewis 2013, Pine & Turin 2017, among others). The precise vectors of this contribution vary in different contexts, but are largely comprised of direct violence, up to and including genocide, displacement of a language community from their traditional land, and forcible imposition of a hegemonic language. Direct language harm may not necessarily rely on direct physical violence: Forced adoption of children out of their native community, or banning of a minority community's traditional cultural activities and language are examples of less violent but no less direct language harm.

Mufwene (2002) describes different types of colonialism, and posits that it is specifically settler-colonialism, colonial projects where the colonized land is permanently settled by the colonial state, that most endangers languages. Canada's genocidal residential schools, to where Indigenous children were forcibly taken and forbidden from speaking Indigenous languages as well as subjected to physical and psychological abuse, are an especially significant colonial contribution to language endangerment. Macaulay (1835) exemplifies colonial linguistic attitudes in a proclamation that both declares English to be superior to Sanskrit and Arabic, languages spoken in colonized India, and moves to redistribute funding from those Sanskrit and Arabic education to English education, making direct effort towards language displacement.

Academic linguists have been historical contributors to colonialism, and otherwise perpetrators of language harm. Rice (2022) discusses the early work of studying Indigenous North American languages as missionary linguistics, done for the primary purpose of converting Indigenous people to Christianity and riddled with racist value judgments of Indigenous languages. Rice discusses how missionary linguistics directly damaged Indigenous languages by disrupting local religion and culture, displacing traditional cultural practices and languages and replacing them with hegemonic values. Missionary linguists also gave academic justification of genocidal practices such as residential schools,

judging Indigenous languages to be less valuable than settler languages and morally licensing language harm done to them. Rice also asserts that these racist attitudes are inherited by modern academia, including linguistics, discussing several modern cases where academic linguists assume authority and control over Indigenous language resources and information or violate Indigenous consent.

I have discussed only some of many works commenting on the direct role of colonialism and academic linguistics in perpetuating and prolonging language endangerment. I hope that what I have discussed makes it sufficiently clear how language endangerment can emerge from direct actions of identifiable agents.

2.3.3. Indirect and systemic language harm

I will move on to discussing how states and academia contribute less directly to language endangerment. I will discuss how states perpetuate systemic language harm through educational policy and economic dominance, and how academic linguists perpetuate language harm through failure to recognize language endangerment or support language revitalization.

Even after settler-colonial states have ceased genocide through direct violence, they often continue to perpetrate language harm through their institutional rule over Indigenous people whose territory they have colonized. Hough & Skutnabb-Kangas (2005) discuss language harm perpetuated through educational institutions as “linguistic genocide.” They discuss how Indigenous people often have no choice but to send their children to public schools where they are taught monolingually in the dominant language, resulting in a loss of proficiency in their own mother tongue; they identify this as subtractive language learning, where a dominant language is learned at the cost of the mother tongue. They also discuss how this style of education causes reduced academic performance and mental health, and that education in children's mother tongue is more effective and can be performed without preventing the second language learning of a dominant language. Despite this, public schools in Canada often lack Indigenous language education, restricting Indigenous families from even the option to avoid monolingual dominant language education.

Colonialist educational policies also stifle language revitalization efforts. Cohen & Allen (2013) discuss how standardization policies of the US aimed at increasing educational equality among all students had the real result of diminishing Indigenous educational sovereignty and preventing Indigenous children from receiving education in their mother tongue. The standardization policies in question, those of the No Child Left Behind Act of 2001, instituted English language only assessments of student performance, leading schools to focus on monolingual English education to the exclusion of Indigenous languages in order to meet externally imposed educational standards. De Korne (2010)

assesses the support which Canadian and US educational policies offer to Indigenous language education, and finds that education policies rarely support Indigenous language education, usually failing to include Indigenous language education in policy, or even actively excluding or restricting it. Where Indigenous language education is permitted by policy, it is typically only in the terms of settler institutions; Indigenous community control over education is often implemented through partnerships with educational authorities or advisory councils to educational institutions, rather than through any direct and independent decision-making power.

Hough & Skutnabb-Kangas (2005) also connect linguistic genocide to modern economic arrangements, the requirement that people participate in capitalist economies in order to earn money and live. They describe how market economics intrude on the traditional subsistence fishing and farming of Indigenous Kosrae people; people must find salaried work and sell what they fish or grow, which both diminishes people's ability to participate in traditional sharing economies and forces people to learn English in order to attain economic advantage. Meades (2015) similarly discusses the connection between economic domains and language domains, discussing how English tends to dominate in settler-colonial economic domains, such as mineral resource extraction in North America, and how Indigenous people are forced to participate in these domains and accept external linguistic pressures in order to attain basic material necessities. As an example, Meades discusses Mi'kmaq communities whose traditional subsistence economies were disrupted by logging industries and systemic overhunting of local caribou herds and compares them to a distinct separate Mi'kmaq community who were not as affected by ecological disruption. Meades notes that where traditional Mi'kmaq economies persevered, Mi'kmaw language also persevered, though he does not claim this to be a directly causal relationship, instead recognizing that economic domains and language exist in relationship and may significantly influence each other.

Apart from the role of academic linguists in justifying genocide and directly disrupting Indigenous life, academic linguists also more covertly contribute to language endangerment through refusal to recognize language endangerment, the role of academia in causing it, and the ability of academia to help with language revitalization. Romaine (2008) engages with such attitudes in modern academia as she discusses the role which academic linguists should play in language revitalization and argues in favour of language revitalization. Romaine engages with proposals by other linguists that academic linguists should play no role in language revitalization and let endangered languages die, that language revitalization is a reactionary project which disapproves of modernity, and that Indigenous communities would be better off abandoning their traditional cultures and lifestyles in favor of modern Western ways of life. Romaine offers critique to these proposals, pointing out how they naturalize

language endangerment by downplaying the role of colonialism in causing it, and misattribute the causes of Indigenous suffering they imagine language revitalization will prolong. Works advocating language revitalization have noted the importance of well-researched methodology and participation by well-trained interdisciplinary linguists to effective language revitalization, and the degree to which language revitalization projects have proceeded without the help of such methodology or linguists (Mithun 1998, Hinton 2011, among others). With this in mind, it should be easy to recognize how a widespread proliferation in linguistics of responsibility-evading and non-participant attitudes like those with which Romaine engages could curtail effective language revitalization, though it is no doubt difficult to come to any evaluation or assessment of the precise degree to which such curtailing has occurred.

I have now described indirect and systemic contributions to language harm by states and academia in some detail. I have no doubt there are further avenues through which dominant languages exert structural pressures on minority languages and generate language harm, but I hope that what I have described demonstrates to some degree how language harm may be perpetrated in the absence of direct violence, legal proscription, or state-sanctioned prejudice. The actions described may not be as direct or clearly malicious as the actively genocidal actions discussed previously, but they do similarly originate from specific actors and causes: prejudiced or ignorant legislators and linguists, and exploitative economic dynamics. Hough & Skutnabb-Kangas (2005) argue that linguistic genocide through systemic causes like these should be considered intentional on the basis that the consequences of dominant monolingualism are studied and known, and that alternatives to subtractive bilingual educations are known but not enacted. Regardless of intention, language harm occurs.

2.3.4. Language ideologies, language harm, and sub-section summary

I will now move on to discussing more subtle ideological factors which cause language harm and stifle language revitalization, using the frame of "language ideologies." Language ideologies consist of sets of beliefs, views, or cultural narratives about language, such as that some languages are better than others, or that some languages only belong in certain locations. The language ideologies I will discuss do not directly cause language harm, but motivate people's actions and underlie otherwise innocent voluntary individual choices which result in language harm. In each case, I will first describe a language ideology and then describe the language harming results of people's belief in that ideological factor.

Meighan (2022) describes "colonialingualism," the covert or overt upholding of colonial history and beliefs through language ideologies. Meighan describes how English, as a historical language of

colonialism, carries the legacy of colonialism in the beliefs of English speakers and beliefs associated with English. Colonialingualism fails to recognize power imbalances between hegemonic languages like English and minority languages, such as the Indigenous languages of North America, and often renders the history that created such power imbalances invisible. At the same time, colonialingualism positions multilingualism as an obstacle to a unified monolingual nation-state, and naturalizes hegemonic languages as more useful, civilized, and progressive than minority languages. Colonialingualism results in language harm due to its creation of a pressure on speakers of minority languages to learn and use hegemonic languages instead, its licensing of prejudice towards minority languages by speakers of dominant languages, and through how it renders the agents of language harm invisible and unnameable using erasure of history and power imbalance.

Nakagawa & Kouritzin (2021), describe “identities of resignation” forced onto Indigenous people by capitalist and neoliberal ideological encroachment, likely synonymous with Meighan's (2022) colonialingualism. Nakagawa & Kouritzin describes how neoliberal discursive regimes, the patterns of speech of settlers, linguists, and institutional authorities, position Indigenous language speakers as resilient victims of colonialism who bravely adapt to modern conditions. They critique this positioning, as it situates Indigenous people in a permanent struggle against dominant languages and values while measuring them by those dominant values. Nakagawa & Kouritzin describe how Indigenous languages are framed in neoliberal terms as valuable resources which can be turned to economic advantage by resourceful individuals. This external framing of Indigenous languages' value displaces Indigenous ways of valuing language. They assert that this positioning diminishes Indigenous people's autonomy, as they are given no choice but to struggle in the terms forced upon them, and curtails the possibility of working towards Indigenous self-governance, as Indigenous people are perpetually seen as requiring external aid due to their status as victims. These identities of resignation shape Indigenous people into ideal neoliberal subjects to be economically exploited, and help, like Meighan's colonilingualism, to invisibilize the true agents of language harms.

Colonialingualism and identities of resignation are two frameworks for recognizing the ways that dominant cultural values are forced onto minority language communities. These two frameworks identify language ideologies which largely come from above, originating in the dominant culture. I will next discuss some language ideologies which primarily exist inside minority languages communities instead, and so come from below. Nakagawa & Kouritzkin (2021) rightfully critique how academic linguists position Indigenous people as obstacles to language revitalization for their internal attitudes towards Indigenous languages, or their resistance to linguist's biases towards written and standardized language. Keeping Nakagawa & Kouritzkin's critique in mind, it is not my intention in describing these

internal language ideologies to position Indigenous people as at fault for language harm. It is my belief that the language ideologies that I am about to describe can be seen as cousins to the hegemonic language ideologies described above, mirrored across the axis of power, or as the ideological wounds caused by those hegemonic language ideologies; the bulk of blame still lies on settler nations when these ideologies are present in Indigenous people, as they stem from externally imposed values and traumas of colonialism.

First I will describe language ideologies of shame, hopelessness, or other negative feelings towards Indigenous languages, caused by the traumas of colonialism and the external pressures of hegemony. Haviland (2010) discusses how projects of settler-colonialism, English-privileging education policy, and English-privileging language ideologies create negative language ideologies in Indigenous people. Haviland describes how residential schools have left some Indigenous language speakers ashamed to speak their languages, associating them with the abuse of residential schools, where they were taught that Indigenous languages are inferior to settler languages. Such feelings also led to Indigenous language speakers choosing not to expose their children to Indigenous languages, in order to protect them from experiencing similar abuse. Haviland also describes how assimilationist ideology and economic dominance of English causes Indigenous parents to see Indigenous language learning as an obstacle to learning English, which is seen as a means to enable economic mobility and future success. The result of these ideologies is that Indigenous languages are seen as inferior to English by Indigenous people, resulting in hesitance to commit time and effort towards Indigenous language learning and revitalization and in Indigenous language speakers choosing not to pass their language onto their children, in favour of allowing them to learn English as their native language.

Peter (2014) describes languages ideologies present in elders, teachers, students, and parents involved in a Cherokee language revitalization program, identified through thematic analysis of interviews with participants. Peter identifies, among other ideologies, an “ideology of impracticality.” This ideology positions Cherokee learning as not useful, because few people speak it in public, or use it practically, while other languages are more widely spoken or are economically valuable; in this way, language harm reinforces itself, as declining speaker numbers and language use rates seem to validate such judgments of utility. This reflects the privileging of English over Indigenous languages that Haviland (2010) describes; Haviland describes how Indigenous languages are perceived as too “slow” to function or compete in modern society. Peter also describes how the ideology of impracticality positions Cherokee as too difficult to learn, even by otherwise language-apt students, as Cherokee has a different writing system from English, and is complex in ways that are highly distinct from English, rendering it much more difficult to learn compared to languages which share writing systems or are

more similar to English. The ideology of impracticality leads to a lack of interest and commitment in Cherokee language learning and revitalization in students and other community members.

The language ideologies which Haviland (2010) describes, and Peter's (2014) ideology of impracticality are a primarily a result of colonial trauma, hegemonic social pressure, and language harm itself. Because of this, I believe that people should not be shamed or made to feel guilty for having come to believe in these language ideologies, or to feel especially personally at fault for actions perpetuating language harm they took which were informed by these ideologies. Haviland describes how language revitalization may involve a process of healing and renewal; Indigenous people may need to heal from these ideologies and associated negative feelings in order to feel comfortable enacting and participating in language revitalization. As these ideologies are combated effectively, it is likely that Indigenous people will participate in language revitalization more frequently and optimistically.

I will next discuss language ideologies of authenticity or legitimacy, which valorize particular speakers or varieties of a language as better than others. Sallabank (2018) describes traditionalist language ideologies in elder native speakers of the endangered language Giernesiei. Sallabank describes how older speakers of Giernesiei are resistant to language change, seeing changes in Giernesiei from their particular variety as inauthentic, especially if change consists of borrowing from English, or if change is present in the speech of younger speakers or second language learners. Such older speakers also conflate fluency and native speakerhood, with the result that they consider native speakers to be more fluent and authentic than second language learners, even in cases where native speakers' fluency is highly decayed due to disuse, which is common due to Giernesiei's stage of endangerment. These older speakers style themselves as guardians of the language, resulting in discouragement and fear of publicly speaking Giernesiei in learners, who experience harsh criticism and tests of their fluency from older speakers.

Peter (2014) identifies, in addition to the previously discussed ideology of impracticality, an ideology of legitimacy as present among Cherokee language revitalization participants. The ideology of legitimacy links together Cherokee language proficiency and Cherokee ethnic identity, such that Cherokee people who do not speak Cherokee may be seen as less Cherokee, or that people who are not sufficiently Cherokee by heritage may be seen as not having a right to learn Cherokee. This ideology also includes a privileging of native speakers similar to that described by Sallabank (2018), such that true Cherokee people should be native speakers, or that second language learners are illegitimate speakers. The ideology of legitimacy results in discouragement among learners and potential learners, to the point that a study participant reported not ever taking Cherokee classes due to fear of being

judged as not belonging. It also results in fear among younger learners of speaking Cherokee around older speakers, due to risk of being judged, similarly to how Sallabank describes fear among Giernesiei learners.

Sallabank (2018) describes an ideology of authenticity which arises at least in part out of a desire to protect the Giernesiei language; older speakers act as guardians because they do not trust younger people to properly preserve the language, or see language revitalization as originating from outside the language community. However, Sallabank also attributes this ideology to a desire among native speakers to maintain personal ownership over the language and hold onto associated prestige, which could be threatened by language revitalization. Peter (2014) similarly identifies the ideology of legitimacy as in part serving the purpose of protecting Cherokee language and culture from external appropriation, and in part originating from blood quantum, a colonially imposed measure of Indigenous identity which has displaced traditional ways of determining Indigenous community membership. These protective ideologies arise in some part due to a well-founded protective instinct in speakers, justified by previously discussed external language harm, and in part due the negative effects of colonialism on conceptions of Indigenous identity. Regardless of where they come from, these ideologies cause discouragement among learners and stymy language revitalization, so they should be recognized and engaged with to ensure effective language revitalization efforts. Sympathetic engagement with ideologies of authenticity may allow for the recognition of their causes, leading to palliation of anxieties or challenging of conservatism as appropriate.

In this section I have discussed how linguists measure and conceptualize language endangerment, and I have described many of the vectors of language harm. I described language harm in three categories: First, direct harmful actions; second, indirect and systemic harmful actions; lastly, harmful languages ideologies. I have not described every possible aspect of any of these categories, but I have offered examples in each category, which should allow for some intuitive understanding of how other actions may fit into these categories.

2.4 The actions comprising language revitalization

2.4.1 Sub-section introduction

I will now move on to describing the practical actions of language revitalization. I will describe these actions in three categories: education, documentation, and language domain expansion. For each category, I will discuss how they contribute to language revitalization and how previously discussed models of language revitalization prioritize them. I will discuss the apparent effectiveness of actions in each category, and how they interact with other parts of language revitalization.

2.4.2 Education for language revitalization

I will first discuss education as a means of language revitalization. As previously described, Fishman (1991) considers language education to be a low priority activity, as it does not directly reinforce intergenerational transmission, the highest priority of RLS. Fishman also justifies his skepticism of language education on the basis that education programs are usually controlled by hegemonic states rather than minority language communities, and so often do not represent the interests of the minority language community, potentially causing setbacks to RLS efforts. Grenoble & Whaley (2021) are not as skeptical of language education, but still do not consider it the primary effective means of language revitalization; they recognize that language education does not always result in use of the target language outside of the classroom, but they suggest that actions which introduce the target language to different social domains could be supported by language education programs.

As briefly mentioned earlier, Shah & Brenzinger (2018) argue that education is essential to language revitalization in languages with no intergenerational transmission. They argue that language education is the main way to transmit a language in the absence of natural intergenerational transmission, citing the success of Hawaiian language revitalization through Hawaiian-medium education as evidence of the potential of the educational approach. They do still recognize the importance of re-establishing intergenerational transmission, and suggest as well that fostering language competence through education may be a means of supporting an endangered language community and working towards re-establishing intergenerational transmission.

McCarty (2008a) takes a more moderate position, asserting that education remains secondary to establishing regular use of a language but allowing that education can be a useful tool for language planning and developing a base of support for an endangered language. McCarty describes the successes of several Indigenous language education programs, showing that Indigenous language education can be effective in developing fluency in an Indigenous language. McCarty describes education which fosters bilingual fluency, such as in Navajo and English, as a counter-hegemonic project which furnishes Indigenous children with greater language sovereignty and challenges monolingual ideology. McCarty emphasizes the ability of Indigenous language education to create social and ideological change in support of language revitalization, rather than solely focusing on the language competence which is developed by education.

Language education programs may be differentiated by several features, which I will describe now. Education programs may be distinguished by whether their intended audience is adult learners or child learners, as each audience presents different challenges, and targeting of each audience serves

different purposes to language revitalization. Child education lies largely outside the scope of this document, but I will discuss adult education in detail later.

Education programs may also be distinguished by their instruction medium. Immersion programming teaches the target language through instruction entirely within that language, and so uses that language as its instruction medium, and has been found to be the most effective means of language education by many works (Groom-Hall 2003, McCarty 2008a, McIvor & McCarty 2017, Daniels 2021, among others). Immersion education may be contrasted with education on a language using a different language as the instruction medium, called "language as a subject," or "second language" teaching. Hermes (2005) discusses how education on a minority language or culture using a dominant language as a medium causes cultural distortion and does not lead to effective education outcomes. Similar findings are repeated in other works, such as McIvor & McCarty (2017).

Hinton (2011), and other works, such as McCarty (2008a), describe "bilingual education" or "two-way education" as a common program goal of child education programs. These types of education seek to develop fluency in a target minority language and the local dominant language simultaneously, and accomplish this through initial total immersion in the minority language with gradual introduction of dominant language medium education. McCarty finds that two-way programs like this are effective at producing fluency in a minority language at no cost to fluency in the dominant language, contradicting common attitudes that minority language education or bilingualism are an obstacle to true dominant language fluency.

The final distinction I will discuss here concerns whether or not a language education program is under the control of its language community. Fishman (1991) makes this distinction, and asserts that minority language education programs controlled by hegemonic states may be harmful rather than helpful to language revitalization, as they are likely to serve language revitalization on only a surface level rather than truly account for the needs of the language community. De Korne (2010) finds that North American language education policy often seeks to maintain state control over education while preventing Indigenous language medium education, which would seem to vindicate Fishman's perspective. Many works describing successful minority language education programs note that these programs are controlled by the language community (Maracle 2002, Groom-Hall 2003, McIvor & McCarty 2017, Gomashie 2019, among others).

Hinton (2011) describes an additional notable aspect of language education for language revitalization; endangered languages are subject to several pedagogical challenges which other forms of language educations are not, and these challenges are not as well researched as the particular challenges of other forms of language education. Hinton describes how many education programs for endangered

languages have been forced to develop without the aid of people trained in language education, often instead relying on elder native speakers who are not trained educators, or on linguists trained in documentation and theoretical research rather than language education. I will discuss some of the particular challenges of endangered language education later in this document.

2.4.3 Language documentation for language revitalization

I will now discuss the role of language documentation in language revitalization. Language documentation may encompass a wide range of activities. Austin & Sallabank (2018) describe language documentation primarily as the creation and annotation of language recordings, resulting in a language corpuses, archives of audio, video and text recordings with a wide variety of attached analytical information. Sapién & Hirata-Edds (2019) describe reference grammars, dictionaries, and word lists as products of language documentation, in addition to language recordings. Language documentation may facilitate various types of linguistic analysis, record the range of dialectal variation or change over time in a language, or archive cultural traditions which may not otherwise be statically recorded, such as if they are primarily orally transmitted. I will first describe how language revitalization models situate language documentation, then I will discuss historical disconnects between language documentation and language revitalization, and then finally I will discuss how language documentation directly aids language revitalization.

Neither Fishman (1991) nor Grenoble & Whaley (2021) discuss language documentation as it relates to language revitalization in significant detail. Fishman describes language documentation as important to the very first stage of RLS, which requires the target language be re-assembled through documentation and taught to adults, so that social use of the target language can be re-established. Fishman does not refer further to language documentation at any later stage of RLS, while Grenoble & Whaley make no direct reference to language documentation. This sparsity of reference in overviews of language revitalization does not mean that language documentation is of no value to language revitalization, though it does suggest that language documentation is not especially directly relevant to language revitalization. Works specifically dedicated to language documentation offer more detail on how it relates to language revitalization and how it may aid in language revitalization efforts.

As I mentioned earlier, Rice (2022) describes how missionary linguists facilitated linguistic genocide through their documentation of North American Indigenous languages. More recent documentary work has been criticized by Perley (2012) as “zombie linguistics,” describing documentation work which does not aid an endangered language and help it to continue being spoken, but instead creates a record of a language and declares it to be saved because it is documented. Perley

connects zombie linguistics to unreflexive adoption of the extinction metaphor for language endangerment, and the elevation of academic linguists' priorities and intentions over the needs of endangered language communities. Perley asserts that language documentation is not on its own sufficient to save languages, and so it must be combined with other means. Recognizing Perley's critique, or similar critiques by other authors, the works I will discuss all foreword their discussion of language documentation by reflecting on the historical negative relationship between language documentation and endangered languages.

Austin & Sallabank (2018) reflect on several problematic aspects of language documentation, such as outsized emphasis on technical aspects of documentation, lack of recognition for how the presence of documentary linguists may affect recordings, and failure to engage with power imbalance between documentary linguists and the language community they document. Sapien & Hirata-Edds (2019), sharing insights with Austin & Sallabank, describe how language documentation work is often done primarily for academic purposes, with the result that generated language recordings are often too difficult for learners to understand or do not contain suitable content for education. Analytical works based on recordings are typically focused on complicated aspects of linguistic theory, and so are difficult for the language community to understand or make practical use of. Grinevald (2003) emphasizes the power dynamics involved in language documentation, distinguishing between documentation performed on a language by a linguist and documentation performed with or by the speakers of the language community. Grinevald even suggests that no fieldwork on an endangered language may be better than some fieldwork, if the involved linguists are not prepared to take the needs of the language community seriously. All the authors cited here suggest that language documentation should be done in mutual collaboration or community-centred consultation with speakers of the language, and should be designed from the initial stages with the intention of meaningfully contributing to language revitalization.

Austin & Sallabank (2018) describes several methodological principles for integrating language revitalization into language documentation projects. They suggest that recording should target domains appropriate to learners, such as everyday conversation, functional speech like greetings and goodbyes, and speech directed towards learners or children. These language domains are likely to contain chunks of language which learners may recognize and adopt or otherwise learn from more easily than typical recording formats, such as long monologue narratives by elder speakers. They also suggest that language documentation should target semi-speakers, speakers who are not fluent but are able to interact appropriately in conversations; these speakers' competence may be bolstered by participation in documentation, and they may yield distinct insight into what type or amount of language knowledge

allows people to function in conversation without full fluency.

Sapien & Hirata-Edds (2019) describe methods for developing pedagogical materials out of existing language documentation that was designed for academic purposes, such as dictionaries, reference grammars, and long recorded narratives. They discuss methods of identifying functional language, language constructions which fulfill communicative purposes and could be used by speakers, in existing works. Theoretical works and reference grammars on a language may include useful dialogue exchanges, or language paradigms, such as complete sets of pronouns or kinship terms in a language. Long narratives may be simplified into conversational registers, or include dialogue exchanges as a part of the story. Sapien & Hirata-Edds go on to describe how functional language may be adapted into teaching materials appropriate to different skill levels, in the form of word games, dialogue exercises, translation exercises, and similar.

Christie (2009) suggests corpus retranslation as a means to engage language revitalization efforts with previous documentation work. Christie describes how the majority of documentation on North American Indigenous languages is "translational," translating documented language and describing it in English, often for colonialist purposes. Christie proposes that colonialist documentation be retranslated by Indigenous speakers into Indigenous languages, allowing for the recovery of old documentation into forms usable by modern language communities, and allowing for revision of the work to reflect Indigenous values rather than colonialist ones. Christie suggests that this process would create usable material under the control of the language community, increasing their sovereignty over their language. Christie also suggests that this process could serve as a useful learning tool for speakers involved, since retranslation would involve significant use of language skills; Christie notes that sustainable literacy in a language requires a steady flow of reading material, which corpus retranslation could help to provide.

That language documentation can be of use to language revitalization efforts is beyond doubt; Leonard (2008), mentioned earlier, describes the awakening of the Miami language using existing documentation. The language had no living native speakers, but committed linguists and Miami people have relearned the language from dictionaries and grammatical documentation, and developed dedicated educational material since then. Although language documentation has not always been helpful to language revitalization historically, both new and old work can be put to use for language revitalization with appropriate methodology and a sufficiently reflexive perspective.

2.4.4 Language domain expansion & sub-section conclusion

I will now discuss my final category of language revitalization actions, the category of language

domain expansion. I take language domain expansion to refer to actions for the increasing of a target language's presence in a language domain. This may encompass a wide range of intensities and actions, such as the introduction of set phrases like greetings and farewells into conversation protocols, the inclusion of the target language in some conversation topics, or even the use the target language for all functions in a language domain.

Fishman (1991) considers the expansion of a target language's domains to be essential to re-establishing intergenerational transmission; in particular he suggests the targeting of local domains, naming the "family-home-neighbourhood-community sphere" as the basis of intergenerational transmission. Once intergenerational transmission is re-established, Fishman suggests the targeting of less local domains, such as work environments outside the language community, state-controlled schools, and political institutions, now for the purpose of equalizing power between the target language and the hegemonic language rather than to re-establish intergenerational transmission.

Grenoble & Whaley (2021), through the frame of language practices in language networks, consider the expansion of the target language's use in different domains to be the primary goal of language revitalization. In this they differ from Fishman (1991), who considers language domain expansion only as a means to achieve the true goals of language revitalization. Grenoble & Whaley's language practices allow for detailed analysis of the target language's presence in a language domain, as a language domain may be divided into its component language practices.

The importance both Fishman (1991) and Grenoble & Whaley (2021) place on language domain expansion are reflected in many works which discuss the language revitalization efforts of specific languages. Pohe (2012) describes many design principles in a Maori adult education program which intend to ensure the development and reinforcement of communities of speakers who will speak Maori in public. Squamish speaking elders, interviewed by Baker-Williams (2006), believe Squamish should be spoken by people at gatherings, meetings, community events and the like in order to revitalize the language. Groom-Hall (2003) recommends the encouraging of Indigenous language use in casual non-classroom situations and in recreational organizations such as sports teams. Other works discussing the importance of language domain expansion to some degree include, among others, Smith (2003), discussing Maori, Chacaby (2011), discussing Anishinaabemowin, Daniels (2021), discussing Cree, and Cowell (2012), discussing Hawaiian. Many of these works are focused primarily on surveying or describing educational programs, but still note the importance of language domain expansion. Many of these works use traditional values and theories of their target language's culture to identify the importance of language domain expansion, not relying solely on academic validation of the importance of that activity.

The actual means by which language domain expansion may be enacted are difficult to describe concretely, as the appropriate means vary according to features of the target domain and the current presence of the language in that domain. I will discuss what types of language domains may be more easy and more difficult to implement a target language in, some specific obstacles to implementation of a target language in various domains, and some methods which have been used to encourage language domain expansion.

Fishman (1991), as mentioned previously, suggests that domains which are more local to the language community are easier to expand the target language into. Apart from the home-family-neighbourhood-community sphere, he suggests targeting traditional cultural or religious language domains, local work environments, and media like local radio stations. Fishman asserts that language domains which are farther from the language community are more difficult targets for language domain expansion. For this reason, Fishman recommends avoiding putting effort into incorporating the target language into domains that are not controlled by the language community, such as mass media, signage, or public education, until intergenerational transmission is secured. Grenoble & Whaley (2021) do not as directly emphasize locality, but do recommend the targeting of ceremonies, religious activities, and local workplaces, as sites of "existing socially meaningful activities," which results in a similar emphasis on language domains which are local to the language community.

While the domain of language use at home is the most primary target for Fishman (1991), he notes that it is difficult to directly affect language use at home, as there is no central way to access families, as there is for students in a school or workers in a workplace. Edwards & Newcombe (2005), recognizing this problem, describe strategies used to encourage Welsh use in the home of families in Wales. In one strategy, Welsh language revitalizers recruited midwives and health visitors, health professionals who work with parents before and immediately after childbirth, to promote bilingualism and Welsh use to new parents. Edwards & Newcombe describe how such health professionals are respected by parents and have access to families at a crucial time to influence their language use decisions, rendering them effective distributors of the message of Welsh langauge revitalization. However, they also note that the delivery of the message competes with many other demands on the time of those health professionals. Although the effect of the project is difficult to directly measure, Edwards & Newcombe are certain that it has been an effective means of encouraging Welsh use in the homes of families. I would imagine from the success of this project that families may otherwise be accessed for the promotion of target language use through childcare-related interfaces with parents, such as parent-teacher meetings to discuss a child's schooling, or parent-doctor meetings to discuss a child's health.

Like Fishman (1991), Hermes et al. (2012) recognize the difficulty of affecting language use at home, discussing discontinuity between school and home discourses in the context of Indigenous language revitalization as a reason why Indigenous language child education does not directly result in Indigenous language use at home. A discourse consists of the vocabulary and language patterns used to discuss topics in some specific domain, and also of the social roles and contexts which govern language use in that domain. They describe how adaptation between school math curricula and the Anishinaabemowin language is necessary, in the form either of adapting the curriculum to Anishinaabemowin's existing vocabulary or creating appropriate vocabulary in Anishinaabemowin for the particular concepts of school math. They also describe how, regardless of the adaptation chosen, it would not be expected that a child would have particular reason to discuss math in Anishinaabemowin at home with their parents, or that learning math in Anishinaabemowin would prepare them to discuss topics in the language that are more likely to come up with their parents at home, ones relevant to Anishinaabe culture, like fishing.

Hermes et al. (2012) suggest that this discourse discontinuity can be mitigated by emphasizing the living contexts of the target language rather than using decontextualizing Western educational practices. They describe the successful realization of this through the inclusion of Anishinaabe cultural protocols, such as feasting of ancestors and offerings of food, and leaving room for flexibility, spontaneity, and humor, in the planning of language revitalization efforts. However, these methods were not realized in a formal education setting, but in an informal education setting, that of an immersive language camp designed to produce documentation of living Anishinaabemowin language use. Hermes et al. suggest that the lessons of their work can be applied at the classroom level, though they are skeptical of formal education, which they suggest relies on fundamental assumptions that are at odds with Indigenous language revitalization.

Grenoble & Whaley (2021) discuss how domain-specific vocabulary can affect the language choices of speakers, making the extension of a language into some domains more difficult. They describe how Iñupiaq has specialized vocabulary for the description of ice, which is useful in terrain scouting during hunting trips, but also results in accommodation through language-switching for Iñupiaq speakers who are unfamiliar with this specialized vocabulary. Similarly, Meades (2015) describes how vocabulary is often tied to specific economic practices, with the result that shifts in economic practices may result in loss of vocabulary in a language or shift of language use by individuals. As discussed before, Meades describes how Mi'kmaq speakers shifted away from the language towards English, to some degree in connection with changes in economic activity from traditional Mi'kmaw subsistence towards Western practices. Meades describes development by the

Ojibway and Cree Cultural Centre of vocabulary and glossaries for specific language domains which the Cree language lacks terminology for. Produced glossaries include ones targeting mining and political terminology, among others, due to community internal and external concerns about low levels of engagement by community members with resource development processes and political processes which involve Cree speaking communities. Such glossaries represent an effort to resolve the problem of vocabulary gaps between languages and incorporate the Cree language in economic domains it has previously been excluded from.

Pohe (2012) describes how adult immersion education and the production of adult speakers is well-suited to the expansion of a language's use domains. Pohe asserts that the process of normalizing a target language's use in a variety of social settings cannot be lead by children, as child education has been seen to not produce language use in more domains, so adult speakers who are willing to communicate must be created in order to ensure this process occurs. As discussed earlier, Gomashie (2019) notes that children fluent in Kanyen'keha avoid using the language around non-fluent adults, which I take to reinforce this point. Pohe describes several aspects of Maori adult education which are designed to ensure that students use the language in their daily life and expand the domains in which Maori is used. These aspects include the fostering of a relaxed atmosphere among learners, the encouragement of self-correction and for students to take responsibility for their own learning, and the encouragement of community building inside and outside the classroom. These aspects result in confident and self-sufficient Maori speakers who are part of a community of Maori speakers with whom they choose to speak Maori. This ensures that students will maintain their language skills and be able to develop them for use in new domains, and that they will have the confidence and willingness to do so.

Several works describe how art and performance may contribute to language revitalization and especially to the normalization of a target language's use in more domains. Alie (2016) suggests that Indigenous performance, especially theatre, may be able to contribute to language revitalization, due to the connection between language revitalization and culture revitalization that has been increasingly recognized in academic study. Delaronde (2020) supports this with her description of the production process and community impact of *Tóta tánon Ohkwá:ri,* a Kanyen'keha language children's show which she directs the production of. She describes how the show help to renormalize the Kanyen'keha language, as children enjoyed the show, used phrases they learned from it, and urged their parents to watch the show as well. She also describes how the show's production process gave many speakers more opportunities to use the Kanyen'keha language in script-writing, translation, and live performances of the show presented at schools. Similarly, Sadeghi-Yekta (2020) describes how a Salish

language theatre project stages traditional stories and normalizes Hul'q'umi'num' language use to speaking and non-speaking audiences. She describes how the project is based on traditional Salish performance culture and will perform traditional stories which have not been publicly performed for many years. Both of these projects serve to help expand the usage domains of Indigenous languages, both in the production processes and in the public presentations they result in. Art projects like these can be seen as targeting "existing socially meaningful activities," per Grenoble & Whaley (2021), or as targeting local work and cultural domains, per Fishman (1991).

A final relevant topic of discussion is that of the distinction between rural or on-reservation language revitalization and urban language revitalization. Morcom (2021) describes how the majority of Indigenous people live off-reserve, and so are separated from most language revitalization programs, which tend to be located on reserves, and how far fewer Indigenous people off-reserve are able to speak an Indigenous language. Baloy (2011) identifies a gap in scholarship on urban Indigenous life, which she attributes to colonial history and ideology which posits authentic Indigenous life to exist only on reserves. Morcom describes how urban Indigenous life is often isolating, and subject to greater pressure to assimilate toward hegemonic culture, and how ideologies of authenticity suggest that urban life is incompatible with Indigenous identity, which is echoed by Baloy. McIvor (2012) discusses how urban Indigenous life is often distant from communities of speakers and from traditional territory which may inform aspects of an Indigenous language. These works assert the importance of urban language revitalization, noting the possibility of innovation in adapting Indigenous traditions to urban life, and the importance of preserving urban Indigenous people's right to their traditional languages.

Baloy (2011) offers several suggestions for how space for Indigenous languages can be made in urban settings. She suggests the establishment of connections between urban communities and their homeland communities, which can help to keep urban Indigenous people in touch with their language community, and allow for the sharing of resources, making it easier to establish a speaking community inside an urban setting. She also suggests the development of resources and programs which can serve urban Indigenous people, such as short-term immersive language camps, which may offer otherwise rare opportunities for language exposure to urban participants, and online resources, which can bridge geographical divides. Morcom (2021) surveys the attitudes of participants in KILN, the Kingston Indigenous Language Nest, an urban-located Anishinaabe and Haudenosaunee organization which offers lessons on language and culture, and hosts meetings where people speak in multiple Indigenous languages. Participants describe how KILN helps them to reconnect with their Indigenous cultures and develop a stronger Indigenous identity, and how KILN allows for the development of a new urban Indigenous identity as it combines traditions and languages from multiple distinct Indigenous cultures.

Aligning with Pohe's (2012) emphasis on establishing speaker confidence, participants recognize and value that KILN is welcoming to beginning speakers and people who are disconnected from their traditional culture.

The frameworks of Fishman (1991) and Grenoble & Whaley (2021) suggest that urban language revitalization is more difficult than rural language revitalization, as urban settings are less controlled by Indigenous language communities and have fewer existing Indigenous language practices. Despite this, urban settings should still be considered as a target for language domain expansion, and urban language revitalization programs should be developed eventually, as otherwise Indigenous language revitalization risks abandoning a large part of the Indigenous population.

I have discussed many aspects of language domain expansion, describing why some domains may be more difficult targets than others, the specific difficulties associated with several domains, and specific means used to target several domains. Many aspects of language domain expansion remain undiscussed; I hope that what I have discussed allows for recognition of the range of domains which can be targeted, and for recognition of how each domain possesses unique difficulties which must be accounted for.

With the conclusion of my discussion of language domain expansion, I also conclude my discussion on the practical methods of language revitalization. I have described education as a means of language revitalization, discussing how education contributes to language revitalization, and what type of education is best suited. I have described documentation as a means of language revitalization, discussing the historical rift between documentary linguistics and language revitalization, and how both current and previous documentation efforts can be turned towards language revitalization. Finally, I have described language domain expansion, discussing its centrality to language revitalization, and describing the obstacles specific to many different languages domains as well as means for increasing target language usage in those domains.

3. The Haudenosaunee language context

3.1. Sub-section introduction & background

In this section, I will discuss the specific history and context of Haudenosaunee language harm and language revitalization. This will involve a description of historical factors contributing to Haudenosaunee language decline, and a summary of existing Haudenosaunee language revitalization efforts.

The Haudenosaunee languages are the six languages spoken by the nations of the Haudenosaunee confederacy. These languages are Mohawk, Cayuga, Onondaga, Oneida, Seneca, and

Tuscarora. In this section, I will briefly discuss the history of Haudenosaunee language loss and the relationship between Haudenosaunee languages, and describe the current status of Haudenosaunee languages and their language revitalization programs, as is represented in scientific literature. There are certainly programs which have not been documented in sources I could locate, and they are not less notable or a lesser contribution to language revitalization for that; it is simply necessary to restrict the scope of this document, and so I am restricting this background discussion to what is contained in scientific literature.

Haudenosaunee languages have been subjected, as a group, alongside all Indigenous languages of North America, to a history of discrimination and prejudice since settler contact. I have already previously described vectors of language harm in detail in section 2.3. Doxtator (2018) and Gomashie (2019) offer some description of the specific forms of language harm suffered by Haudenosaunee languages. A few specific direct harms include the banning of traditional Indigenous cultural activities from 1876 to the 1950s, the genocidal residential school system, and the 60's Scoop, a program of forced adoption of Indigenous children into non-Indigenous families. Some less direct harms include forced placement of Indigenous children into monolingual and Eurocentric public education programs and economic and legal privileging of colonial languages over Indigenous languages. Lesher (2015), surveying the feelings of Seneca language students, describes how the long colonial campaign against Indigenous languages has also resulted in feelings of shame towards Indigenous languages in Indigenous people, which serve as an additional obstacle preventing them from learning their languages.

Doxtator (2018) describes how Canadian institutions have more recently begun to commit resources to Indigenous language education and Indigenous-controlled education, but describes how such commitment is often insufficient or situated in inappropriate frameworks. Indigenous language policy may be implemented for appearances rather to yield true results, resulting in superficial implementation, low quality recommendations, and eventual phasing out of policies. Insufficient and short-term support results in ineffective programs, a lack of programs, and a lack of effective staff. Such doomed policies and supports are typically framed within Eurocentric education models and value systems, and so seek to support Indigenous languages within an environment which is hostile to them.

Green (2017) describes all Haudenosaunee languages as critically endangered, though he does not describe the vitality of each language in great detail. Before I discuss each language individually, I will first discuss the linguistic distinctness of the Haudenosaunee languages, and the potential of collaboration on language revitalization between the communities of different Haudenosaunee

languages.

3.2. Linguistic matters & collaboration between Haudenosaunee communities

The Haudenosaunee languages are closely related, being all Northern Iroquoian languages, as described by Barrie & Uchihara (2020). Barrie & Uchihara place Mohawk, Cayuga, Onondaga, Oneida, and Seneca into the Five Nations subgroup of the Northern Iroquoian languages, indicating they are together slightly more distantly related to Tuscarora. Hickerton et al. (1952) studied mutual intelligibility between Haudenosaunee languages, and found various degrees of mutual intelligibility: Seneca and Cayuga are moderately mutually intelligible to each other, but not to other Haudenosaunee languages, while Mohawk and Oneida similarly cluster together. Onondaga is asymmetrically understood to a small degree by speakers of other Haudenosaunee languages, except Mohawk, and Tuscarora exhibits nearly zero mutual intelligibility with any of the Five Nations languages.

Barrie & Uchihara (2020) describe Haudenosaunee languages as sharing similar phonology, i.e. speech sounds and pronunciation, though the languages employ different writing conventions which render identical sounds with different characters. Barrie & Uchihara also describe that the Haudenosaunee languages display many shared linguistic features at the surface level, though shared features vary in function and obligatoriness between different languages. For example, all the Haudenosaunee languages use pronominal prefixes on nouns, but in some limited contexts the precise form of the prefix may be arbitrarily selected in some languages while it remains fully predictable and meaning-bearing in others.

Each language is also subject to regional variation; Bonvillain (1974), a grammar of Mohawk, records the regional variant used in Akwesasne, while the works of Baker (1991, 1992, 1996) are based on the regional variant used in Kahnawake. Precise enumeration of the linguistic differences between Haudenosaunee languages is challenged by this regional variation, as well as the understudied nature of the Haudenosaunee languages. Little comparison of regional variation in specific languages has been done, although Julian (2010) offers description of phonological and morphological changes separating the various Iroquoian languages from Proto-Iroquoian, the putative historical ancestor of Iroquoian languages constructed by the methods of historical linguistics, enabling some comparison of differences at the level of the different Haudenosaunee languages.

Regardless of the precise differences or the degree of mutual intelligibility between the Haudenosaunee languages, it is certain that their linguistic similarities allow for sharing of materials, language theories, and educational methods between languages. Adaptation of materials may require more or less work depending on the linguistic differences relevant in each specific case.

General (2019) explores the possibility of collaboration between speakers of different Haudenosaunee languages through interviews with Indigenous language leaders in the Six Nations community and exploration of several traditional Haudenosaunee stories. General identifies themes of collaboration in several traditional Haudenosaunee stories, suggesting that collaboration is a deeply embedded traditional Haudenosaunee value, which should be common to the communities of each different Haudenosaunee language. Interviewed language leaders display similar understandings of collaboration, emphasizing the importance of establishing trust between potential collaborators, communicating clear goals to group members, and sharing work to ensure collaboraters remain both engaged and capable. Interviewees also reinforced the importance of sharing food in collaborative projects, a crucial theme in the studied traditional stories.

General's (2019) interviewees also identify many obstacles to collaboration. There is insufficient people, and especially insufficient speakers, leaving all collaborators busy and rendering it difficult to find capable people willing to take on specific tasks. There is insufficient funding, such that many programs are only funded for short periods of time. Interviewees also describe that the level of commitment within the community is low, that collaborators may act with conflicting ideologies, causing halted communication, and that collaborators often do not share goals to the necessary degree for effective collaboration. Solutions to these obstacles are also suggested: Stable funding, more human resources, especially administrative staff, and more open communication, among other things.

Collaboration on language revitalization between the language communities of the different Haudenosaunee languages is certainly possible, and barriers to collaboration appear to be primarily material and social, rather than linguistic. General (2019) at no point suggests that linguistic distance between Haudenosaunee languages is an obstacle to collaboration. Having discussed collaboration, I will now move on to discussing the specific language situation of each individual language.

3.3 Individual discussion of Haudenosaunee languages

I will discuss each language, Mohawk, Cayuga, Onondaga, Oneida, Seneca, and Tuscarora in turn. For each language, I will discuss what I have been able to find in the academic literature regarding the current vitality and trend towards growth or decline, and the range of existing language revitalization programs. I was able to find some information on revitalization programs for all Haudenosaunee languages except for the Onondaga language.

It is important to note that the scientific literature will naturally lag in reporting the development of language revitalization programs, and that the sources which inform this document primarily originate before 2020. Although the scientific literature reports that there is little or no adult immersion

programs for several of the Haudenosaunee languages, this document is written as part of a collaboration with adult immersion programs teaching Mohawk, Oneida, and Tuscaora, not all of which are documented in the scientific literature. In some cases, I will offer more recent information.

The largest amount of information was available for Mohawk, or Kanyen'keha. The vitality of Mohawk is assessed by Gomashie (2019), using several demographic measures and several language vitality measures, including Fishman's Graded Intergenerational Disruption Scale (1991) and its expansion, the EGIDS (Lewis & Simons 2010). Mohawk has at least 2000 speakers in Canada, with more speakers concentrated in reserves or remote Indigenous communities. Because the speakers are concentrated in older generations, and intergenerational transmission is not yet re-established, Mohawk is considered endangered by all measures Gomashie assesses it with.

Gomashie (2019) also describes Mohawk education programs in various communities. Bilingual child education is much more common than Indigenous language immersion child education, and what immersion education does exist is primarily for younger children. Successful adult immersion programs also exist, though in fewer communities than have child immersion programs. Since Gomashie's report, several additional adult immersion programs have started operating.

Gomashie (2019) concludes that Mohawk revitalization is proving successful, noting that the Mohawk speaker population is increasing, and that census data indicates an increasing proportion of the speaker population are second language learners. McCarty & Nicholas (2014) corroborate this, describing how child Mohawk education programs developed since 1970 have been successful in increasing the level of language knowledge and interest in the community from generation to generation, and how other language programs have been developed due to the success of child education, including more child education programs and summer adult education programs.

Cayuga, or Gayogohó:nǫ' language revitalization in the Six Nations community is briefly described by Green (2017), though his primary focus is on practical and pedagogical aspects of Haudenosaunee language revitalization, rather than specific Haudenosaunee languages. According to Green, there are approximately 50 native speakers of Cayuga at Six Nations, and 200 second language speakers, as well as several bilingual child speakers. Kimura (1998) provides an older estimate, that there were 370 native speakers of Cayuga in the 1970s. Green states that, although the number of first language speakers is decreasing, the number of proficient second language speakers is increasing, yielding an overall increase in speaker population. Per Green, immersion adult and child education programs exist at Six Nations, though he offers no information on the specifics of these programs. There appears to be no other discussion in recent scientific literature of Cayuga language revitalization efforts.

The Oneida language, or Ukwehuwehnéha is reported to have less than one hundred speakers, by multiple sources (Johnsen et al. 2012, Doxtator 2018), though another source (Abbott & Metoxen 2012) refers to a speaker as the probable last native speaker of Oneida. Doxtator (2018) describes a continuing downward trend in the number of Oneida speakers, and Johnsen et al. (2012) describe Oneida education programs in the U.S. as having had trouble producing fluent speakers.

Abbott & Metoxen (2012) describe Oneida preservation efforts undertaken in Wisconsin. They report that although the historical documentary record of the Oneida language is relatively sparse, more recent documentary efforts have been well-supported. They describe the running of various Oneida adult education programs in Wisconsin since the 1970s, as well as the establishment of child education programs in the 1990s, supported by the previous adult education programs. Abbott & Metoxen do not discuss whether or not these programs are immersion-based.

Doxtator (2018) investigates the habits and perspectives of Oneida speakers and learners in the Oneida Nation of the Thames community, in southwestern Ontario. She finds that Oneida people are aware of the importance of immersion programs, but are accessing textual resources and weekly classes and independently self-teaching as there are no adult immersion programs available. She notes also that there are no language programs promoting Oneida language use for children in the Thames community. McGregor (2017), describing efforts in the same community, identifies non-immersive Oneida adult language classes as having been run during the summer at the University of Western Ontario since 2011, and discusses the founding in 2016 of an Oneida adult immersion program funded by the Aboriginal Language Initiative, a governmental support for Indigenous language revitalization.

Johnsen et al. (2012) report that an Oneida adult immersion program was begun in New York in 2010. Though, as mentioned above, Johnsen et al. find Oneida language revitalization efforts largely unsuccessful in producing speakers, they do note that Oneida language revitalization has proven to be a site of inter-community relationship building; the adult immersion program described above was developed using resources and teachers from outside of the New York Oneida community.

The Seneca language, or Onödowá'ga:', is reported to have less than 100 speakers by Lesher (2015), while Borgia (2010) reports an estimate of less than 50 remaining speakers, and a suggestion that Seneca is judged as extremely endangered by the GIDS, as most speakers are of the oldest generation.

Gautieri (2013), describing the current state of Seneca revitalization primarily discusses non-immersive high school Seneca language programs offered by New York public schools. Lesher (2015) briefly discusses that higher level high school Seneca language courses involve some language immersion-based tasks. Borgia (2010) also describes the existence of early childhood education

programs, summer immersion camps, a private school which teaches both adults and children, and a Seneca language nest. It appears that immersion-based Seneca education and adult Seneca education of any kind are both quite rare.

The works cited above all focus primarily on discussing community attitudes towards the Seneca language. Borgia (2010) finds that Seneca language revitalization is generally viewed favorably by community members, though Gautieri (2013) finds that Seneca language revitalization participants do not feel that the language is afforded importance in the wider community. Borgia describes how Seneca language usage is primarily concentrated around ceremonial functions, being used in longhouse ceremonies, but rarely socially. Lesher (2015) investigates the effect of Seneca language education on the cultural identity of participants, finding that Seneca language learners become more connected to Seneca culture.

Little information is available in the scientific literature on the vitality or revitalization efforts of the Tuscarora language, or Skarurękyéha·ʔ, though it is now the case that an adult immersion program has now successfully been teaching Tuscarora for several years. Hill (2020), though primarily a work of documentation and linguistic analysis, describes the historical decline of the Tuscarora speaking population, and the loss of Tuscarora's last native speaker in 2018. Hill reports that Tuscarora child language education programs have been run in the Tuscarora Indian Nation Reservation since the 1950's, and that numerous informal language classes have been run in the same time frame. Although no native speakers remain, Hill asserts it is not meaningful or informative to call the Tuscarora language extinct or sleeping, as the language is still used in the longhouse and in social settings, and is well-documented.

Patterson (2002) describes the efforts and accomplishments of the Tuscarora Language Committee, an unfunded volunteer organization engaged in Tuscarora language revitalization. Patterson describes how the Tuscarora Language Committee has communicated with the Tuscarora language community through letters, surveys, and brochures, fundraised the production of Tuscarora language materials and provided material support to documentation projects by elder speakers of Tuscarora.

There are no works in the scientific literature specifically describing language revitalization efforts of the Onondaga language, or Onǫda’gegá’. Green (2017) contains some information on Onondaga revitalization efforts in Six Nations, though Onondaga is not the primary focus of the work. Green reports there to be 7 native speakers of Onondaga, and 8 second language speakers, and for there to be immersion-based adult education.

The different Haudenosaunee languages appear to vary in both the degree to which language

revitalization efforts are established and the degree to which those efforts are documented within scientific literature. Despite this, a few trends are recognizable; Non-immersion language education is having limited success in generating speakers and language communities tend to recognize the importance of immersion education, though language revitalizers often lack the resources necessary to create immersion programming.

A large body of scientific literature on Haudenosaunee languages exists outside of the literature specifically describing language revitalization efforts for Haudenosaunee languages. There are many technical linguistic works on Haudenosaunee languages, some of which I have referred to in this section, but which I will not catalogue, as such works are typically only aimed at theoretical linguists. There is also a body of scientific literature on pedagogical theory for or involving various Haudenosaunee languages, some works from which I will discuss in more detail later. The majority of such work focuses on Mohawk, (Richards & Maracle 2002, Maracle & Richards 2002, Green & Maracle 2018, Vallejo 2019) but work focusing on Oneida (House & Webster 2021) and Seneca (Borgia 2010, 2014) also exists.

4. Conclusion

Having discussed several aspects of language revitalization, and the situations of the Haudenosaunee languages, I will summarize and conclude this document. This document has intended to provide detailed background on language revitalization and the Haudenosaunee languages, in support of other discussion around Haudenosaunee language revitalization. To that end, this document has described academic models of language revitalization, causes of language harm, and actions comprising language revitalization, as well as described the endangerment and revitalization efforts of various Haudenosaunee languages.

In section 2.2, I discussed two models of language revitalization: Reversing Language Shift (RLS) (Fishman 1991) and the Language Network Vitality Model (LVNM) (Grenoble & Whaley 2021). These models demonstrate two major streams of academic conceptualization of language revitalization. RLS conceives of language primarily as a competency possessed by speakers, while the LVNM conceives of language primarily as a socially-contingent activity performed by speakers.

RLS posits intergenerational transmission, the natural transmission of language from parents to their children, to be the most important factor to language revitalization, without which it may be impossible for a language to achieve sustained vitality. RLS emphasizes increasing the social use of a target language, especially in the home, between parents and children, as the primary means of ensuring intergenerational transmission, and is skeptical of language revitalization activities which do

not directly support intergenerational transmission.

The LVNM posits increasing the presence of a language in language practices, the specific social activities where people use language, to be the primary factor to language revitalization. Focusing on language practices rather than intergenerational transmission allows the LVNM to recognize a wide range of activities and types of speakers as contributing to language revitalization.

In section 2.3, I discussed various causes of language harm. I discussed 3 categories of language harms: direct harms, indirect and systemic harms, and language-harming ideologies.

Direct language harms consist of direct violence and prejudice aimed at a language community, including language suppression, physical violence, explicit racism towards a community, and even genocide.

Indirect and systemic harms consist of more subtle pressures placed on a language community, through such means as cultural and economic pressures to adopt a dominant language, and public education which monolingually teaches a dominant language.

Language-harming ideologies may be separated between minority language community external and internal ideologies. Some external ideologies include various attitudes which invisibilize the effects of direct and indirect language harms, prejudicial attitudes towards minority languages, and ideologies which narrativize minority language community members only in terms of the dominant culture. Some internal ideologies include attitudes which devalue a minority language out of associated shame or fear, ideologies which position assimilation towards the dominant language necessary for success, and attitudes of exclusivity which gatekeep and discourage less fluent speakers and potential learners.

In section 2.4, I discussed the actual acts and means by which language revitalization may be performed. I discussed three categories of actions: language education, language documentation, and language domain expansion. I described how actions in each category contribute to language revitalization, and what practices are recommended or found to be effective in the academic literature.

Language education is not a primary means of language revitalization, as it is not capable of directly re-establishing intergenerational transmission and often fails to produce language use outside of the classroom. Despite this, language education is often a necessary tool for creating a community of speakers which is capable of supporting actions which more directly contribute to intergenerational transmission.

Several recommendations are commonly made in the literature about how language education for language revitalization should be performed. Immersion-based language education is found to be much more effective for language education than use of a dominant language as a teaching medium.

For child education, gradual inclusion of a dominant language in schools allows for acquisition of two languages without cost to proficiency in either language. Many works discuss that education programs should be controlled by the target language's community rather than a hegemonic state, but there are often legal or financial obstacles to this.

Language documentation is often disconnected from language revitalization, and is an even less direct contributor to language revitalization than language education. Historical documentary work on Indigenous languages is typical a product of colonial linguistics, and modern documentary work is typically designed for academic linguistics rather than the community whose language is being documented. Despite this, there are several ways that documentary work and existing documentation can contribute to language revitalization.

Documentary material may be used for the development of education materials, as documented language content may be adapted into exercises of various kinds, or into educational dialogues or stories. Documentary material designed for research is often too advanced for learners, but adaptation is still possible, and newer documentation projects may be designed with language revitalization in mind, and yield material which is easier to use.

Language documentation can prevent loss of vocabulary, cultural teachings, and stories, especially in cases where there are very few remaining speakers. With sufficient documentation, it is possible to teach or learn a language from archival materials and revitalize a language after it has lost all of its native speakers.

Participation in language documentation by speakers of various skill levels can serve as a useful way to maintain and increase language proficiency while producing useful language material. Language documentation necessarily creates opportunity for speakers to use a target language, which may otherwise be rare. Written documentary material may be especially useful to the development and maintenance of advanced literary skills in historically non-written languages, which many endangered languages are.

In section 3, I discussed the specific background of the Haudenosaunee languages, Mohawk, Cayuga, Onondaga, Oneida, and Seneca. This included brief description of the history of Haudenosaunee language harm, the languages' genetic relationship, and the possibilities of collaboration between revitalization projects for each language. It also included more detailed discussion of each language's degree of endangerment, and the revitalization projects of each language, insofar as they have been documented in academic literature.

The Haudenosaunee languages are all genetically related to various degrees, with Tuscarora identified as more distant from the other languages. Some pairings of Haudenosaunee languages are

somewhat mutually intelligible, though largely speakers of different Haudenosaunee languages do not understand each other. This linguistic relation should allow for transfer and adaptation of language materials and theory across languages to some degree. The Haudenosaunee languages are also historically and culturally related, being the languages spoken by the member nations of the Haudenosaunee confederacy. Because of this, the Haudenosaunee language communities share a cultural valuing of collaboration, and conceive of collaboration similarly.

All of the languages have low speaker counts, typically around 100, though Mohawk has multiple thousands, and Tuscarora is reported to have no remaining native speakers. Intergenerational transmission is disrupted for all languages, though, through successful education programs, children are being raised speaking some of the languages. The academic literature has described some education programs for all Haudenosaunee languages, though the degree of success such programs have achieved varies. The revitalizing communities of all the languages appear to recognize the importance of immersion education, and some have successfully established immersion education programs. To varying degrees, the resources and expertise necessary to develop such programs challenge the communities of all Haudenosaunee languages.

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