TEACHING POSSESSION SPLITS TO ANGLOPHONES: AN INVESTIGATION

ANDRE BATCHELDER-SCHWAB

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I. Abstract

As the world of language pedagogy continues to expand to new languages like Hawaiian (1987) and Northern Pomo (2021), teaching methods must contend with language-specific challenges which may not have been encountered in more commonly-taught languages. This paper will examine reports from educators of Hawaiian and Mandinka which are typologically similar in having an attributive possession system split along alienability, and examine the learning behavior of L1 anglophones with qualitative evidence and insight from teachers of these languages. This examination reveals a marked long-term learning difficulty in alienability distinctions for anglophones that resembles the literature on anglophone difficulty in learning of case (Park 2013 for Korean; VanPatten & Smith 2018 for Latin; Rankin 2014 for German). Also attested is a directionality of mistakes, where one structure is systematically overgeneralized, usually that of alienable possession. The lessons from these languages and others are then applied to other languages with split possession in revitalization contexts, specifically Northern Pomo and Wailaki.

II. Background

The world of second language education has grown dramatically in the past decades. In 2015 there were an estimated 1.5 billion learners of English (Noack & Gamio 2015); as of March 2021, that number has increased to a record 1.7 billion individuals learning English worldwide, the vast majority in an L2 context (Vannice 2021). Alongside this comes an equally strong growth in minority language programs in for L2 learners. L2 Hawaiian for anglophones has been systematically introduced to nearly every school in its state since the establishment of the program in 1978 (Nakata 2017). In California alone, a plethora of Indigenous language programs have recently started in schools, including Northern Pomo in 2021, Wailaki in 2016 (Round Valley High School 2018), and Chumash in 2010 (Wishtoyo 2021). This growth is not limited to the United States, either: countries like Senegal aim to establish L2 programs for their national languages in schools by 2025 where no such programs currently exist (RTI International 2015).

These programs often cover new ground, as many minority languages have rarely – if ever – been taught in a formal classroom, much less as a second language. With new ground come new challenges, as many minority languages have features which differ quite sharply from those of more commonly-taught languages. An elder like Ouma Katriena Esau in South Africa must face teaching the 45 distinct clicks, four tones, and four vowel voice qualities of Nluu at her after-school program run from her home, for young Afrikaans-speaking students unfamiliar with any of these features (Fihlani 2017). This is not limited to phonology – certain syntactic features like possession splits happen not to occur in languages which are frequently taught, leading educators with little guidance on how to teach them to students whose home languages do not have them. This paper will examine possession splits in Hawaiian and Mandinka L2 classrooms for anglophones, and apply lessons learned from these cases to Northern Pomo and Wailaki.

III. Goals of L2 Education

When discussing language pedagogy, the fundamental question remains constant: why learn a language? At the surface, the goal of learning a language seems to be fluency in a language. Putting aside the complicated nature of measuring fluency (Chambers 1997; Foster 2020; McNamara 2000 for a summary), the most commonly reported reason for second language learning in the United States is the perception of better future outcomes on the job market, specifically for Spanish (Schroth & Smith 2018; Ely 1986). Career milestones such as high school diplomas hinge on achievement in second-language classrooms in over half of US states (American Councils 2017), and half of B.A. degree programs in the country have L2 requirements (Lusin 2012). The vast majority of high school diplomas across the world require some form of L2 education (Ballantyne & Rivera 2014), and many job markets overwhelmingly require bilingual proficiency (Spišiaková & Kittová 2020 for Slovakia; Choi 2002 for Korea; Hahm & Gazzola 2022 for Germany; Carlsen, Deygers, Zeidler & Vilcu 2019 for Europe more broadly). In more specialized professions like academia, career considerations for archaeologists and historians frequently motivate learning rare languages like Old Sogdian and Old Persian (Nikolaev 2021). In short, knowledge of certain foreign languages carries material benefits across the world; by extension, lack of knowledge in relevant target languages carries material costs.

Thus, L2 fluency is often a secondary goal motivated by career and educational considerations, but other motivations exist as well. Learning Spanish in Slovakia has marginal effects on career prospects, which is reflected in Spanish students' self-reported motivations for taking the language: predominantly for satisfaction of learning another language (Spišiaková & Kittová 2020). Enjoyment was the primary reason behind Chinese undergraduate students taking an unrequired third language in Shaanxi (Zhang, Dai & Wang 2020). Decision-making by Hungarian secondary students in choosing which L2 to study was partially driven by perception

of career prospects, but the single largest determining factor was the attitude of the individual student towards the target culture which uses the L2 (Csizé & Dőrnyei 2005).[1]

Although it can be difficult to split enjoyment from identity, it is clear that identity and culture become some of the primary reasons behind learning less commonly-taught languages. This fact becomes particularly apparent for heritage speakers, people raised in a home where one language is spoken who subsequently switch to another dominant language (Polinsky & Kagan 2007). Korean-American youths overwhelmingly affirm that knowledge of Korean is important through their reflection that their own fluency should be better, and those who do pursue Korean classes, whether community-led or in an educational institution, cite heritage as a primary determining factor (Lee 2010). Identity and obligation to it were the primary reasons given by teachers who established a Turkish-language Saturday school in New York City, and the same reasons were cited by the parents who enrolled their children in the school (Octu 2010: 286). Identity is a major component behind Indigenous language education across many contexts, and learning objectives in language proficiency are often complementary to learning objectives in cultural proficiency (Henze & Davis 2008). Second-language learners are often crucial components of modern Indigenous language communities, and can constitute the main body of fluent speakers, if not all of them (Hermes, Bang & Marin 2012). In such cases, L2 learning has an additional goal of maintaining the survival of a language community which otherwise would disappear.

[1] The students in this sample had already decided to major in foreign languages, and the authors admit that the motivations would likely differ for students in other fields. (30)

IV. Mechanics of L2 Acquisition

Given that students learn languages for a variety of often overlapping reasons, and given that these minority language programs concretely exist regardless, the mechanics of language learning govern the educators' ability to accomplish these goals. Underlying much of the literature is the theory of a critical period of language learning, where age of the learner strongly influences the effectiveness of instruction in the long-term. On the phonological level, younger L2 learners typically acquire phonology more effectively than students even a few years older, such as in Korean-American immigrants (Flege et al. 1999). Native-like phonology in English is found in Chinese and Korean immigrants who arrived before the age of 7, with each age bracket beyond that showing gradually decreasing competence despite similar total number of years in an anglophone environment (Johnson & Newport 1989). Italian-speaking immigrants who arrive to Canada before the age of 8 show native-like acquisition of English interdentals and rhotics, but each subsequent year until adulthood categorically decreases longterm native-like pronunciation (Flege et al. 1995). The literature makes clear that age of acquisition is important for certain skills in L2 learning.

Conversely, this period is also important for *retention*: Korean-Americans who maintained exposure to Korean through age 12 maintained native-like recognition of Korean phonemic contrasts through their life, suggesting some sort of stabilization of phoneme systems by that period (Ahn, Chang, DeKeyser & Lee-Ellis 2017). Moreover, any exposure at all to a target language in childhood makes relearning contrasts easier. Perhaps the most convincing example of this is in 6-month-old Korean adoptees to the US anglophone families, who otherwise seem to have completely lost any knowledge of Korean: later in life, they continue to perform 15% better than naive "true monolingual" anglophones at differentiating Korean stop contrasts; this is presumed to be residual knowledge of very early language exposure (Oh, Au & Jun 2010). Such findings support the concept of "language nests" in Indigenous language

revitalization, given how even minor linguistic exposure in childhood has significant effects on adult learning of phonology later in life (Hale 2013; Maia, Nascimento & Whan 2018).

However, adult language exposure is still useful, as evidenced by heritage speakers of Spanish, who are “simultaneous or early sequential bilinguals that acquire a family language that is different from the societal language” (Benmamoun, Montrul & Polinksy 2013). The trilled-r is one of the more difficult aspects of Spanish phonology, taking a relatively long time for L1 child learners to master. In a similar way, older (adult) heritage speakers of Spanish with more years of exposure perform better than younger heritage speakers at producing trilled-r (Repiso-Puigdelliura & Kim 2020). Research on heritage language learners has also clarified that not all aspects of linguistic structure behave in the same way. Heritage speakers of Spanish in the USA often have native-like phonology and pronunciation, but are indistinguishable from non-heritage L2 learners of Spanish when it comes to certain elements of syntax, in which they seem to also be affected by their stronger language, English (Knightly & Jun 2013).

The languages that are already spoken by a learner clearly have a substantial effect on acquisition of specific aspects of another language. English-dominant learners of Spanish struggle to mark inchoative/causative reflexives in Spanish compared to Turkish-dominant learners of Spanish, presumably because Turkish has explicit morphological marking for this in the grammar while English does not (Montrul 1999).[2] Learners of Korean morphological case-marking are stratified by language of origin: L1 speakers of Chinese make the most errors in the sophisticated Korean case-marking clitic system, followed by L1 English speakers, while L1 speakers of Japanese make the fewest errors. This seems to reflect the relative prominence of morphological case in the L1 language, with Chinese having no case morphology, English having pronominal case, and Japanese having a comparable system to Korean (Ahn 2015).

[2] Inchoative and causative are each overtly marked in Turkish; inchoative is marked through reflexives in Spanish. English has no overt syntactic representation of this, so L1 English learners of L2 Spanish often do not mark them (i.e. this is a common mistake among English L1 learners of Spanish). Turkophone learners of Spanish do not typically make mistakes in this aspect of Spanish.

Furthermore, anglophone learners struggle with Korean case-marking at all levels of proficiency, revealing a deep learnability difficulty (Park 2013). Anglophone learners new to Latin struggle to use case marking instead of word order to interpret sentences (VanPatten & Smith 2018), and anglophones who are intermediate L2 learners of German routinely prioritize word order over grammatical case when (mis-)interpreting German sentences (Rankin 2014). These examples show how English use of word order to assign case is systematically transferred into other languages by anglophones.

L1 transfer even affects semantics, where anglophone learners of Russian are more successful in (correctly) connecting Russian definiteness with word order than L1-Korean learners of Russian, hypothesized to be a carryover from strong English word order sensitivity. L1-Korean learners of L2 Russian, in contrast, were better at learning Russian definite and indefinite possessors than anglophone learners, presumably because Korean syntax formally distinguishes non-referential from regular possessors (Cho & Slabakova 2014).

In the midst of these generalizations there is still room for individual variation. The typical "late learner" of an L2 (i.e. after the end critical period around 13 years old) is not predicted to achieve native-like fluency in either phonological or syntactic measures. However, there exist individuals like *Julie*, who immigrated to Cairo from Britain at age of 21 after having married an Egyptian; she had never had formal education in Arabic and spoke none at arrival, but after 26 years in a predominantly Arab-speaking environment, she patterned in all ways like an L1 speaker of Arabic (Ioup, Boustagui, El Tigi & Moselle 1994).[3] Individual variation in learning seems to be more fundamental than just language learning (Dewaele 2009), and is present across the psychological board (Espy & Bull 2010 for memory; Newcombe 2018 for navigation;

[3] *Julie* also worked as an English teacher at the university level and had two children who were bilingual but spoke Arabic as a first language. Her case is unusual in that her education in Arabic was strictly through immersion; after 2.5 years she reportedly passed as a native speaker. Particularly interesting in the phonology is that she had subconsciously internalized the velarized "emphatic" consonants without consciously realizing they were separate consonants until she noticed them in her children's schoolbooks seven years later. (Ioup, Boustagui, El Tigi & Moselle 1994: 78)

Stern 2009 for math). Individual variation is thus a fundamental variable at play in any analysis of language learning.

V. A Gap in the Literature: Learning Alienability

There are still significant gaps in current pedagogical research, particularly concerning phenomena found outside of better-studied languages. For example, morphological alienability distinctions are found widely across the world in languages unrelated by family or area, but happen not to occur robustly in the most spoken languages (Heine 1997). Alienability is a distinction centered in the syntax of possession, where a closed class of inalienable "close" possession (i.e. kinship, body parts, home) contrasts in structure with an open alienable class (i.e. book, key, carpet). Austronesian languages like Hawaiian and Californian languages like Northern Pomo have incorporated alienability distinctions into "possessive splits", in which alienable and inalienable nouns have separate possession strategies (Haspelmath 2008: 1). A quick demonstration of this can be found in comparing Northern Pomo versus English, where English shows no surface difference in possession structure:

		Alienable			Inalienable	
N Pomo:	1.	**kʰe**	**xabejano**	2.	**ʔa:**	**mi-ʔe**
		1SG.POSS.AL	phone		1SG.NOM	1SG.POSS.INAL-father
English:		*My phone*			*My father*	
N Pomo:	3.	**mo:waʔ**	**kʰu**	4.	**mo:waʔ**	**ba-tʰe**
		3SG.MASC.OBL	neck		3SG.MASC.OBL	3.POSS.INAL-mother
English		*His neck*			*His mother*	

These possessive splits are not to be confused with what I will call "alienability effects", which are grammatical patterns presumably affected in some way by alienability. Possessor raising is an example of an alienability effect in languages like Spanish, German, and English, in which ownership of body parts can be assigned to NPs which are not syntactic possessors. In English, *He hit me in the head!* shows possessor raising where *me* is not a possessive pronoun, but still is semantically the possessor of the head. Bantu languages like isiXhosa which otherwise lack morphological possessive splits still display alienability effects in expressive constructions, where affectionate truncation is limited to a semilexical class of body parts,

kinship, and the home, essentially patterning along alienability lines (Batchelder-Schwab 2023).[4] These types of facts have motivated some proposals that alienability is universally derivable in every language, even those without overt marking like English (Barker 1995: 186).[5]

Would underlying universality predict that alienability distinctions should not be difficult for students to acquire? Analogous scenarios are evaluable: a model in which adverb ordering is universally hardcoded (Cinque 1999) could be problematized by the fundamentally different adverb ordering in L2 English by L1 Acholi speakers in Uganda (Amarorwot & Isingoma 2021). In the same breath, theories of universality of adverb placement restrictions (Laenzlinger 2004) might be problematized by a six-year learning curve for anglophones learning French adverb placement (Rogers 2008). Literature on L1-acquisition suggests that children under 3 years old from different language backgrounds are systematically sensitive to structural differences between part-whole (inalienable) possession and control (alienable) possession, hinting that alienability may be an element of Universal Grammar (Armon-Lotem, Crain & Varlokosta 2004). However, we currently lack research on the effect of different L1 morphological alienability systems on students learning an L2 that would help us explore this hypothesis.

Analyses of second language acquisition in possessive syntax have grappled with grammatical gender and number, but have not engaged with alienability in more than passing reference (Fabricius-Hansen, Helland & Pitz 2017). The main work carried out so far directly concerning L2 “alienability effects” involves learning Spanish possessor raising, in which anglophone learners were shown to improve at possessor raising over time, and accept dative control of the body part more than subject control, while native hispanophones do both systematically (Pérez-Leroux, O’Rourke, Lord & Centeno-Cortes 2002).[6] For such studies, it is

[4] isiXhosa: **umama wam** *my mother* becomes **umamam** *my mommy*; the same cannot be done for **umfula wam** *my stream* *-> ***umfulam** **my streamie*, despite identical phonological environment (Batchelder-Schwab 2023). The truncation of intervocalic sonorants only can occur for some possessed inalienable nouns in the correct pragmatic context.

[5] Baker uses the terms “relational” and “non-relational” nouns in a way compatible with descriptions of alienability (1995: 8-9).

[6] Dative control: *Hit me in the head!* Subject control: *I was hit in the head!*
While English has both types of possessor raising like Spanish, and thus has the same L1 transfer effect

important to note that possessor raising is a choice between two grammatical alternatives with subtle pragmatic implications, so measures of “improvement” involve matching relative usage rates to L1 speakers of the language. This contrasts with possession splits, where the vast majority of the time one construction is explicitly ungrammatical; while possessor raising has been studied in L2 contexts, possession splits have not.

Despite lack of direct study on acquisition of possession splits themselves, comparable data does exist if we view possession splits as a type of noun classification system (Nichols & Bickel 2013). One such example of learning noun class is learning grammatical gender, which has a rich tradition in linguistics. Anglophone learners of L2 Spanish have been shown to take longer to learn gender agreement than number agreement, though advanced learners do eventually reach the L1-like ceiling (McCarthy 2008). Further research on advanced anglophone speakers shows that L2 Spanish speakers face virtually no problems for comprehension of gender in Spanish, and the longest-term mistakes tend to be lexical misassignment (i.e. treating a lexically masculine noun as feminine) rather than syntactic mismatch within the grammar (i.e. placing a female-marked adjective on a male-marked noun) (Grüter, Lew-Williams & Fernald 2018). Additionally, anglophone L2 learners of Spanish score vastly better on masculine (91%) lexical gender than on feminine (58%) gender, argued to result from the overgeneralization of a “default” structure (Black & Taranova 2020).[7] Anglophone L2 acquisition of the French gender system seems to take longer than Spanish due to fewer overt markings, though learners do seem to be sensitive to certain high-frequency endings like masculine [-ɛ̃] and feminine [-in] (Hardison 1992). Acquisition of gender in Hebrew shows long-term L1 transfer from

for both constructions, the authors argue that subject control involves longer-distance binding (and thus processing costs) than dative control, and that adult acquisition must be subject to the same processing principles that have often been assumed for child L2 acquisition. (Perez-Leroux, O’Rourke, Lord & Centeno-Cortes 2002: 180).

[7] These authors also find that metacognitive awareness (i.e. ability to reflect and describe one’s own individual learning process) predicts L2 learner accuracy for Spanish gender when writing, but much less so when speaking – presumably due to the relative speed of production for each task. Such awareness specifically correlates with better scores for difficult nouns which are either unmarked for gender or counterintuitive, and does not seem to affect typical *-o* and *-a* nouns. The implication that knowing how to study well might help in learning difficult parts of the grammar does not seem controversial.

russophones: L1 Russian speakers who are near-native in Hebrew continue to assign the lexical gender for “alien” to all aliens, like in Russian, while L1 English speakers assign semantic gender to aliens based on gender expression including names and appearance (i.e. makeup, beard), which is more in line with L1 Hebrew speaker behavior (Armon-Lotem & Amiram 2012).

Beyond systems of semantic gender, other noun class systems have been studied in L2 contexts. Anglophone L2 learners of Swahili class prefixes were extremely sensitive to animacy for assignment to class 1, while overgeneralizing inanimate nouns to the default class 5, leaving the other classes underfilled (Spinner & Thomas 2014). This exact same behavior was found for anglophone learners of L2 isiXhosa, where semantic animates were almost always put in class 1, while the default class 9 was highly overgeneralized (Hobson 1999). The essential takeaway is that L2 learners seem to systematically fixate on high-frequency classes as a default and subsequently over-assign their structure.

If we understand possession splits as comparable to noun classes – due to a degree of lexical unpredictability, implications for morphemes and agreement, and asymmetric distribution of classes – then previous literature makes several predictions about how L2 learners of an alienability split might behave. The first trend is that students tend to choose one class to overgeneralize at the expense of other classes. The second is that morphological noun classes tend to take longer to acquire than other seemingly-comparable parts of the grammar, like plurality or animacy. The third is that the longest-term mistakes will be of lexically-determined class-assignment rather than mistakes in morphological construction following that decision. The reports by educators of Hawaiian and Mandinka will verify these predictions from the literature alongside making further predictions of their own.

VI.i. Hawaiian Education

Hawaiian is an Indigenous Oceanic language which has been spoken in the Hawai'i island chain for at least eight centuries (Wilmhurst et al. 2010)[8]. King Kamehameha III instituted Hawaiian-medium public education in 1100 schools in 1841, resulting in a 90% literacy rate within a few decades (University of Hawai'i), compared to an 80% literacy rate in the United States at the time (Snyder 1993: 9). Following the overthrow of the Queen Lili'uokalani in 1893 and her arrest in 1895 leading to abdication, the leadership of the white-led Republic of Hawaii[9] banned the Hawaiian language as a medium of instruction in schools in 1896, a ban that was only lifted by a constitutional amendment of the state constitution in 1978 designating the Hawaiian language as co-official with English (Nakata 2017). The decades of the ban and enforcement via corporal punishment had resulted in a massive decline in usage, down to 32 children who spoke the language in 1985, mostly on a small isolated island of Niʻihau (University of Hawai'i 2022). Sentiments changed with a Hawaiian Cultural Renaissance, which was led by Hawaiian singers and renewed interest in the language; this also included celebration of Indigenous technology like the 1976 voyage of the Hōkūleʻa from Hawaiʻi to Tahiti using only traditional Polynesian navigation methods, a 2,500 mile open ocean voyage by double-canoe (ʻOhu Gon & Winter 2019). The same ship circumnavigated the world using only traditional Hawaiian wayfinding in 2017.

Following the state's 1978 constitutional amendment reauthorizing the use of Hawaiian in education, the Hawaiian Studies Program was established by the state to promote teaching of Hawaiian culture, history, and language in public schools. The program included a fairly detailed sketch of a curriculum, such as delegating 7th grade Social Studies to be a course on the

[8] The authors note that this finding is based purely on available radiocarbon evidence at the time of publication, and the theory is falsifiable pending future research; Kirch 2011 combines this with linguistic evidence to postulate that the O'ahu and Kaua'i islands were clearly settled by 1200 CE, and estimates that hamlets had realistically been established by 1000 CE.

[9] Subsequently controversially annexed by the United States in 1898.

Hawaiian Monarchy, and to have Modern Hawaiian History taught in grades 9 or 11. The "Kūpuna Component" gave elementary schools financial resources to hire Native Hawaiian elders into the K-6 classroom as part-time Cultural Personnel Resources: active teachers of culture. A few years later, in 1986, the Hawaiian Language Immersion Program was established, providing a Hawaiian language option at 21 schools and complete immersion option through grade 5 for every family residing in the state, with English introduced as a second language in grade 6 (Sang 2022). This institutionally-supported immersion program expanded on the initially-informal "language nests" *Pūnana Leo* which were private non-profit preschools first founded in 1983 by Hawaiian language educators including Hōkūlani Cleeland (Hale 2013), in emulation of Kohanga Reo, a successful Māori language nest (Maia, Nascimento & Whan 2018). As the students of these language nests graduated into elementary, middle, and high school, the communities and families lobbied for appropriate Hawaiian-language programs to match (Hale 2013).

Hawaiian is a strong case study for a successful revitalization effort, but the majority of students attending high school in Hawaii have not attended immersion programs. Many take Hawaiian as a non-native speaker, much like any other second language program in school. Thus, alongside the creation of the fully immersive programs outlined above, there is additionally a robust system for instructing Hawaiian as an L2, to the point that some schools such as the private Kamehameha school network implemented two years of Hawaiian as a graduation requirement in 2016 (Wong 2015). Most schools follow the Hawaiian state's guidelines which only require two years in a single language, with many schools offering Hawaiian as one option among several languages. For the purposes of this study, two high school educators (one native Hawaiian) living in Honolulu who have both taught all levels of Hawaiian to largely anglophone students were interviewed regarding syntax and judgments of acceptability (see below) as well as pedagogy.

VI.ii. Hawaiian Possession

Teaching Hawaiian as a classroom L2 – much like any language – is different from teaching it as an L1 (Ipek 2009), and peculiarities of its grammar which would be implicitly learned in an immersion setting are overtly taught. Unlike English and most European languages, Hawaiian has a sophisticated morphological possession paradigm based on alienability which it shares with related Oceanic languages more broadly (Baclawski 2011 for Maori, Du Feu 1996 for Rapa Nui, Hafford 2015 for Wuvulu). In Hawaiian, objects that are pragmatically close to a possessor (kinship, body parts, the home) are possessed with an inalienable *o*, and objects which are not pragmatically close to the possessor are possessed alienably with *a*. These two classes produce minimal pairs, as below:[10]

	Inalienable			Alienable	
5.	**koʻu**	**lole**	6.	**kaʻu**	**lole**
	k-o-ʻu	lole		k-a-ʻu	lole
	D-Inalien-1sg	clothes		D-Alien-1sg	clothes
	My clothes (which I am wearing)			*My clothes* (which I am selling)	
7.	**koʻu**	**pua**	8.	**kaʻu**	**pua**
	k-o-ʻu	pua		k-a-ʻu	pua
	D-Inalien-1sg	flower		D-Alien-1sg	flower
	My flower (which I am wearing behind my ear)			*My flower* (in the vase)	
9.	**koʻu**	**wawai**	10.	**kaʻu**	**wawai**
	k-o-ʻu	wawai		k-a-ʻu	wawai
	D-Inalien-1sg	leg		D-Alien-1sg	leg
	My leg (unmarked)			*My prosthetic leg* (detachable)	

Despite slight productivity along this narrow axis, most lexical items are syntactically unambiguous. The vast majority of inalienable o-class nouns cannot be possessed alienably under any circumstance, and the reverse also holds true: the vast majority of alienable a-class nouns cannot be possessed inalienably under any circumstance regardless of pragmatics.

[10] Examples 5-8 are from Wilson 1976: 46; examples 9-10 are from Batchelder-Schwab 2021: 12.

Membership in the inalienable class follows general semantic trends, but ultimately is lexical. Below, the term for *mother* is only grammatically possessible inalienably, while *fish* is only possessable alienably, even if it is a beloved pet fish. Attempting to switch the possession structure for either is completely ungrammatical under any circumstances, regardless of pragmatics (Batchelder-Schwab 2021: 12):

	Inalienable			Alienable	
11.	**ko‘u**	**makuahine**	12.	***ka‘u makuahine**	
	k-o-‘u	makuahine			
	D-Inalien-1sg	mother			
	My mother			intended: my mother	
13.	***ko‘u**	**i‘a**	14.	**ka‘u**	**i‘a**
				k-a-‘u	i‘a
				D-Alien-1sg	fish
	Intended: my fish			*My fish*	

This possessive split extends across all possessors (1st, 2nd, 3rd person; singular, plural; inclusive, exclusive), and the entire lexicon falls into one of these two possession categories using *a* and *o*, with only a handful occasionally able to take both types of possession to produce distinct meanings, as shown previously (Pukui & Elbert 1979).

Within the inalienable *o*-class are words for *grandparent*, *father*, *mother*, *father-in-law*, *older-sibling*, *younger-sibling*, two words for *friend*, *teacher*, *god/God*, *leg*, *hand*, *happiness*, *desire*, *opinion*, *anger*, *life*, *pillow, canoe, adze,* among others. In the alienable *a*-class are words for *husband*, *wife*, *child*, a different word for *friend*, *book*, *telephone*, *dog*, *shark*, *candle*, *chair*, *spoon*, *language*, and most other nouns (Batchelder-Schwab 2021: 13). Note that words for *friend* fall into both categories.

The separate words for “friend” cannot grammatically switch class: **hoa(loha)** and **makamaka** are always inalienably o-class, while **‘aikaane** is always alienably a-class. While **hoa** constitutes “best friend” and does have a stronger degree of closeness than the others, it is

not the case that **makamaka** is pragmatically distinct from **ʻaikaane** in the same way, with those two explicitly being pragmatically interchangeable for the two consultants, despite being in separate alienability classes.[11] Regardless of context and emotional closeness, **koʻu makamaka** and **kaʻu ʻaikaane** remain firmly in their side of the alienability, and are both translated identically as *my friend*. The difference in *o-* and *a-* class here is simply a morphological fact, much like Indo-European gender, which acts regardless of physical or emotional closeness; a mismatch simply constitutes ungrammaticality. The same is true for a word like **ʻīlio** *dog*, which remains firmly a-class regardless of how much someone loves their dog. These facts around words for *friend* suggest that class membership is lexically specified for the most part.

The paradigm is further complicated by an additional possessive form with *u*, which communicates affection. This form is only productive in the first person singular *kuʻu* "my beloved _". This additional possession form can be used on both alienable and inalienable nouns licitly when there is high emotion, although (14) and (16) below require substantial context (Batchelder-Schwab 2021: 13).

15. **koʻu** **makuahine**
k-o-ʻu makuahine
D-Inalien-1sg mother
My mother

16. **kuʻu** **makuahine**
k-u-ʻu makuahine
D-AFF-1sg mother
My mommy

17. **kaʻu** **iʻa**
k-a-ʻu iʻa
D-Alien-1sg fish
My fish

18. **kuʻu** **iʻa**
k-u-ʻu iʻa
D-AFF-1sg fish
My beloved pet fishie

19. **kaʻu** **puna**
k-a-ʻu puna
D-Alien-1sg spoon
My spoon

20. **kuʻu** **puna**
k-u-ʻu puna
D-AFF-1sg spoon
My beloved spoon

[11] Unpublished field notes from 2021.

Example (18) is licit if the speaker, most plausibly a child but not necessarily so, is obsessed with their pet fish. A licit context for (20) is if the spoon is a gift from someone dear to the speaker, or if it is used for an activity that holds great importance, such as preparing traditional food with the family.

This *ku‘u* possession structure is available in Modern Hawaiian with all kinship terms, all proper names, beloved pets, beloved objects like a lei[12] or an important book (sometimes meaning the Bible). Its use is reported to be low-frequency in day-to-day speech. This possession structure *ku’u* seems to always be grammatical and always optional, but the amount of emotion that the affective structure requires seems to have a high threshold, and learners of Hawaiian are explicitly taught in class to “save” the construction for special occasions. The most common usage by far seems to be for kinship and the home. One scenario which made this structure licit with body parts was in a fantasy tale where a character is lamenting their lost body part (perhaps it was stolen, and they will undertake a journey to find it). However, further investigation made clear that an *ouch!* construction of pain licenses the affective structure, like shouting *ku‘u lima!* “My hand!” after cutting oneself while cooking (Batchelder-Schwab 2021), which lines up with observations that pain and affection pattern together crosslinguistically (Kratzer 1999).

Traditional Hawaiian (19th Century) additionally had a second person singular version of this endearment possessor, *kō* “your beloved _”. One consultant recalled a story told by his Hawaiian professor, who recalled that the professor’s own university teacher of Hawaiian, who was an L1 speaker, supposedly used this form to talk about students’ assignments as he was returning them, *kō pepa* “your beloved paper”, but this would have been many decades ago, and this third-hand report is the only example of this morpheme from fieldwork with the consultants, who were fluent, full-time teachers of Hawaiian. When asked directly about this

[12] A necklace of flowers worn as an item of clothing with deep cultural meaning.

second person *kō*, the other consultant mentioned that she has probably never used it and that hearing this in discourse would be very marked to her, but that she would find it intelligible.

Pukui & Elbert, citing the Fornander chants (Fornander 1917-18: 57), give the sentence below with its translation (1979:117).[13]

21. **‘E‘oe kū ka hauna lā‘au a kāua i kō kāne, he kōlea kō kāne, he wāwae li‘ili‘i, he ‘ūlili kō kāne, he holoholo kahakai** (FS 57)
. *Our war strokes are not suitable for your (fine) husband, your (fine) husband is a plover, a small legged [one]; your (fine) husband is a tattler, running along the beach.*

The context for (21) is a father addressing his daughter, discussing the weakness of his daughter’s husband, Ka-welo. Pukui & Elbert analyze this as irony, as the father’s opinion of his son-in-law is not a positive one, and of mocking the daughter’s husband.

A quick summary of the Hawaiian possession system is shown below in Table A. Important to note is that kinship falls on two sides of the split – the vast majority of kinship terms pattern inalienably, while *husband*, *wife*, and *child* pattern alienably – lexically so. The previous discussion of different words for *friend* returns, where terms appear on both sides of the split without semantic grounding. Most objects are alienable, like *spoon* and *fish*, but a few lexical exceptions like *canoe* and *adze* exist. As discussed before, certain wearable items show productivity between the split, where the inalienable class gives a meaning of wearing the object, while alienable body parts imply prosthetics. Affection is licensable towards any human and pet: dogs and cats are certainly able to take the *u*-class, fish marginally so, and wild animals like sharks are infelicitous. This table serves to simply clarify that the alienability split is not a clean one for Hawaiian, and it is reasonable to expect that students make mistakes, especially when this is encoded at multiple levels of the grammar including relativizers and all possession.

[13] No gloss was given by either Fornander or Pukui & Elbert. I will not attempt to gloss this myself, and instead this is meant to show a merely contextual example of how *kō* seems to have been used in 19th Century Hawaiian.

Table A. The Hawaiian Possessive split (Batchelder-Schwab 2021, alongside field notes)

Lexical Item	Alienable *a*- class	Inalienable *o*-class	Affectionate *u*-class
mother	***ka‘u makuahine**	**ko‘u makuahine**	**ku‘u makuahine**
father	***ka‘u makuakāne**	**ko‘u makuakāne**	**ku‘u makuakāne**
grandparent	***ka‘u kupuna**	**ko‘u kupuna**	**ku‘u kupuna**
brother	***ka‘u kaikunāne**	**ko‘u kaikunāne**	**ku‘u kaikunāne**
best friend	***ka‘u hoa**	**ko‘u hoa**	**ku‘u hoa**
friend	***ka‘u makamaka**	**ko‘u makamaka**	**ku‘u makamaka**
friend	**ka‘u ‘aikaane**	***ko‘u ‘aikaane**	**ku‘u ‘aikaane**
child	**ka‘u keiki**	***ko‘u keiki**	**ku‘u keiki**
husband	**ka‘u kane**	***ko‘u kane**	**ku‘u kane**
wife	**ka‘u wahine**	***ko‘u wahine**	**ku‘u wahine**
teacher	***ka‘u kumu**	**ko‘u kumu**	**ku‘u kuma**
god/God	***ka‘u akua**	**ko‘u akua**	**ku‘u akua**
leg	**ka‘u wawai** (prosthetic)	**ko‘u wawai**	**ku‘u wawai** (pain)
fish	**ka‘u i‘a**	***ko‘u i‘a**	**?ku‘u i‘a**
spoon	**ka‘u puna**	***ko‘u puna**	**??ku‘u puna**
canoe	***ka‘u waa**	**ko‘u waa**	**??ku‘u waa**
adze	***ka‘u ko‘i**	**ko‘u ko‘i**	**??ku‘u ko‘i**
clothes	**ka‘u lole** (selling)	**ko‘u lole** (wearing)	**??ku‘u lole**
flower	**ka‘u pua** (in vase)	**ko‘u pua** (wearing)	**ku‘u pua**[14]
shark	**ka‘u mano**	***ko‘u mano**	**#ku‘u mano**
candle	**ka‘u kukui**	***ko‘u kukui**	**#ku‘u kukui**
life	***ka‘u ola**	**ko‘u ola**	**ku‘u ola**
hate	***ka‘u huhu**	**ko‘u huhu**	**#ku‘u huhu**
opinion	***ka‘u manao**	**ko‘u manao**	**ku‘u manao**

[14] A literal flower is infelicitous, however **pua** is a common vocative for children, so speakers of Hawaiian recognize **ku‘u pua** in the sense of child-directed speech.

VI.iii. Teaching Hawaiian Possession

The koʻu/kaʻu alienability split is ever-present in the language, doubly so due to its centrality in constructing subordinate relative clauses in Hawaiian (Alexander 2004:41; Keawekane 2016),[15] and it is imperative that students master this alternation well. A variety of teaching strategies exist for illustrating the split: one jingle “O-Class, NO choice” is used to help students remember which kinship falls as inalienable (parents, siblings, cousins), and alienable kinship which was ostensibly chosen (husband, wife, children). Teachers of Hawaiian have noted both the centrality of the split in Hawaiian syntax and the lack of counterpart in the students’ typical home language (English), and subsequently created curricula in which the distinction is taught relatively early on, and practiced for years. According to one of the teachers, it is not uncommon for advanced students to still occasionally make mistakes in their speech and writing, in a similar way to how advanced students of Romance languages might still sometimes make errors with grammatical gender. The teachers reported that the alienable possession using *-a* is typically overused by students, echoing previous literature on noun class acquisition.

From experience, the teachers have learned that introducing the affectionate possessor *kuʻu* too early in the curriculum is not ideal because it is sometimes used by students as a syntactic crutch to circumvent the *koʻu*/*kaʻu* split altogether, as this possessor can be used with all nouns on a syntactic level – the problem for most nouns is purely at a pragmatic level. The end result is that students’ acquisition of this morphology might end up incomplete, both in that their knowledge of the *koʻu*/*kaʻu* split will not be at the target level and that the students will overuse *kuʻu* in places without the necessary pragmatic licensing. Neither teacher recalls explicitly teaching *kuʻu* in pain constructions for body parts. The second-person version *kō* is either omitted from the curriculum altogether or mentioned once in an advanced class, and it is

[15] The complementizer “which” alternates between *o* and *a* depending on the class of the head noun.

not anticipated that the students learn or use that construction because modern usage norms do not include it.

VI.iv. Implications for Teaching Wailaki

The experience of Hawaiian educators with largely anglophone students make clear that bipartite splits in possession structure take significant time and effort to teach to anglophone high school students.This type of institutional pedagogical knowledge could prove valuable for building curricula in languages with similar non-European morphological phenomena. Of specific value are the lessons learned around class-neutralizing affectionate possession in Hawaiian, a feature shared by Wailaki in California. Since 2016, Wailaki has been taught in Round Valley High School in Northern California, mainly by Cheryl Tuttle and Rolinda Want (RVHS 2018). Like Hawaiian, Wailaki has a possession split: both alienable and inalienable nouns are prefixed by pronominal possessors (1sg: **shi**-), but alienably-possessed nouns are further suffixed by a possession particle (-**e'**) (Begay 2017: 217).[16]

Interestingly, there is an alternative 1sg possessor prefix **'ish**- which signals affection in a very similar way to Hawaiian, applicable to both humans and objects, which Begay terms a diminutive. Alienable nouns in the affection structure seem not to take possessive suffixes, as in *my beloved skirt* **'is-t'anai** or *my beloved people* **'ish-keta** (Begay 2017: 226-227). The lesson from Hawaiian educators here would be not to teach the class-neutralizing affection structure in Wailaki until the initial possession split has been fully mastered, as students might overapply it into situations where the affection is not pragmatically licensed in an effort to avoid the complicated split.

[16] The split between these classes seems to be lexically-conditioned to a degree: *baby*, *wife*, *calf* have alienable suffixes, while *nose*, *thigh*, and *grandmother* pattern inalienably without suffixes (Begay 2017: 220-224).

VII.i. Mandinka Education

The dialect continuum of Manding languages stretches across West Africa from Senegal to Mali and Liberia, and the westernmost language, Mandinka, has an estimated 1.5 million speakers in Senegambia (Creissels 2019). The Mande languages (of which Manding is a divergent branch) constitute a family that is about 800 years old, and further macro-classification to Niger-Congo remains controversial (Vydrin 2009). Use of Mandinka is vibrant, with a huge number of children learning the language as an L1 (Cissé 2022). The language can be written using the Latin script, an adapted version of the Arabic script called Ajami (Ngom, Castro & Diakité 2018), and an indigenous N'Ko script created in 1949 by Solomana Kante, mainly used in Guinea-Conakry (Oyler 2005).

The history of language in Senegal echoes the history of Hawaii, in which French colonizers implemented direct assimilation: schools and churches were established in an attempt to "annihilate the culture, beliefs, and languages of the local people, to make them accept willingly an inferiority complex vis-a-vis French colonialists. The assimilation process was mainly implemented through the introduction of French as the sole language of education" (Ngom 1999: 132). Much like elsewhere in Africa, the colonizers specifically targeted the families of chiefs to put into assimilationist schools, after which the assimilated students were put into political and governmental roles (Ngom 1999: 133), until Senegalese independence was achieved through protests in 1960 (Diop 1989: 23). The impact of French on Senegalese languages has been complicated, as despite largely negative post-colonial attitudes towards the French language prevail, the practicality of the language as a neutral inter-ethnic lingua franca has kept it in the public sphere of Senegal. However, language communities in Senegal strongly encourage fluency in their own Indigenous languages, with significant social stigma attached to younger members without fluency in their community's language. In the Mandinka community, great pride is attached to the language's historic centrality as the language of both the empire of

Mali and of Gaabu (Ngom 1999: 144). This type of positive language attitude across ethnic communities in Senegal has led to a surge in use of local language in media, newspaper, and radio programming (Ngom 1999: 145).

Mandinka language is spoken by a small minority of people within Senegal, but the Constitution of Senegal recognizes it as a national language alongside French,[17] Wolof, Pulaar, Seereer, Joola, and Sooninke (Government of Senegal 2001).[18] Public and private (i.e. religious) educational institutions may teach in any national language, including Mandinka. Senegal currently invests 6% of its GDP into the education sector, and enrollment rate for primary school hit 90% in 2008; gender parity was achieved in 2011, and primary school completion hit 66% in 2011 (RTI International 2015). Some of this improvement seems to stem from implementation of home-language primary education between 2002 and 2008, which increased completion by 10% compared to control schools (Couralet 2009). However, two major persisting problems have been a lack of L1 teaching materials and a lack of teachers trained in L1-based instruction, which is currently being addressed by the Senegalese Ministry of Education (RTI International 2015: 9).

As before with Hawaiian, much of the current literature on Mandinka specifically focuses on L1-instruction in which students already speak the language, and whose goals are substantially different from an L2-learning classroom. Expansion of L2 options in Senegalese schools, particularly of languages other than French, remains an ongoing project (RTI International: 16). Much like for many less commonly-taught languages, there is a lack of learning materials for L2 learners of Mandinka. Current resources include a guide for francophones called *Parlons Mandinka* (Drame 2003), a short guide in English called *Mandinka Grammar Manual* (Peace Corps 1995), as well as academic descriptions of the language

[17] French additionally has the distinction of being the “official” language, meaning that all presidential candidates must be fluent in it, a qualification not necessary for any other language, codified in Article 28 of the constitution.
[18] Since then, at least 15 other languages were recognized as national languages in Senegal (RTI International 2015).

(Creissels, forthcoming). However, there currently exist no materials for intermediate and advanced L2 learners of Mandinka, which leads instructors to largely have to create their own materials (Cissé 2022).

For this project, one instructor of L2 Mandinka at a university in the United States was consulted (Cissé 2022). The university-level students typically are anglophone, but many have some background either in Mandinka or in a related language like Bambara. He reported that his teaching style has been informed through a workshop with the National African Language Resource Center, in which he was encouraged to adopt the 'backwards curriculum', where each class's objective is clearly stated at the beginning as focusing on a cultural topic like clothing or a situational topic like being at a market. This contrasts with what he calls traditional grammar methods, which would involve centering a class on a grammatical phenomenon like the past tense. However, he has found some elements of explicit teaching of grammar to be effective, such as presenting formulas for tense/aspect grammar.

The basic curriculum design involves covering all the phoneme distinctions within the first semester, with particular attention to vowel length contrasts and the /ŋ/. The Roman script is covered in a single day, while the Arabic-based Ajami script is typically taught within the year. Culture is central in choice of topic and vocabulary: for example, photos of traditional clothing are used early to teach the phonemes, and traditional recipes are used to practice several aspects of verbal morphology.The goal by the end of the first year is for students to be able to introduce themselves and ask about other people, to hold basic conversations at the market and the home (i.e. requesting water, asking prices), and to talk about one's life and interests. Verbal morphology tends to be rather isolating, so students are able to learn a variety of tenses and their negations quickly. Points of difficulty that take the most practice are a focus marker which is homophonous with the incompletive marker *le*, and an alienability split in possession.

VII.ii. Mandinka Possession

The possession system of Mandinka is remarkably similar to Hawaiian, with a bipartite split in possession morphology. The two attributive possession structures are both ordered as possessor-first, as shown below. Inalienable possession of body parts and kinship (close family, neighbors, friends) are null-marked, while alienable possession (objects, the home, teachers) is marked with an intervening particle *lá* (Creissels forthcoming: 17-18).

Inalienable

22. **Kèw-óo** **kùŋ-ôo**
man-D head-D
The man's head

24. **Díndíŋ-ó** **màmàmús-òo**
child-D grandmother-D
The child's grandmother

26. **#*Kèw-ôo** **kód-òo**
man-D money-D
Intended: the man's money

Alienable

23. **#*Kèw-óo** **lá** **kùŋ-ôo**
man-D GEN head-D
Intended: The man's head

25. **#*Díndíŋ-ó** **lá** **màmàmús-òo**
child-D GEN grandmother-D
Intended: The child's grandmother

27. **Kèw-ôo** **lá** **kód-òo**
man-D GEN money-D
The man's money

According to Cissé, the learning trajectory of students of Mandinka has been to initially null-mark all possession constructions, as in (22) and (24), and incorrectly in (26). This is followed by a full unit on possession in which students then begin to over-apply the genitive marker *lá* to all situations, including ungrammatically onto (23) and (25). This overapplication continues through the second semester, he reports, until students begin to self-correct. Cissé analyzes the directionality of the mistakes as a frequency effect (parallel to Haspelmath 2008), and he states that alienable constructions with *lá* are far more common in discourse than null-marked inalienable constructions, leading students to overgeneralize all possession as having the alienable possession marker.

As attested for Hawaiian instruction, mistakes in this possession split regularly continue for significantly longer than many other parts of the syntax, well through the second year; Cissé

showed examples of a fourth-semester student making repeated mistakes with *lá* on a homework assignment which had few other mistakes. The instructor has adapted the curriculum over time to reflect this difficulty, with possession units now designed to be longer and to contain more review than in prior versions of the curriculum. This case study of Mandinka in an L2-learning context further confirms the apparent difficulty in learning split-possession systems for students whose home language does not contain a counterpart. It also supports the observation that students typically require a substantial amount of practice (in the range of years) to fully acquire such a split. The observations of the Mandinka professor additionally suggest that students seem to be affected by frequency of each alternative, and will over-apply the morphology of the alienable construction due to its larger presence in discourse and the lexicon, a practice that was predicted from L2 noun class acquisition literature.

VIII.i. Northern Pomo Education

The Pomo have lived in the area north of San Francisco since the beginning of time, according to their oral tradition. They traditionally were 15,000 hunter-gatherers who lived in around 70 sizable, permanent villages speaking at least seven different Pomo languages at the time of European contact (G.H.M. 2022). The Pomo language family, also called the Kulanapan family by early researchers, has often been included as part of a larger Hokan family (McLendon 1973). Modern usage of the term “Pomo” seems to have originated in ethnology (Powers 1877), and was derived from traditional village-naming, as in *Buldam-pomo*, *Dapishul-pomo*, and *Sedam-pomo*. An alternate theory for the origin of “Pomo” is that it is an anglicization of *-pʰoʔmaʔ* “people from _”, which is common in Northern Pomo ethnonyms, as in *miʈʰo:m-pʰoʔmaʔ*, “people of Little Lake” (Golla 2011: 111).[19] There do not seem to have been traditional names for the linguistic subdivisions within Pomo (Kroeber 1923: 226), leading to names of geographic origin, like *Northern Pomo* and *Southeastern Pomo*. The communities

[19] My own theory is that this originates from **pʰo-ʔ-ma-ʔ**, stay.PL-SEMELFACTIVE-CONTINUOUS-REFLEXIVE, possibly translatable as *those who have settled themselves*, or *settlement*.

made extensive use of acorns, shellfish, kelp, gamebirds, seals and wild game, and were loosely united by marriages, shared religious ceremonies, trade, and masterful basketry, but never had political unity (G.H.M. 2022).[20]

Over the last few difficult centuries, Spanish, Russian, and US colonizers reduced the population of the Pomo nation down to 1200 individuals in the 1900 census (Theodoratus 1974), but the 2010 census showed a rebound to 10,308 people who self-identified as Pomo (US Census Bureau 2012). This 90% population collapse by the early 20th century is a feature that all Indigenous communities in California suffered, and was even more severe for groups in contact with the slavery of Spanish missions, which affected 3000 Pomo people (Kroeber 1923: 885). Disease certainly contributed to this decline, but the colonizers' actions were crucial in the genocide. Alongside the missions, Pomo oral tradition maintains that the Russian fur traders at Fort Ross were particularly brutal (Giese 1997). The departure of the Russians left the Pomo under the governance of the United States government, who massacred an entire Pomo village in 1850, according to William Benson, a Pomo band chief who passed away in 1930 (Giese 1997). As white miners and ranchers arrived in California, the Federal government established reservations:[21]

> On the principle, not of attempting to do something for the native, but of getting him out of the white man's way as cheaply and hurriedly as possible. The reason that the high death rate that must have prevailed among these makeshift assemblages was not reported on more emphatically is that the Indians kept running away even faster than they could die. (Kroeber 1923: 890).

Subsequent land treaties were never ratified by the U.S. Congress in 1851-1852, a move which was kept secret from the Pomo groups, which effectively rendered the nation

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[20] Pomo land ownership in the Clear Lake area reportedly operated thus: the quarter-mile tracts extending several miles out from the lake were inherited and subdivided patrilineally – only acorns and plant products there belonged to the tract's owners; hunting, fishing, and mining was completely unrestricted across property lines, save a general discouragement of hunting during acorn season to minimize accidents. (Gifford 1923)

[21] A Pomo tribal historian labels these reservations as *internment camps* at Fort Bragg and Covelo, and the forced relocation there as *death marches* (Giese 1997). Some current Northern Pomo people refer to Fort Bragg as a *concentration camp*.

landless. Communities banded together to communally buy parcels of land in the 1870s-1880s in Potter Valley, Sherwood, and Ukiah, largely by selling basketry and working on farms and ranches. By 1906, the government began an investigation on the land grab, with the California senator Thomas Bard (1900-1905) explicitly searching for the lost, unratified treaties of 1851 in Washington D.C. (Miller 2013). The Pomo nation continued to take legal action in multiple directions, and in 1916, a Pomo man named Ethan Anderson won the right to vote as an Indian in California, which had been stripped in 1850 (Pierucci 2017). The Pomos of the California Indian Brotherhood challenged segregated schools in 1923, and segregated businesses in Ukiah in 1948, many of which had signs saying “No dogs or Indians allowed”[22] (Allen 1972).[23]

Under Secretary of the Interior Carl Schurz, the Indian Bureau banned the use of Indigenous languages in education in 1880 (Hayes presidency), and a series of boarding schools were established to force anglophone education, a law that was not overturned until 1990 (Reyhner 1993). Schurz apparently argued that it cost $1 million to kill an Indian, but only $1200 to give eight years of schooling to his child (Adams 2020). The New York Times reports that in 1892, a founder of one of the first boarding schools, Richard Pratt, wrote that “all the Indian there is in the race should be dead. Kill the Indian in him and save the man” (Callimachi 2021). One of the significant causes of the decline of the Pomo language was the boarding schools, “institutions created to destroy and vilify Native culture, language, family, and spirituality” (Pember 2019). Elsie Allen, a Pomo woman born in 1899 in the Lake Mendocino area, recalls: “my mother used to hide me whenever the white people came because we had heard of Indian children who had been kidnapped.” She was eventually caught in 1910 and sent across the country to a boarding school far from her family (Allen 1972). Even if some students did go to the schools willingly for educational and job opportunities, the end result was a

[22] These store signs continued through the 70s.
[23] Injustice certainly did not end in 1948, and the modern history of the Northern Pomo nation has dealt with termination of tribal recognition by the Federal U.S. government, subsequent restoration of reservation status, and continued fights for land and sovereignty. I let the Pinoleville Pomo Nation tell its own history from here onwards: https://pinoleville-nsn.gov/

massive switch to English in many communities, and the number of Pomo speakers collapsed across the board.

In 2011, Golla reported that Northeastern Pomo had been completely dormant since 1961, Southern Pomo since 1990; Southeastern Pomo had one known speaker, Eastern Pomo only “a handful of semifluent speakers”, Central Pomo had a few speakers in Hopland,[24] and the dozen fluent speakers of Kashaya Pomo made it the most robust of the languages; no Pomo language has more than 15 fluent speakers (Golla 2011: 107-111). Mrs. Edna Campbell Guerrero (Potter Valley) and Mrs. Elenor Stevenson Gonzales (Pinoleville Rancheria) are thought to have been the last native speakers of Northern Pomo, and passed away in 1995 and 2005, respectively.[25] Linguists Eero Vihman and Cathy O’Connor made hundreds of hours of audio recordings as well as extensive field notes (Ko, Nee, O’Connor, & Carson 2019).

In an opposite trend, a Northern Pomo class began at Ukiah High School in fall 2021; the course is taught by Buffie Schmidt, an accomplished Pomo weaver of Sherwood Valley, who is working with Dr. Cathy O’Connor to learn the language and form a curriculum (Sheldon 2021). They are joined by Christina Wilson, a former Spanish language teacher who works on the curriculum and teaching. Given that Northern Pomo has never been formally taught as an L2 before, relatively few learning materials exist, including a series of lessons created in the early 2000s by Dr. O’Connor and Mrs. Edna Campbell. Dr. O’Connor also supervised Kayleigh Jeannette’s creation of learning materials for Northern Pomo kinship in 2018, and led a team in creating flashcards for the high school course in 2021-2022, as well as other learning materials publicly accessible since 2014 on a dedicated website, Northern Pomo Language Tools. The

[24] Ethnologue reports that the last L1 speaker passed away in 1997, which would render Central Pomo dormant. (Eberhard et al. 2022)

[25] O’Connor reports that Mrs. Campbell Guerrero was a true English-Northern Pomo bilingual since childhood, while Mrs. Stevenson Gonzales was an L1 Northern Pomo speaker who remained stronger in Northern Pomo than her L2 English throughout her life.

high school class is composed of a majority of local Pomo students[26] who are largely monolingual anglophones, but some have a background in Spanish.[27]

[26] The students at the Ukiah Highschool class are a mix of different Northern Pomo tribal affiliations, including the Pinoleville Pomo Nation, the Coyote Valley Band of Pomo Indians, the Redwood Valley Band of Pomo Indians, and the Sherwood Valley Band of Pomo Indians.
[27] Students with some background in Spanish are reported to have an easier time learning the dental/alveolar contrast in stops of Northern Pomo, as Spanish uses dental stops.

VIII.ii. Northern Pomo Possession

One of the major challenges in L2 education of Northern Pomo constitutes the possession system, which is substantially more complicated than for Hawaiian or Mandinka. The Northern Pomo possession system is bipartite with different grammatical patterns for kinship on one side, and body parts/alienable objects on the other (O'Connor 1987: 238-260). Alienable possession is perhaps the most intuitive, as it requires a possessor with oblique case marking[28] directly preceding the possessed noun. Alienable pronominal possession does not differ substantially from English on the surface, where a possessive pronoun precedes its noun (239):[29]

28.	**k^{h}e**	**phik'a**	**-na:m**
	1sg.OBL	basket	DET
	My basket		
29.	**miʔ**	**sheʔemay**	**-na:m**
	2sg.OBL	bow	DET
	Your bow		
30.	**maʔ**	**si:yan**	**-na:m**
	2pl.OBL	animal.skins	DET
	Your (pl) animal skins		

[28] Oblique case has several uses, including for benefactors, possessors, and objects of certain postpositions. (O'Connor 1987:260)
[29] The spelling in this paper is slightly different from the 1987 O'Connor dissertation, and reflects the most uptodate system as of 2022.

Non-pronominal possession of alienable objects is again marked through oblique case on a possessor which precedes the object. The realization of this case marking is typically the suffix **-yachuʔ** (31-32) except for proper names which take **-wiʔ** (33-34). In the case of inanimate possessors, no overt case marking is used, as in (35-36), which O'Connor explains as a possible case of compounding instead of true morphological possession.

31. **ma:ta** **-yajuʔ** **phik'a** **-na:m**
woman OBL basket DET
A woman's basket

32. **kaweyo** **-na:m** **-yajuʔ** **bat'a** **-na:m**
horse DET OBL blanket DET
The horse's blanket

33. **John** **-wiʔ** **hayu** **-na:m**
John OBL dog DET
John's dog

34. **Sarah** **-wiʔ** **mishin** **-na:m**
Sarah OBL car DET
Sarah's car

35. **lameta (-Ø)** **ha** **-na:m**
glass mouth -DET
The glass's rim

36. **dishii (-Ø)** **dabo:maʔ** **-na:m**
acorn cap -DET
The acorn's cap

Dr. O'Connor and Ms. Schmidt have introduced alienable pronominal possession in the first semester (e.g. "my car", "your phone"), as the surface structure is not too different from English. As noted by the instructor of Mandinka, alienable possession also tends to be common in discourse due to the large open-class of possessed objects, rendering this construction useful in day-to-day discourse (Cissé 2022). By the beginning of the second semester, the Northern Pomo instructors introduced alienable possession by named individuals (i.e. John's car, Mary's phone) as the next step in learning the possession system. Traditionally, many Northern Pomo

speakers practiced name avoidance in discourse, preferring instead to refer to people by their relation to the speaker; however, usage norms in the community have changed and proper names no longer are avoided, so this construction is useful for modern speakers to learn when trying to express themselves authentically (O'Connor 1990). The last two pieces of alienable possession – of inanimate possessors and of common noun possessors like *friend* – remain constructions which will be taught in the second year.

Inalienable kinship possession generally involves a similar Possessor-Possessum alignment, but with more complex case and syntax. First comes the possessor, which varies between agentive case (1sg, kinship terms, proper names), null marking (2sg), and oblique (1pl, 2pl, 3pl, 3sg.m, 3sg.f, logophoric, common nouns). Following the possessor comes a possession prefix on the kinship term: **ma-** when the possessor is 1pl, **mi-** when the possessor is 1sg or 2nd person, and **ba-** elsewhere.[30] These combine into an intricate kinship possession paradigm illustrated below in (37-41) and in Table B.

37. **ʔa:** **mi-** **kaʔ**
1sg.nom 1sg.poss.inal mother
My mother

38. **(Ø)** **mi-** **kaʔ**
2sg 2.poss.inal mother
Your mother

39. **mo:waʔ** **ba-** **kaʔ**
3sg.masc.obl 3.poss.inal mother
His mother

40. **Michelle** **(-Ø)** **ba-** **de:** **(-Ø)** **ba-** **kaʔ**
Michelle -nom 3.poss.inal sister -nom 3.poss.inal mother
Michelle's sister's mother

41. **yaʔ** **ma-** **kaʔ**
1pl.obl 1pl.poss.inal mother
Our mother

[30] There is additionally a **ma-** prefix for predicated reflexive possessors as in *He hit <u>his own</u> sister*, which O'Connor assumes is a separate morpheme from the one for 1pl possessors.

Table B. Kinship Possession in Northern Pomo[31]

Possessor (case)	Prefix	Poss's grandmother	Translation
1st singular (Agentive)	**mi-**	**ʔa: mi-kaʔ**	*My grandmother*
1st plural (Oblique)	**ma-**	**yaʔ ma-kaʔ**	*Our grandmother*
2nd singular (Null)	**mi-**	**mi-kaʔ**	*Your (sg.) grandmother*
2nd plural (Oblique)	**mi-**	**maʔ mi-kaʔ**	*Your (pl.) grandmother*
3rd singular feminine (Oblique)	**ba-**	**ma:daʔ ba-kaʔ**	*Her grandmother*
3rd singular masculine (Oblique)	**ba-**	**mo:waʔ ba-kaʔ**	*His grandmother*
3rd plural (Oblique)	**ba-**	**phowaʔ ba-kaʔ**	*Their grandmother*
Logophoric (Oblique)	**ba-**	**tiʔ ba-kaʔ**	*That one's grandmother*
Proper names (Agentive)	**ba-**	**Michelle ba-kaʔ**	*Michelle's grandmother*
Kinship terms (Agentive)	**ba-**	**Sam ba-de: ba-kaʔ**	*Sam's sister's grandmother*
Common nouns (Oblique)	**ba-**	**dakosaʔ-na:m-(yachuʔ) ba-kaʔ**[32]	*The young man's grandmother*
Reflexive (predicated)	**ma-**	**ma-kaʔ**	*One's own grandmother*

This possession system is complicated by any metric. The possessors' cases here are unproductive and formulaic, as are the prefixes. To an L2 Northern Pomo learner, this essentially means 12 separate formulae for attaching various possessors to kinship, which will need memorization. Students can and regularly do learn such complexity in the verbal domain of a language like Spanish, but curricula are appropriately designed to spend large amounts of time on such complex formulaic conjugations. Given the prominence of kinship in Northern Pomo culture, this lesson will be covered sooner, rather than later, according to Dr. O'Connor – presumably at the start of the second year.

The whole paradigm would not be teachable at once, though: logophoric pronouns, which refer to an individual mentioned previously in the discourse, will likely be complicated to

[31] Adapted from O'Connor 1987: 257.
[32] The oblique case marking in this case is optional, and the exact mechanism behind the alternating distribution is currently unknown.

teach. Concerning the logophoric pronouns mentioned in the table above, there is mounting evidence for the validity of the Interface Hypothesis (or “syntax-before-discourse”), in which discourse-pragmatic knowledge is more difficult to acquire for L2 learners and retain in L1 attrition than narrower syntax knowledge (Laleko & Polinsky 2015, for a summary). Of all types of grammatical dependency, long-distance discourse dependencies like logophoricity seem to have the greatest processing costs for all speakers (Reuland 2011: 127). These findings can inform the curriculum for Northern Pomo in that logophoric referent pronouns are probably better introduced well after narrower syntactic phenomena, and would motivate skipping logophoric possessors in an initial pass at pronominal attributive possession.

VIII.iii. Northern Pomo Possessor Raising

Another complication for the Northern Pomo possession system is for body parts, which can straightforwardly use oblique marking like alienable possession, as in (42) and (44) but in practice has a complicated pragmatic alternation with a possessor-raising structure which uses the accusative (43) and (45). Pairs of examples are given below (O’Connor 1996: 135).

42. **ma:n** **mo:w-aʔ** **xama:-na:m** **chaxa**.
3SG.F.NOM 3SG.M-OBL foot-DET cut
She cut his foot. {foot is detached; he is dead}

43. **mo:w-al** **ma:n** **xama:** **chaxa.**
3SG.M-ACC 3SG.F.NOM foot cut.
She cut his foot / She cut him in the foot. {he is affected; foot is attached; he is in pain}

44. **miʔ** **ʔe:-na:m** **k’edi** **phiṯ’a.**
2SG.OBL hair-DET good appear
Your hair looks nice. {the hair itself is pretty}

45. **miṯo** **ʔe:** **k’edi** **phiṯ’a.**
2SG.ACC hair good appear
Your hair looks nice. {you look good with the hair, the hair looks good on you}

This discourse-dependent variation in possessor raising has counterparts in some commonly-taught languages, such as German and the Romance languages (O'Connor 1996).[33] The German possessor dative construction (PDC) has a complex pragmatically-governed alternation which contains affect and change-of-state information (Lee-Schoenfeld 2006). In terms of pedagogy, textbooks for learning German like *Deutsch im Blick* do not present both options, but instead focus on the more common possessor-raised dative construction as formulaic with a verb: **mir die Zähne putzen** "to brush my teeth", **mir die Haare bürsten** "to brush my hair", **mir die Hände waschen** "to wash my hands" (Schuchard 2009).[34] Thus, although students can implicitly construct body part possession through the typical attributive structures, they learn to use external possession in real-world discourse. For the purposes of language-learning, the pragmatically-strange non-raised genitive versions of these phrases like **#meine Zähne putzen** "to brush the teeth of mine" are counted as incorrect when students produce them in sentential contexts, even if they might otherwise be marginally productive for L1 German speakers.

French likewise has a similar pattern with broadly similar external possession constructions which are governed by discourse-pragmatic considerations of affectedness and animacy (Bally 1926; Hatcher 1944; Barnes 1985: 168; Deal 2017). The French textbook *Liberté* handles the issue very similarly to the German counterpart, where actions towards body parts are introduced as whole phrases: **se brosser (les dents)** "to brush (one's teeth)", **se laver (les mains)** "to wash (one's hands)", **se fouler la cheville** "to twist one's ankle", **se cogner la tête** "to bump one's head", **se couper (le doigt)** "to cut (one's finger)" (Angelo 2017: 396). As in German, the topic is again introduced in a unit on daily routine within the first year of language learning, though the mechanics of French make the unit tie more neatly into one about

[33] This possessor raising is linked to alienability – but is not part of the possession split. That is to say, all examples 42-45 are grammatical. In contrast, any inalienable construction for body part possession like *your hair* ***mi-ʔe:** or *his foot* ***mo:waʔ ba-xama:** is completely ungrammatical.
[34] I have slightly changed the examples to use 1SG to avoid ambiguity in English impersonals.

reflexives than for German. Given that the meaning differences accomplished through possessor raising are similar in Northern Pomo, external possession could be taught in a similar way, namely by combining them into formulaic verb constructions with no mention of the alternative structure or its semantic implications, at least initially.

As the world's first high school class of Northern Pomo has not yet reached teaching kinship, concrete description of students' learning behavior remains a work in progress: the distinction in alienable possession between pronouns and proper name **-wiʔ**, for example, is reported to have been learned well, which matches the strong performance of anglophone students in assigning animate nouns into appropriate Bantu classes. Additionally, learning pronominal possessives seems to have been aided by L1 transfer from English due to similar word order and case marking. Teaching kinship constitutes a critical goal for the second year, with complexities beyond alienability including kinship-specific vocative marking, a larger set of lexical terms than English,[35] and overt case marking. Kayleigh Jeanette, in her MA thesis, created a 23-step family-tree lesson-plan which covers vocative and referent structures (i.e. "she is my mother") for most kinship,[36] but is restricted to first person singular possessors, thus successfully avoiding the most complex aspect of the grammar while also giving learners language for self-identification. These materials could serve as a useful starting point in narrowing down the possession paradigm to a manageable size by focusing only on 1sɢ possessors before branching out to other possessors.

[35] The English word "aunt" has at least five traditional counterparts in Northern pomo: **-muʔ** (father's sister); **-je: ba-dahan** (father's brother's wife); **-suʔ** (mother's older sister); **-she:** (mother's younger sister); **-s'uʔ ba-dahan** (mother's brother's wife). Presumably same-sex relationships would add even more terms like **-muʔ ba-dahan** (father's sister's wife), **-suʔ ba-dahan** (mother's older sister's wife), **-she: ba-dahan** (mother's younger sister's wife), bringing the total to eight terms for *aunt*.
[36] Excluding spouses and descendants of 1sɢ, as well as some uncle and aunt terms.

IX. Conclusion

This paper shows that anglophone learning behavior for possession splits patterns similarly to previously-reported study on anglophone acquisition of noun classes in second languages. The reports of educators of Hawaiian and Mandinka echoed the literature on noun class acquisition in stating that learning possession splits took much longer than other comparable morphological phenomena like plurality and personhood for L2 learners of the language to master. They also asserted a directionality in the mistakes, where the alienable class would be overgeneralized.

Hawaiian constitutes the most institutionally-developed language learning environment reviewed by this paper, with a seasoned curriculum from preschool to university, and dozens of specialized, fluent school instructors, who have observed that a two-way split in alienability is deceptively difficult to teach students, and that neutralizing structures can be used by students to avoid learning the grammar. Mandinka offers a different perspective, with a fluent instructor and strong L1 community but no preexisting curriculum for L2 teaching; the students' mistakes in Mandinka corroborate the Hawaiian perspective, showing a long-term difficulty in mastering the alternation. Additionally, there is a reported directionality in the mistakes, with students overgeneralizing the alienable construction, ostensibly due to its high frequency.

The reports of these educators were used to offer some guidance in teaching similar possession splits in Wailaki and Northern Pomo. Wailaki has a class-neutralizing affection structure in the possession that closely mirrors Hawaiian, and could benefit from delaying its position in the curriculum until the basic possession split is mastered. Northern Pomo has no pre-existing curriculum or L1 teacher, and perhaps the most complicated morphological alienability system examined in this paper. Northern Pomo additionally has a possessor raising paradigm which is similar to some commonly-taught languages, whose curricula suggest the use of fixed phrases like *brush one's teeth* and *comb one's hair*. Languages which have pragmatic meaning distinctions in possessor-raising should choose the more common variant

as the base for L2 instruction, and introduce the construction in fixed phrases, as has been learned in L2-German and L2-French instruction; the complex point-of-view distinctions that arise in the paradigm are best left for advanced learners.

The possession of Northern Pomo presents an interesting research problem due to its relative morphological complexity accompanied by the relatively clean semantic split between noun classes. Literature on L2 acquisition of gender in Spanish shows that the longest-term mistakes are in noun class assignment rather than in subsequent morphological agreement (Grüter, Lew-Williams & Fernald 2018). Yet, the parameters for Spanish are different from Northern Pomo in two specific ways: first, noun class is often arbitrary, unlike Northern Pomo for which all kinship terms pattern inalienably apart from *friend* and *relative*; second, the morphology around kinship possession in Northern Pomo is arguably more complicated than Spanish's gender agreement due to unpredictable case and possessor prefix idiosyncrecies. The regularity of noun class assignment in the Northern Pomo possession split as well as its morphological complexity could plausibly reverse the trend attested for Spanish, where morphological mistakes might persist longer than class-assignment mistakes for L2 speakers. Preliminary data for this will begin to be available in spring 2023 exams and I intend to carry this out as a longer-term research project.

This leads to several hypotheses concerning alienability splits in language learning for learners who speak languages without overt morphological alienability: first, that even simple alienability splits take a relatively long time to master for students who do not speak a language with a counterpart in the home language, generalizable across the world. By analogy with literature on learning case marking, the prediction then extends to entail that a student with an L1 which has an alienability split should perform better at learning overt morphological alienability in a new language due to L1 transfer. Here, finding a suitable case study might prove challenging as it would involve L1 speakers of a minority language systematically learning an L2 which is also less commonly-taught, though expansion of L2 education in West Africa might

yield a testing ground for this theory. A second prediction is that students lean on frequency of occurrence in a morphological split, and will typically overgeneralize an alienable construction if it is more common in discourse, as has been shown for as shown for L1 Italian children under two years of age who overwhelmingly produce alienable possession constructions (Torregrossa & Melloni 2014: 355).[37] The solution to this is to plan enough appropriate discourse utilizing the inalienable construction around the L2 learners, such as doing prolonged units around family to equalize the frequency of occurrence in the classroom input. Third, students sometimes might infelicitously employ constructions which neutralize a distinction in order to avoid it, as a behavior maximizing output while minimizing risk. The solution for this is to fully teach a possession split first before introducing class-neutralizing structures.

In the longer term, practice and exposure are the most significant predictors of language retention (Montrul 2011). Most work focuses on L1 attrition, which can generate some predictions for L2 attrition. For example, age of reduced contact plays a significant role in L1 attrition, namely that perceptual accuracy stabilizes around 12yo for both Spanish-Swedish bilinguals and Korean-English bilinguals (Bylund 2008; Ahn et al. 2017). Thus, a language program which begins and ends in elementary school cannot be expected to generate long-term language knowledge in students, revealing the wisdom in Hawaiian communities advocating for longer-term programs beyond primary school. Conversely, second languages acquired in adulthood seem to face relatively little attrition long-term, especially in comprehension (Crezee 2008). Another predictor of successful language retention is formal education in a class meeting at least once weekly: increased time in a Dutch-language classroom predicts less attrition in L1-Dutch speakers when they later move to Canada (Keijzer 2007); in fact, previous education in Korean is the only reliable predictor for L1-Korean adults retaining their home language while

[37] Although plenty of literature follows Haspelmath 2008 in examining the frequency that specific lexical items appear as possessed items (i.e. “mother” appears possessed 60% of the time, while “car” appears possessed 20% of the time in discourse), little literature seems to exist on the absolute frequency of alienable versus inalienable constructions in discourse. I plan to conduct research examining the overall frequency of alienable and inalienable possession for Northern Pomo in narratives and conversation.

learning L2-English in the USA (Ahn et al. 2017). Identity perception itself does not affect long-term attrition directly, but having negative attitudes towards an identity may promote a break in contact with the language, thus promoting attrition (Waas 1996; Yağmur 1997; Schmid 2011).

This literature serves to predict that once an alienability split is laboriously learned as a non-child learner, it is not likely to attrite and will form a long-term contribution to the student's L2 grammar, especially in comprehension. However, the challenge, specifically in revitalization contexts, is providing enough context and opportunity for continued exposure to promote retention, continued learning, and generational language transfer once students leave the classroom (Hermes, Bang & Marin 2012), as a separate but concurrent problem facing languages in revitalization contexts, alongside the technical aspects of formal language pedagogy in a classroom.

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